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PEDIATRICS

2023 EIP abstract book

Session

01-OP-L-d1B

Time:
Thursday, 30/Nov/2023:
11:30am–1:30pm

Additional information is available at the end of the article

Presentations

Will be presented as Oral Presentation Onsite
ID: 118/01-OP-L-d1B: 1
Oral Presentation (Onsite)
Topics: GENERAL PEDIATRICS, NUTRITION & DIETS
Keywords: Iron Deficiency Anemia, Iron therapy

Iron Deficiency Anemia in children and update on screening and treatment in paediatric patients

Ramachandran, Rajeev[1,2,3]
[1]National University Health System, Singapore; [2]National University Hospital, Singapore; [3]National University of Singapore

Background: Iron deficiency is the most common nutritional deficiency globally, affecting more than 25% of people worldwide.

Methods: Some children are at higher risk of developing IDA. The high-risk infants are born premature, with low birth weight, and infants born to mothers with IDA. Some dietary habits like exclusive breastfeeding and faulty weaning can result in IDA. Toddlers with excessive milk intake (>20 ounces/day) are at higher risk of developing IDA. Adolescent females are another group of high-risk patients who should be regularly screened for IDA. We will discuss a few patients with IDA. We will highlight the rational method to interpret the basic labs. The early changes in RBC indices and the reversal of these changes with iron therapy will the discussed in detail.

Learning Points Discussion: Iron therapy - both oral and intravenous - will be discussed. There are recent advances in the understanding of iron absorption, and we will emphasise the implications of the new knowledge in therapy. We will summarize the preventive measures in all age groups.

Will be presented as Oral Presentation Onsite
ID: 240/01-OP-L-d1B: 2
Oral Presentation (Onsite)
Topics: GENERAL PEDIATRICS, RARE DISEASES
Keywords: nephropathy, PLA2R, proteinuria

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Membranous nephropathy: 2 clinical cases of this rare condition

Valente Silva, Débora[1,3]; Pais Cunha, Inês[1,3]; Rabiço-Costa, David[1,3]; Jardim, Joana[2,3]; Barreira, João Luís[2,3]; Cláudia, Tavares[4]; Pinto, Helena[2,3]
[1]Serviço de Pediatria, Unidade de Gestão Autónoma da Criança e da Mulher, Centro Hospitalar Universitário de São João, Porto; [2]Unidade de Nefrologia Pediátrica, Unidade de Gestão Autónoma da Criança e da Mulher, Centro Hospitalar Universitário de São João, Porto; [3]Faculdade de Medicina da Universidade do Porto; [4]Serviço de Pediatria, Hospital Senhora da Oliveira - Guimarães

Background: Membranous nephropathy is a kidney disease characterised by nephrotic proteinuria and may be associated with other clinical manifestations (edema/weight gain, hypertension, thrombotic phenomena). Its prevalence in children is unknown, but it is known to be rare. The recent discovery of the PLA2R antibody has shown interest in diagnosing, classifying and treating the disease.

Case presentation summary: Case 1: female, nine years old. Facial, periorbital and lower limb edema for five days. Assessed in the emergency department, in addition to the oedema already described, she had blood pressure >P95. Urine analysis detected nephrotic proteinuria and increased protein/creatinine. The patient was admitted for etiological investigation, and corticosteroid treatment (CCT) was started. No etiology was found in the initial study. No response to CCT after eight weeks of treatment. He was decided to carry out a renal biopsy with a diagnosis of membranous nephropathy with segmental sclerosis and a PLA2R immunohistochemical study, positive but negative in the blood. Therapy was started with Tacrolimus, and progressive weaning from CCT began. Case 2: male, 15 years old. Edema of the face, periorbital area and lower limbs up to the knee with one day of evolution. He was assessed in the emergency department with edema of the face and lower limbs. Urine analysis detected nephrotic proteinuria and increased protein/creatinine. He was admitted for etiological investigation, and treatment with oral corticosteroids was started. No cause was identified in the initial study. He underwent eight weeks of therapy with CCT with no response, so it was decided to carry out a kidney biopsy. The biopsy diagnosed membranous nephropathy, and the immunohistochemical study PLA2R: positive. The blood antibody was subsequently tested and found to be positive. Treatment with Tacrolimus was started, and weaning from CCT was initiated. Both patients currently have a stable and controlled disease.

Learning Points Discussion: The authors present two cases of Membranous Nephropathy, a rare paediatrics entity representing a therapeutic challenge. As such, the aim is to demonstrate the importance of considering this diagnosis when faced with corticoresistant nephrotic syndrome. This study aims to highlight the discovery of the PLA2R antibody as an asset in the therapeutic approach and follow-up of these patients.

Will be presented as Oral Presentation Onsite

ID: 153/01-OP-L-d1B: 3

Oral Presentation (Onsite)

Topics: GENERAL PEDIATRICS

Keywords: Palliative Care, Children, Parents, Communication, Serious illness

Parental perspectives on the clinician's approach to serious illness communication - A qualitative study

Mills, Nicholas[1]; Chapman, Megan[2]; Sutherland, Ingrid[3]; Gillam, Lynn[4]; Collins, Anna[5]
[1]Paediatric Palliative Care Service, The Women's and Children's Hospital Adelaide, SA, Australia; [2]Department of Mental Health, The Royal Children's Hospital Melbourne, VIC, Australia; [3]Department of Neurodevelopment and Disability, The Royal Children's Hospital Melbourne, VIC, Australia; [4]The Children's Bioethics Centre, The Royal Children's Hospital Melbourne, VIC, Australia; [5]Department of Medicine, St Vincent's Hospital, University of Melbourne, VIC, Australia

Objectives: To explore the perceptions of parents caring for a child with a life-limiting condition on approaches to communication used by clinicians engaging in routine serious illness communication.

Methods: An exploratory qualitative design was used, employing a thematic analysis of data derived through semi-structured interviews, which presented hypothetical vignettes of serious illness conversations to elicit parental perspectives. Adult parents of children with a life-limiting condition in a stable phase of care, known to the Neurodevelopment and Disability Department of a tertiary Children's Hospital in Melbourne, Australia, were purposively sampled to achieve a broad representation of relevant clinical and socio-demographic factors.

Results: Eleven parents (72% female) of children aged 7 months to 18 years participated. Two major themes characterised parental perspectives on serious illness communication: "Approaches clinicians can use to lay the foundation for quality communication", including checking in, validation, aligning with hopes and a commitment to listening and being present; and "Approaches clinicians can use to aid the delivery of information" including honesty and compassion, presenting possibilities, providing a plan and conveying the clinician's experience.

Conclusions: This study provides novel insights into the perspectives of parents of children with life-limiting conditions that inform how clinicians may best approach serious illness communication. The findings highlight the need for clinicians working in paediatric healthcare to be cognisant of parents' needs before and during conversations. Laying the foundation for quality communication is important alongside the approaches outlined that aid in the delivery of information.

Will be presented as Oral Presentation Onsite
ID: 102/01-OP-L-d1B: 4
Oral Presentation (Onsite)
Topics: GENERAL PEDIATRICS, COVID-19
Keywords: COVID-10, pneumonia, mPCR Respiratory, mPCR Pneumonia panels, MIS-C

The unique severe SARS-CoV-2 infections in children

Angelova, Andriana[1,2,3]; Paskaleva, Ivanka[4,5]; Komitova, Radka[6]; Chochkova, Lyubov[4,5]; Genkova-Yaneva, Neli[4,5]; Atanasova, Maria[2,3,7]; Murdzheva, Mariana[1,2,3]
[1]Department of Medical Microbiology and Immunology, Medical University of Plovdiv, Bulgaria; [2]Laboratory of Microbiology, St. George University Hospital, Plovdiv, Bulgaria; [3]Research Institute, Medical University of Plovdiv, Bulgaria; [4]Clinic of Pediatrics, St. George University Hospital Plovdiv, Bulgaria; [5]Clinic of Pediatrics, St. George University Hospital Plovdiv, Bulgaria; [6]Department of Infectious Diseases, Parasitology and Tropical Medicine, Medical University of Plovdiv, Bulgaria; [7]Laboratory of Virology, St George University Hospital, Plovdiv, Bulgaria

Background: There is a fascinating but obscure feature of SARS-CoV-2 infections in children - once getting infected, severe coronavirus disease (COVID-19) is very infrequent. We aimed to uncover some contributing factors for severe COVID-19 in children using syndromic microbiological testing.

Case presentation summary: Between December 2020 and December 2021, five children with severe COVID-19 were admitted to University Hospital in Plovdiv, Bulgaria. Their respiratory specimens were tested with FilmArray multiplex polymerase chain reaction (mPCR) Respiratory or Pneumonia panels. Four cases were diagnosed with severe COVID-19 pneumonia. Two of them had complicated pneumonia, requiring intubation and ventilator support, and the third had pneumonia complicated by myocarditis. The fifth case was diagnosed with multisystem inflammatory syndrome in children (MIS-C). PCR testing for SARS-CoV-2 was positive in three of the children with pneumonia. In addition, SARS-CoV-2 IgG confirmed exposure to the virus in the fourth pneumonia and the MIC-S cases. Three patients presented with obesity, and one of them

with new-onset diabetes. The pneumonia panel was used to test bronchoalveolar lavage in the two ventilated children on admission to the intensive care unit. In one of them (with new-onset diabetes), the panel found S. aureus, which led to a modification in the patient's antibiotic therapy. Because of the inability to obtain lower respiratory tract specimens, nasopharyngeal swabs from the remaining three cases were tested with the respiratory panel. Rhinoviruses/Enteroviruses were detected in one of the children with pneumonia and the MIS-C case. The clinical manifestations of the latter patient included fever and cardiac, respiratory, and gastrointestinal involvement. There were no fatal outcomes.

Learning point discussion: The detected pathogens can contribute to the severity of pneumonia and other triggers of MIS-C.

Will be presented as Oral Presentation Onsite
ID: 277/01-OP-L-d1B: 5
Oral Presentation (Onsite)
Topics: INFECTIOUS DISEASES
Keywords: immunization, children, refugees, vaccination, polio, measles

The main barriers to refugee children immunization among mothers who have come to Poland form Ukraine after 24.02.2022. A qualitative investigation into the opinions of healthcare professionals in Poland

Kleszczewska, Dorota Wiktoria[1]; Lewtak, Katarzyna[2]; Dzielska, Anna[3]; Mazur, Joanna[4]; Nurzhynska, Anastasiia[5]; Bahruddinov, Mutribjon[6]; Sochoń, Agnieszka[7]
[1]Institute of Mother and Child Foundation, Poland; [2]Medical University of Warsaw, Department of Social Medicine and Public Health, Warsaw, Poland; [3]Institute of Mother and Child, Department of Child and Adolescent Health, Warsaw, Poland; [4]University of Zielona Góra, Collegium Medicum, Departament of Humanization of Health Care and Sexology, Zielona Gora, Poland; [5]UNICEF Refugee Response Office in Poland, Warsaw, Poland; [6]UNICEF Refugee Response Office in Poland, Warsaw, Poland; [7]UNICEF Refugee Response Office in Poland, Warsaw, Poland

Background: When the Russian invasion of Ukraine began, around 2 million Ukrainian refugees fled to Poland and stayed with Polish families during the first year of the war. More than 90% of Ukrainian war refugees in Poland are women and children. Low immunization coverage became one of the most important healthcare issues for the hosting country. WHO data show that in 2021, only 80% of Ukrainian children were fully vaccinated against polio and 87% against measles.

Objective: This research aimed to understand the barriers and enablers of pediatric vaccination and present the approach and attitudes of Ukrainian mothers towards vaccinations, as perceived by Polish doctors and nurses.

Material and Methods: The data were sourced during the SAY YES TO VACCINATIONS PROJECT by the Institute of Mother and Child Foundation and UNICEF (SBC Office), carried out in Poland in July-August 2023. During the qualitative research, 15 individual online interviews were conducted. Eight doctors (GPs, pediatricians) and seven nurses participated. One of the inclusion criteria was having treated patients from Ukraine. The research was conducted in Warsaw, Kielce, and Piotrków Trybunalski.

Results: It's challenging to assess the extent of vaccine hesitancy among Ukrainian mothers. The target group is specific: the majority of patients are seen only once – they show up for infectious disease visits and then "disappear." Some patients do not visit doctors at all, as the child is under a doctor's care from Ukraine. Mothers who vaccinate their children wish to stay in Poland permanently and tend to be younger and better educated than mothers who refuse vaccination. The main barriers include a lack of trust in vaccinations and their quality and a low level of vaccine

literacy. Ukrainian mothers often don't view vaccinations as crucial for their child's health. There are perceived differences in the vaccination schedule in Poland compared to the Ukrainian one, although healthcare workers consider them similar.

Conclusion: There is a need to organize comprehensive educational programs targeted at Ukrainian mothers, emphasizing the importance and safety of vaccination, and to equip Polish healthcare workers with the knowledge and materials to persuade Ukrainian patients to vaccinate. The SAY YES TO VACCINATION project included educational initiatives and support for medical facilities.

Will be presented as Oral Presentation Onsite
ID: 239/01-OP-L-d1B: 6
Oral Presentation (Onsite)
Topics: NEUROLOGY
Keywords: PLA2G6, PLAN, psychomotor regression

Neurodegenerative syndromes associated with PLA2G6: 2 illustrative clinical cases of the spectrum

Valente Silva, Débora[1,3]; Pais Cunha, Inês[1,3]; Miragaia, Pedro[1,3]; Fonseca, Jacinta[2,3]; Melo, Cláudia[2,3]; Sampaio, Mafalda[2,3]; Sousa, Raquel[2,3]
[1]Serviço de Pediatria, Unidade de Gestão Autónoma da Criança e da Mulher, Centro Hospitalar Universitário de São João, Porto, Portugal; [2]Unidade de Neuropediatria, Unidade de Gestão Autónoma da Criança e da Mulher, Centro Hospitalar Universitário de São João, Porto; [3]Faculdade de Medicina da Universidade do Porto

Background: The syndrome associated with the PLA2G6 gene, also known as PLA2G6-associated neurodegeneration (PLAN), is a rare group of hereditary neurodegenerative disorders resulting from mutations in the PLA2G6 gene. This gene plays a crucial role in maintaining cellular membranes and lipid metabolism. Mutations in the PLA2G6 gene can disrupt lipid metabolism, consequently resulting in abnormal lipid accumulation in brain cells causing progressive damage and cerebral degeneration. Pediatric age includes different phenotypes: infantile neuroaxonal dystrophy and atypical neuroaxonal dystrophy.

Case presentation summary: A 4-year-old male child, following an infectious disease at eight months of age, showed a global regression in psychomotor development, evolving with nystagmus, axial hypotonia and spastic tetraparesis. At 24 months, he underwent an MRI scan, which detected cerebellar atrophy and restricted striatal diffusion—a 6-year-old female child with adequate psychomotor development in the first year of life. At age 4, after an infectious complication, she showed psychomotor deterioration with loss of gait and autistic regression. Neurological examination with paraparesis and osteotendinous arreflexia of the lower limbs. MRI-CE at six years showed cerebellar atrophy, hypertrophy of the clavus and hyposignal T2* of the globus pallidus and substantia nigra. EMG is suggestive of distal motor neuropathy. In both patients, 2 compound heterozygous variants in the PLA2G6 gene were identified in mendelioma.

Learning Points Discussion: This paper reports two illustrative cases of neuroaxonal dystrophy. The first is infantile neuroaxonal dystrophy, which is more intelligent and rapidly progressive; the second is the atypical, more heterogeneous form. Thus, the authors aim to highlight the psychomotor regression in the context of infectious complications and the neuroimaging findings as paradigmatic milestones of this pathology.

Will be presented as Oral Presentation Onsite
ID: 276/01-OP-L-d1B: 7
Oral Presentation (Onsite)

Topics: GENERAL PEDIATRICS, PUBLIC HEALTH
Keywords: Positive parenting, digital, social-emotional development

A digital positive parenting education program to promote responsive parenting

Lestari, Lily Arsanti[1]; Helmyati, Siti[1]; Damayanti, Wahyu[2]; Low, Gemmie[3]; Wibowo, Yulianti[4]; Ming, Chang[5]; Jimenez Suarez, John[5]; Chen, Yipu[6]; Egli, Delphine[6]; Jankovic, Ivana[6]; Brkic, Diandra[7]; Wigati, Maria[1]
[1]Center for Health and Human Nutrition, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, JI. Medika, Sendowo, SInduadi, Mlati, Sleman, Indonesia; [2]Department of Child Health, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, JI. Farmako, Sekip Utara, Sinduadi, Mlati, Sleman, Indonesia; [3]Clinical Research Unit, Société des Produits Nestlé SA, Singapore; [4]Nestle Indonesia, Perkantoran Hijau Arkadia, JI. TB Simatupang Kav 88, Jakarta Selatan, Indonesia; [5]Clinical Research Unit, Société des Produits Nestlé SA, 1000 Lausanne, Switzerland; [6]Nestle Product Technology Center-Nutrition, Société des Produits Nestlé SA, Vevey, Switzerland; [7]Nestle Institute of Health Science, Nestle Research, Lausanne, Switzerland

Background: To ensure their optimal development, children's fundamental needs must be fulfilled, including but not limited to nutrition, appropriate hygiene, and access to health care. In addition, it has been shown that a warm and affectionate adult caregiver, responsive and attuned to a child's needs, is equally important for optimal child development (1). Responsive parenting behaviours such as talking, presence and engagement in conversations, and child-driven play have been shown to have extended-lasting benefits on children's development, including brain development, cognition, and social-emotional behaviours (2). With the rising interest in the efficacy of digital interventions, the present study investigated the effect of a science-based digital program with parent-friendly educational material on improving parental self-confidence. It aimed to promote responsive parenting behaviours that support optimal child development and well-being.

Methods: In this 12-week open-label randomised controlled trial conducted in Indonesia, mother-child dyads from low to mid-income families received a digital positive parenting education program (INT, n=126) or no education program in line with local standard of care (CTRL, n=123). The educational digital program consisted of a parenting eBook featuring monthly tips and videos with developmental and interactive content (positive parenting, nutrition, and social-emotional development). Parental confidence (primary endpoint) and experience, child's behaviour, playfulness, and parenting responsiveness were assessed using validated questionnaires at baseline and 12 weeks.

Results: Children's mean age at baseline was 25.6 ± 1.4 months (56% were female). The intervention resulted in significantly higher scores for parental confidence at 12 weeks compared to CTRL ($p<0.05$), assessed using the Toddler Care Questionnaire, and 95% of parents reported an improvement in their parenting confidence. In addition, they perceived improvements in interactions with their child, also evidenced by higher scores for the "sharing a fun/supporting good behavior" domain in INT vs CTRL ($p<0.005$). Furthermore, parental perceptions of the child's development, such as social-emotional behaviour (i.e. social functioning, emotional development and social spontaneity), cognitive spontaneity, and playfulness, were significantly higher in INT vs CTRL ($p<0.05$ for all) after 12 weeks of intervention.

Conclusions: This study showed that a digital parenting education program can increase parental confidence and stimulate behaviour change in responsive parenting, heightening parent-child interactions and promoting the child's social and emotional development. These results align with previous findings showing how digital parenting interventions can positively improve parents' knowledge of children's development and self-efficacy, support positive parenting behaviour and tighten bonding in the family (3).

Will be presented as Oral Presentation Onsite
ID: 221/01-OP-L-d1B: 8
Oral Presentation (Onsite)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY, PUBLIC HEALTH
Keywords: Respiratory syncytial virus, RSV, quality of life, parents, infants, children

A severe RSV infection in infants seriously impacts the health-related quality of life of caregivers

Trautmannsberger, Ilona[1]; Bösl, Sabina[1]; Adamek, Ina[1]; Apfelbacher, Christian[2]; Beutels, Philippe[3]; Essers, Brigitte[4]; Ravens-Sieberer, Ulrike[5]; Weil-Olivier, Catherine[6]; Nenna, Raffaella[7]; Wetzke, Martin[8]; Tischer, Christina[1,9]; Zimmermann, Luc J.I.[1,10]; Mader, Silke[1]
[1]European Foundation for the Care of Newborn Infants EFCNI, Munich, Germany; [2]Institute of Social Medicine and Health Systems Research (ISMHSR), Otto-von-Guericke University Magdeburg, Magdeburg, Germany; [3]Faculty of Medicine and Health Sciences, University of Antwerp, Antwerp, Belgium; [4]Department of Clinical Epidemiology and Medical Technology Assessment, Maastricht University Medical Centre, The Netherlands; [5]Department of Child and Adolescent Psychiatry, Psychotherapy, and Psychosomatics, University Medical Centre Hamburg-Eppendorf, Hamburg, Germany; [6]Pediatrics, University of Paris, 7 Denis Diderot, Paris, France; [7]Department of Maternal, Infantile, and Urological Sciences, Sapienza University of Rome, Rome, Italy; [8]Clinic for Pediatric Pneumology, Allergology and Neonatology, Hannover Medical School (MHH), Hannover, Germany; [9]Department of Health Security, Finnish Institute for Health and Welfare, Kuopio, Finland; [10]Department of Paediatrics, Research School for Oncology and Reproduction, Maastricht UMC+, Maastricht, The Netherlands

Background: The impact of an RSV infection is not limited to the disease's acute and directly visible effects. Since most cases occur in young infants, RSV affects the entire family. Nevertheless, information on the overall impact and burden of the disease is scarce. To close existing knowledge gaps, the ResQ Family study aims to explore the health-related quality of life (HRQoL) and family functioning of parents and caregivers of children hospitalised for RSV.

Methods: The project was interdisciplinary and designed as a multi-country observational study conducted during the 2022-2023 RSV season in Germany, France, Italy and Sweden. Parents and caregivers of children (> 24 months of age) currently or recently hospitalised for RSV were approached to share their experiences via a comprehensive online questionnaire composed of self-designed questions and the validated Pediatrics Quality of Life Family Impact Module (PedsQL FIM). Parents were also allowed to participate in a follow-up survey six weeks later. Adjusted multivariable linear regression models were carried out to investigate the association between the severity of the child's RSV infection and parents' HRQoL and family functioning.

Results: In total, 138 parents of affected children were included in the analysis. Most of the overall group of participants filling out the questionnaire were mothers (n = 134, 97.1%), had a median age of 32.5 years, and had a higher level of education. Parents of children with a severe RSV infection (high severity index score) had, on average, −12.6 [95%CI: −20.8 to −4.28; P=0.003] lower total score than parents of children assigned to the "Low" severity index score group. The same pattern was observed for the parental HRQoL and family functioning score. After stratifying by the affected child's age, the observed effect's direction remained stable.

Conclusion: The findings suggest that a severe RSV infection impacts parents' HRQoL to a significant extent, especially during the acute infection phase. This underlines the need for greater disease awareness and the importance of prevention measures among healthcare professionals, patient representatives and decision-makers during hospitalisation.

Will be presented as Oral Presentation Onsite
ID: 339/01-OP-L-d1B: 9
Oral Presentation (Onsite)
Topics: PUBLIC HEALTH
Keywords: adolescents, depression, anxiety, physical activity, Health Behaviour in School-aged children (HBSC)

The impact of physical activity on anxiety and depression among adolescents in Luxembourg

Catunda, Carolina; Goedert Mendes, Felipe
University of Luxembourg, France

Background: According to the WHO (2019), anxiety and depression are among the leading causes of illness and disability among adolescents. Anxiety disorders are the most common emotional disorder, estimated at 4.6% of 15–19-year-olds experiencing it. Depression is also common, affecting 2.8% of 15–19-year-olds. Both anxiety and depression can importantly affect an adolescent's life. Having an emotional disorder during adolescence increases the likelihood of having it during adulthood. Physical activity is known to be negatively associated with depression and anxiety (Rebar et al., 2015). However, the extent of this relationship among adolescents in Luxembourg remains unstudied. The present study aims to understand the relationship between anxiety and depression, on the one hand, and physical activity, on the other, in adolescents in Luxembourg.

Methods: This study is based on the 2022 Health Behaviour in School-aged Children Luxembourg survey. A total of 8415 adolescents aged 11 to 18 years old, were included in this study. The Generalised Anxiety Disorder Scale was used in its 2-item form (Kroenke et al., 2007) to measure anxiety, while the WHO-5 Well-Being Index was used for depression (Allgaier et al., 2012; Blom et al., 2012). Based on the time spent on and frequency of moderate-vigorous and vigorous physical activity, adolescents were categorized into highly active, active, low active and inactive. Binary logistic regressions were performed to estimate the predictive power of physical activity on anxiety and depression. The level of statistical significance was .05.

Results: The prevalence of anxiety and depression symptoms in the studied population was 34.6% and 29.5%, respectively. A negative association between the levels of physical activity, on the one hand, and anxiety and depression, on the other, was found. For instance, compared to those who are highly active, the odds of presenting depression symptomatology are OR=1.64 (95CI 1.37-1.97) for those who are active, OR=2.68 (95CI 2.23-3.23) for the low active, and OR=4.35 (95CI 3.42-5.53) for the inactive adolescents. Similar results are found for anxiety.

Conclusion: As the physical activity levels decreased, the likelihood of experiencing depression or anxiety symptoms increased significantly in adolescents in Luxembourg. Those findings corroborate the literature, suggesting that practising physical activity during adolescence has a protective effect on the outcomes of depression and anxiety. As such, physical activity should be encouraged as part of the preventive strategies in order to decrease the prevalence of depression and anxiety in Luxembourg.

Session

02-OP-L-d1C
Time:
Thursday, 30/Nov/2023:
2:30pm–4:30pm

Presentations

Will be presented as Oral Presentation Onsite
ID: 236/02-OP-L-d1C: 1
Oral Presentation (Onsite)
Topics: EMERGENCY PEDIATRICS
Keywords: chest pain, paediatrics, emergency department, heart

Characteristics and outcomes of children presenting to an emergency department with chest pain

Borg, Janine[1]; Dimech, Yana[1]; Cassar Galea, Francesca[2]; Grech, Victor[1]; Farrugia, Ruth[1]
[1]Mater Dei Hospital, Msida, Malta; [2]Gozo General Hospital, Victoria, Gozo, Malta

Background: Chest pain is a frequent presenting complaint to the paediatric emergency department. Although most cases are benign in aetiology, children are still extensively investigated. This study aims to assess whether cardiac risk factors in children with nontraumatic chest pain presenting to the paediatric emergency department are appropriately identified and investigated to review cardiac biomarkers' use and audit documentation of cardiac risk factors.

Methods: Risk factors in history and examination were identified from international guidelines. Chi tests were used to compare rates of investigations in patients with red flags versus those without. The yield of studies and documentation for risk factors were also assessed.

Results: 130 children were included, with a median age of 12 years. There were no significant differences in investigation rates between patients with cardiac risk factors (n = 92) and those without (n = 38). Yield from all investigations was minimal. Documentation was poor, with less than two-thirds documentation rate for any cardiac risk factor.

Conclusion: Our study confirms that chest pain in children is usually due to benign causes. The yield of blanket laboratory investigations is limited. We suggest a clinical pathway to improve documentation and rationalise the use of inquiry in children presenting with chest pain to the emergency department.

Will be presented as Oral Presentation Onsite
ID: 197/02-OP-L-d1C: 2
Oral Presentation (Onsite)
Topics: EMERGENCY PEDIATRICS, HAEMATOLOGY/ONCOLOGY
Keywords: fever, neutropenia, cancer, paediatric, emergency

Door to antibiotic time for children with cancer presenting to a busy emergency unit with suspected febrile neutropenia

Quaynor, Josephine Akwele[1]; Cherian, Thomas[2]; Motwani, Jayashree[1]
[1]BIRMINGHAM CHILDREN'S HOSPITAL, United Kingdom; [2]WALSALL HEALTHCARE NHS TRUST, United Kingdom

Background: Febrile neutropenia is one of the most common and serious complications in children being treated for cancer. It is common to see febrile children with cancer present in the Emergency Department. Guidelines recommend that any child with febrile neutropenia receive antibiotic therapy as early as possible and within the first hour of presentation. Evidence shows a significant decrease in mortality when appropriate antibiotics are administered within the first hour.

Objective: This audit assessed the time taken to administer appropriate antibiotics to children presenting with suspected febrile neutropenia. The audit was carried out in the Emergency Department of Birmingham Children's Hospital in the United Kingdom, a busy tertiary centre.

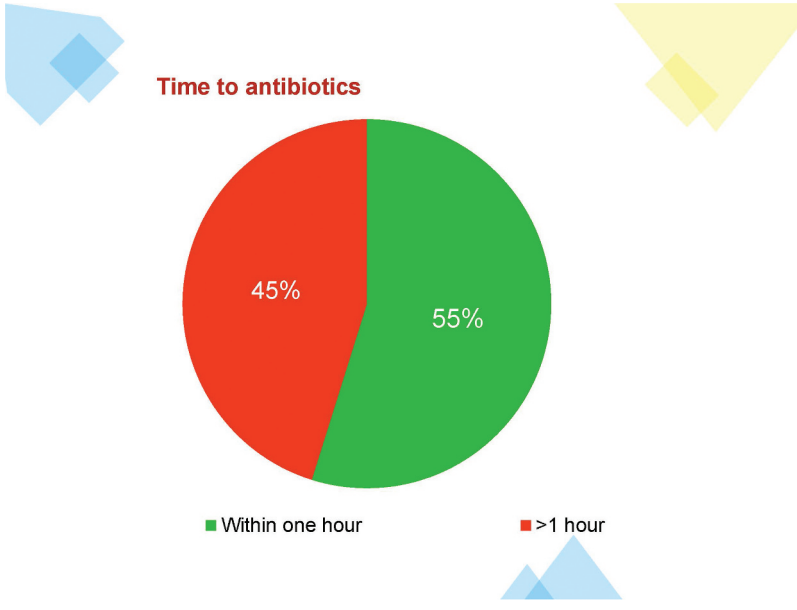
Methods: This was a retrospective audit which looked at case notes of haematology and oncology patients who presented with fever to the Emergency Department from 1 October 2022 to 31 December 2022. The list of patients was obtained from the Hospital Informatics Team, and the notes were accessed via the electronic patient record system. We audited the notes of 31 children who presented in the above-mentioned period. We looked at the time taken from triage to administration of appropriate intravenous antibiotics.

Results: The Mean age was 97 months, the youngest patient was 6 months old, and the oldest patient was over 17 years old. The majority of the patients (n=19, 61%) had Acute lymphoblastic leukaemia, and the rest were made up of patients with solid tumours such as medulloblastoma, osteosarcoma, neuroblastoma, Wilms tumour and optic neoplasms. The month with the highest number of patients was December (n=15, 48%). 65% of the children had Central venous lines present. (n=20). 17 out of 31 patients (55%) received antibiotics within an hour. The patients with CVL present were about 4 times more likely to receive antibiotics within an hour than those with no CVL. Out of the 31 patients, 10 (32%) were neutropenic. 24 patients had viral swabs sent, and 6 were positive for Flu and RSV. Two patients (6%) had blood cultures with growth (E. coli and S. epidermidis). (figure 1)

Conclusions: Febrile neutropenia remains a serious complication of cancer treatments.

To increase awareness in the emergency department in the form of re-education on the importance of the first dose of antibiotics within an hour. To create a clear management pathway for low-risk febrile neutropenia patients.

Figure 1.



Will be presented as Oral Presentation Onsite
ID: 182/02-OP-L-d1C: 3
Oral Presentation (Onsite)
Topics: EMERGENCY PEDIATRICS
Keywords: infancy, anaphylaxis, management, allergies

ED anaphylaxis presentations in infancy: Increasing incidence, specific characteristics and challenges

Rueter, Kristina[1,2]; Moseley, Natasha[1]; Ta, Brennan[1]; Bear, Natasha[1]; Borland, Meredith[1,2]; Prescott, Susan[1,2]
[1]Perth Children's Hospital, Australia; [2]The University of Western Australia

Background: Rising rates of anaphylaxis have been noted worldwide. However, studies focusing specifically on Emergency Department presentations in early childhood (<2 years of age) are lacking. We aimed to investigate changes in the incidence of anaphylaxis in infants over a 15-year period and explored clinical signs, symptoms and management in < 2-year-old children.

Method: In this observational study, we retrospectively analysed patients aged <2 years, presenting to Western Australia's sole tertiary paediatric Emergency Department (ED) with a coded diagnosis of anaphylaxis. We assessed presentations over two periods (2003 - 200 7 and 2013 - 2017). Comorbidities, triggers, symptoms, and management were recorded in manually confirmed cases.

Results: We demonstrated a 1.7-fold (OR 1.88; 95%CI 1.42-2.51; p<0.001) rise in the incidence of confirmed cases of anaphylaxis between the two time periods. A greater increase (1.9-fold) was seen in those aged <1 year (OR1.95; 95%CI 1.36- 2.81; P<0.001). Comorbidities, triggers, and symptoms were not different over time. 91.6% (219/239) presented with respiratory, 43.1% (103/239) with gastrointestinal, 40.6% (97/239) with neurological and 23.4% (56/239) with cardiovascular symptoms. A history of atopic dermatitis was present in 56.1% of cases, whilst 43.5% had a history of food allergy, 13.8% had a history of wheezing, and 18.8% of patients presented with an intercurrent illness. Appropriate management with adrenaline improved over time (p=0.007), and oral antihistamines and steroids were appropriately less administered (p=0.013).

Conclusion: The incidence of ED anaphylaxis presentations in very early childhood increased significantly within 15 years. A further rise likely will occur in tandem with ongoing environmental changes. However, children <2 years present with signs not recognised within internationally accepted definitions and guidelines. Physicians and caregivers must be aware of specific characteristics in this nonverbal age group to provide timely recognition, optimal management, and guidelines.

Will be presented as Oral Presentation Onsite
ID: 280/02-OP-L-d1C: 4
Oral Presentation (Onsite)
Topics: GASTROENTEROLOGY, EMERGENCY PEDIATRICS
Keywords: Pediatric acute liver failure; intensive care;

Pediatric acute liver failure in a pediatric intensive care unit: five-year experience insights and outcomes

Losa, Ana[1,5]; Cascais, Inês[1,5]; Araújo Oliveira, Inês[1,5]; Rodrigues, Ana Sofia[2,5]; Vieira, Beatriz[3,5]; Santos Silva, Ermelinda[4]; Cardoso, Ana Lúcia[5]; Moreira, Rita Gomes[5]; Ferreira, Paula Regina[5]
[1]Pediatric Department, Centro Materno Infantil do Norte, Centro Hospitalar e Universitário de Santo António, Porto, Portugal; [2]Pediatric Department, Centro Hospitalar de Médio Ave, Famalicão,

Portugal; [3]Pediatric Department, Centro Hospitalar Póvoa de Varzim/Vila do Conde, Póvoa de Varzim, Portugal; [4]Pediatric Gastrenterology Unit, Centro Materno Infantil do Norte, Centro Hospitalar e Universitário de Santo António, Porto, Portugal; Assistant, School of Medicine and Biomedical Sciences, Universidade do Porto; [5]Pediatric Intensive Care Unit, Centro Materno Infantil do Norte, Centro Hospitalar e Universitário de Santo António, Porto, Portugal

Background: Pediatric Acute Liver Failure (PALF) is a rare clinical syndrome characterized by extensive hepatic parenchyma loss due to liver injury, associated with significant morbidity and mortality. The initial approach and etiological diagnosis are challenging; thus, most children may remain undiagnosed. Liver transplantation (LT) is frequently needed, and survival has improved with timely implementation.

Methods: Retrospective study of PALF cases diagnosed in a Pediatric Intensive Care Unit (PICU) from August 2018 to August 2023.

Results: Eight patients were included, 62.5% being male. Median age at diagnosis was eight years (IQR: 12,8). Graft-versus-host disease was the most associated comorbidity (37.5%). The most prevalent injury pattern was hepatocellular (75.0%), followed by mixed (12.5%) and cholestatic (12.5%). At PICU admission, the liver tests showed: median values of alanine transaminase of 2216.0 U/L (IQR: 6558.2), aspartate transaminase 5282.0 U/L (IQR: 6913.2), alkaline phosphatase 180 U/L (IQR: 279.8), gamma-glutamyl transferase 192.0 U/L (IQR: 376.0), total bilirubin 2,48 mg/dl (IQR: 16.52) and direct bilirubin 1,32 mg/dl (IQR: 8.7). Three patients presented increased ammonia levels. Polymerase chain reaction was positive for cytomegalovirus in three cases and for human herpesvirus 6 in two cases. In four patients, ongoing suspicious drugs were discontinued for suspicion of drug-induced liver injury. One patient underwent a liver biopsy. The etiology of PALF was multifactorial in five cases: drug-induced liver injury in two (vancomycin and acetaminophen) and veno-occlusive disease in one. Regarding associated diseases, three patients presented Hemophagocytic Lymphohistiocytosis, one Stevens-Johnson syndrome and one Toxic Epidermal Necrolysis. All patients received supportive therapy. Specific treatments included steroids (7/8), N-acetylcysteine (3/8), defibrotide (2/8), hemodiafiltration (2/8) and plasmapheresis (1/8). LT was not performed on any patient. Four patients fully recovered from their liver injury, one progressed to chronic liver disease, and three (37.5%) died (non-eligible for LT).

Conclusions: PALF has historically been associated with high mortality rates, but recent advances in medical care and early liver transplantation have improved prognosis. This study revealed a high mortality rate despite various treatment modalities. This might be explained by the fact that most patients had severe associated diseases, worsening their prognosis and making them non-eligible for LT. Further research is essential to enhance our understanding of PALF and improve outcomes.

Will be presented as Oral Presentation Onsite
ID: 227/02-OP-L-d1C: 5
Oral Presentation (Onsite)
Topics: ADOLESCENT MEDICINE, EMERGENCY PEDIATRICS
Keywords: Adolescent, Facial paralysis, Psychogenic, Smirk

Smirk in an adolescent – A case of psychogenic facial paralysis

Pires, Joana F.; Tomé, Maria Luís; Pena, Teresa
Centro Hospitalar Vila Nova de Gaia/Espinho, Portugal

Background: Psychogenic facial paralysis is characterized by sudden-onset facial weakness or paralysis without any identifiable organic cause. It is believed to be related to underlying psychological or emotional factors. Involvement of the lower lip with downward deviation at the angle of the mouth combined with ipsilateral platysma co-contraction, previously termed “smirk,” is the

most frequent pattern at presentation. Women are particularly prone to develop facial involvement in the context of psychogenicity.

Clinical case: A 14-year-old female with a history of juvenile idiopathic arthritis, medicated with mensal tocilizumab, presented to the emergency department with a chief complaint of sudden-onset facial paralysis on the right side of her face. She reported waking up in the morning with the inability to move the right side of her face. She also said pain and tingling in the mandible, causing difficulty chewing and talking. There was no history of trauma, recent illness or emotional stress. She had a history of Bell's palsy one year prior. On physical examination, there was paralysis of the right lower facial muscles. There was no weakness or sensory deficit in the upper facial muscles or the limbs. Cranial nerve examination was normal, except for cranial nerve VII (facial nerve) on the lower right side. There was a reduction of facial spasms with distraction. There were no signs of infection or inflammation. Routine blood tests were normal, and the cranial computerized tomography and magnetic resonance imaging scan showed no evidence of structural abnormalities or lesions involving the facial nerve or brainstem. Based on the clinical history, physical examination findings, and exclusion of organic causes, a diagnosis of psychogenic facial paralysis was made. She was referred to physiotherapy but suddenly recovered before even starting therapy.

Learning points: Psychogenic facial movement disorder should be considered when a patient exhibits unilateral facial contractions, with the lower lip and ipsilateral jaw involvement, especially if there is an acute onset of symptoms, inconsistent signs on neurological exam, a nonprogressive course with fluctuations in symptom severity, spontaneous improvement, and normal diagnostic studies. Supportive features are young age, female gender, and associated medical conditions such as depression. Psychogenic facial paralysis has a favourable prognosis with appropriate management. Many individuals experience a complete resolution of their symptoms with time, therapy, and support.

Will be presented as Oral Presentation Onsite
ID: 245/02-OP-L-d1C: 6
Oral Presentation (Onsite)
Topics: EMERGENCY PEDIATRICS
Keywords: Pediatrics, Streptococcus, Staphylococcus, Toxic Shock Syndrome

Toxic Shock Syndrome: 18 years of experience in the pediatric intensive care unit of a tertiary hospital

Cascais, Inês[1,3]; Losa, Ana[1,3]; Correia, Cláudia[1,3]; Pinto, Diana Henriques[2,3]; Meireles, Daniel[3]; Sarmento, Alzira[3]; Fernandes, Paula Cristina[3]
[1]Department of Pediatrics, Centro Materno-Infantil do Norte (CMIN), Centro Hospitalar Universitário de Santo António (CHUdSA), Porto, Portugal; [2]Department of Pediatrics, Centro Hospitalar Entre Douro e Vouga, Aveiro, Portugal; [3]Department of Pediatric Intensive Care, CMIN-CHUdSA, Porto, Portugal

Background: Toxic Shock Syndrome (TSS) is a severe life-threatening disease, usually precipitated by Staphylococcus aureus or Streptococcus β hemolyticus group A infection, with diagnostic criteria defined by the US Centers for Disease Control and Prevention (CDC). We aimed to characterise pediatric patients with TSS admitted to the pediatric intensive care unit in a tertiary hospital over the last 18 years, comparing streptococcal and staphylococcal groups.

Methods: A cross-sectional study was performed with data collection from clinical records and analysis using IBM SPSS Statistics 27®.

Results: Seventeen patients (64.7% male) were included, with a median age at admission of 6.1 years, with streptococcal TSS cases being significantly younger (3.0 years, p=0.040). There was a median of 3.0 days from symptoms onset to diagnosis and 6.0 days of hospitalisation. On admission, the mean PRISM score was 8.8 (median probability of death of 3.0%), and the median PELOD

score was 10.0 (median likelihood of death of 1.3%). Ten cases met the CDC case definition for staphylococcal TSS (one menstrual-related) and seven for streptococcal TSS, five of them occurring since May 2019. Risk factors were identified in 15 patients, most commonly cutaneous lesions (29.4%). Fifteen patients exhibited affection of at least three organs or systems, with fever, rash, and hypotension as universal symptoms. Mucous membrane hyperemia was present in 16 cases (94.1%), gastrointestinal symptoms in 14 (82.4%), and desquamation occurred during hospitalisation in nine (52.9%). Muscular involvement was present in seven cases, all with staphylococcal TSS (p=0.010). All patients received a combination of at least two antibiotics, including a protein synthesis inhibitor (except one). All patients required fluid resuscitation and hemodynamic support with vasoactive amines (three days median duration), and six needed invasive mechanical ventilation (seven days median duration). Treatment with fresh frozen plasma, platelet transfusion, sodium bicarbonate, and albumin perfusion occurred in 35.3% of cases, the latter significantly more frequent in streptococcal TSS (p=0.035). Intravenous immunoglobulin was administered to four patients, and two received corticosteroids. Two patients (11.8%) with staphylococcal TSS died. Recurrent cases were not observed.

Conclusions: Our study reveals TSS's severity and multiorgan involvement, emphasizing the importance of early diagnosis and appropriate intervention. Risk factors were identified in most patients, and we found an increased frequency of streptococcal TSS post-COVID-19 pandemic. Multicentric studies are needed to provide comprehensive data on the prevalence and severity of associated conditions with TSS and their long-term impact on quality of life.

Will be presented as Oral Presentation Onsite
ID: 136/02-OP-L-d1C: 7
Oral Presentation (Onsite)
Topics: EMERGENCY PEDIATRICS
Keywords: PoCUS, Emergency Medicine, Myocarditis, Breathlessness

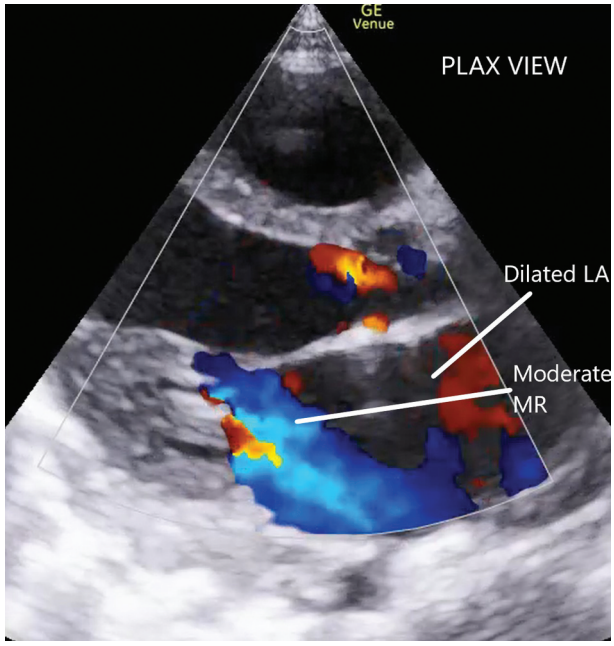
POCUS the 'Third Eye' of Emergency Physicians, case reports

Galipothu, Suneel Prakash; Basu, Suvradeep; Weerasinghe, Asoka
Bradford Teaching Hospital NHS Foundation trust, United Kingdom

Background and Objective: Diagnosing Myocarditis remains a challenge for physicians. Children with myocarditis can present with a myriad of symptoms ranging from lethargy to extreme breathlessness/hypotension. Mortality is very high and is often diagnosed at autopsy. Point of care ultrasound can be a useful tool in the Emergency Department along with Clinical assessment, Blood tests, ECG and Chest X-ray to diagnose possible Myocarditis. These cases highlight 1) How Pocus can identify critical pathology in children well before they develop clinical signs. 2) How Pocus helps in undifferentiated breathlessness in children.

Case study: 1) A 23 23-month-old girl presented to ED with a fever, lethargy, and her mum reported child was breathing fast at home. She was on day 2 antibiotics for tonsillitis. She was clinically well and had reduced air entry to lung bases. Diagnosis of LRTI was made and was planned for discharge with safety netting. Pocus during Senior review revealed dilated & impaired LV function with moderate pleural effusions. Blood tests showed high lactate, acidosis and elevated troponin. She was treated with IV antibiotics, diuretics, high flow O2 and was admitted. Diagnosis: Myocarditis. 2) A 6-year-old boy presented to ED with difficulty breathing, cough, abdominal pain & haematuria. He was tachycardic, tachypnoeic and hypoxic. Chest X-ray reported ARDS with no cardiomegaly or pulmonary oedema. He was given fluid bolus with worsening hypoxia. Pocus performed at this stage showed dilated and significantly impaired LV function with small pericardial effusion, bilateral pleural effusions and pulmonary oedema. Diagnosis: Streptococcal Myocarditis with Glomerulonephritis. (figure 1)

Figure 1.



Conclusion: Pocus is an invaluable tool in Paediatric Emergency and acute care and should be a part of the training curriculum. Pocus can be used for diagnostic purposes & monitoring response to treatment.

Will be presented as Oral Presentation Onsite
ID: 263/02-OP-L-d1C: 8
Oral Presentation (Onsite)
Topics: RARE DISEASES
Keywords: External Occipital Protuberance; Menkes, Children, Anatomy

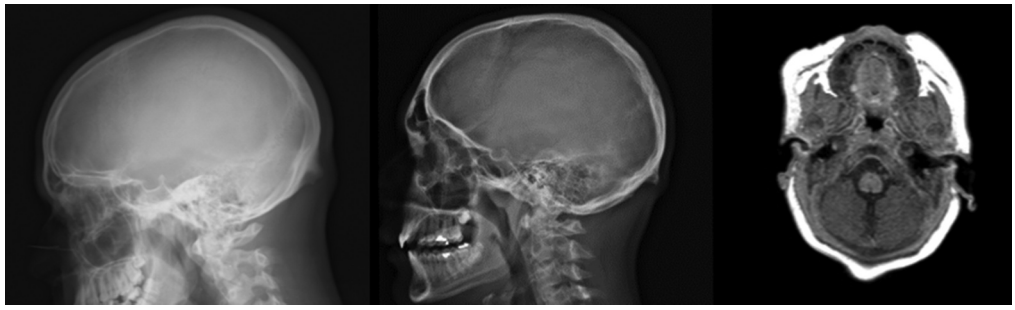
External occipital protuberance enlargement in children: A benign anatomic variant with rare associations

Pires, Joana F.; Ventura, Inês Bileu; Santos, Helena
Centro Hospitalar Vila Nova de Gaia/Espinho, Portugal

Introduction: External Occipital Protuberance (EOP) is an average anatomical prominence on the occipital bone's posterior surface. EOP enlargement is often seen in late adolescence, more commonly in males. Although frequently asymptomatic or mildly symptomatic, some cases can lead to significant pain, warranting medical attention. The recent increase in EOP prevalence is believed to be linked to postural factors and biomechanical stress, possibly associated with excessive screen-based activities in children and adolescents. Although this seems to be considered a benign condition, other disorders should be considered in the differential diagnosis of an occipital protuberance, such as trauma, active inflammation, or genetic factors.

Case Presentation Summary: This discussion presents four cases of EOP enlargement in children and adolescents, exploring the potential etiology, clinical significance, and diagnostic considerations. Case 1: A 12-year-old caucasian boy was admitted to the Emergency Department with painful occipital tumefaction that had been noted one day before admission. His medical history was insignificant. The examination revealed the presence of tender and painful bony swelling. An

Figure 1.



ultrasound was performed and revealed a prominent occipital protuberance. His excessive screen use and poor posture were identified as potential contributing factors, and he was discharged without further investigation. Case 2: A 15-year-old caucasian boy was admitted to the Emergency Department with complaints of progressive occipital tumefaction, aggravated during the latter two years. The previous history of head trauma seven years before resulted in a hematoma and incisive wound requiring a suture. R-X was performed, and a radiopaque lesion was observed, suggesting exostose. The boy was later conducted to a pediatric appointment. Blood tests were performed, including levels of ceruloplasmin and copper. The results were expected, and he was discharged from the hospital follow-up. Case 3: This 15-year-old boy had been followed for mild cognitive impairment and attention-deficit hyperactivity disorder. During a neurodevelopmental appointment, he reported an occipital tumefaction. Extensive blood tests and genetic analysis, including levels of ceruloplasmin, copper, ATP7A gene, array and X-fragile, were conducted to rule out any underlying genetic disorders, all of which returned the expected results. Case 4: A male newborn with hypotonia and hair discoloration was evaluated. Initial blood tests showed low levels of copper and serum ceruloplasmin. On suspicion of Menkes disease, evaluation of the hair by electronic microscopy was requested, which showed pili torti and molecular testing enhanced a mutation on the ATP7A gene. The diagnosis of Menkes disease was confirmed. Subsequent imaging revealed an occipital exostosis. This patient experienced a progressive neurological decline and passed away at six. (figure 1)

Discussion: External Occipital Protuberance enlargement is typically considered a benign anatomical variant, commonly found in late adolescence and more frequently in males. Despite its usually asymptomatic or mildly symptomatic nature, the recent increase in prevalence and its potential association with excessive screen-based activities warrant further investigation. While most cases of EOP enlargement are innocuous, healthcare providers should be vigilant and consider other potential causes in the differential diagnosis, such as Menkes disease, which can manifest with both neurological decline and EOP enlargement.

Conclusion: By presenting and discussing these cases, we hope to raise awareness among healthcare professionals about this condition and its rare associations, emphasizing the importance of a comprehensive approach to differential diagnosis and management.

Will be presented as Oral Presentation Onsite
ID: 233/02-OP-L-d1C: 9
Oral Presentation (Onsite)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: allergy prevention strategy, eczema, respiratory allergy, prebiotic fibre

Exploration of a novel prevention strategy for allergic diseases in very early childhood: Dietary modulation of maternal gut flora with prebiotic fibre

Rueter, Kristina[1,2]; Silva, Desiree[2,3]; Palmer, Debra[3]; Prescott, Susan[1,2,3]
[1]Perth Children's Hospital, Australia; [2]Medical School, The University of Western Australia, Australia; [3]Telethon Kids Institute, Australia

Background: Allergic diseases are the most common chronic diseases of childhood and the earliest manifestation of the immune system to modern environmental change. There is increasing evidence that children commence on a pathway towards developing allergies even before they are born. Diet, lifestyle and environmental exposures during pregnancy appear to influence the risk of the offspring developing allergic disease. Prebiotic fibre is the "food for good gut bacteria" known to have anti-inflammatory and immunomodulatory effects. However, modern 'processed' low-fibre diets generally have limited prebiotics included. There has been a dramatic rise of allergic diseases within the last decades, and allergic diseases significantly impact the quality of life for children and their families with an ever-present fear of severe adverse reactions which can be life-threatening. Economic costs are very high, and waiting lists to be seen by a specialist are very long. This underscores the urgent need for developing allergy prevention strategies.

Aim: This is the first randomised controlled trial to investigate whether supplementation with prebiotic fibre in pregnancy will reduce the risk of early childhood (0 to 3 years of age) allergic diseases relative to the placebo group.

Methods: Pregnant women were recruited and randomised to receive prebiotic fibre or placebo from 18-20 weeks gestation to six months post-partum. Children undergo a standardised medical assessment for eczema, IgE-mediated food allergy, recurrent wheeze and sensitisation to common food and inhalant allergens within the first three years of age. Caregivers complete standardised interview-administered questions about the child's diet, general health and home environment.

Results: We completed the recruitment of 652 participants. While the onset of eczema and food allergy is predominantly found in infancy, asthma and hay fever develop later in life (atopic March). Animal models suggest that prebiotics may have a role in reducing respiratory allergies. Hence, this study seeks to assess allergic outcomes in an extended period of follow-up (3 years) also to include important effects on aeroallergen sensitization and assess emerging symptoms of respiratory allergy (asthma and allergic rhinitis). The 3-year follow-up is in progress.

Conclusion: With such dramatic global increases in allergic disease, there is an urgent need for simple, effective, low-cost prevention strategies to reduce the burden on the individual, the family and the health care system. With solid evidence that maternal-fetal interactions are essential for immune development, this novel study will investigate a cost-effective allergy prevention strategy which can be easily translated into practice.

Will be presented as Oral Presentation Onsite
ID: 313/02-OP-L-d1C: 10
Oral Presentation (Onsite)
Topics: RARE DISEASES, ADOLESCENT MEDICINE
Keywords: Excessive daytime sleepiness, Narcolepsy type 1, Pediatric sleep disorders, Ptosis

Ptosis and apathy - from myasthenia to narcolepsy

Cascais, Inês[1]; Teixeira, Beatriz[1]; Salazar, Luís[1]; Morais, Lurdes[1]; Santos, Manuela[2]; Rios, Marta[1]
[1]Department of Pediatrics, Centro Materno-Infantil do Norte (CMIN), Centro Hospitalar Universitário de Santo António (CHUdSA), Porto, Portugal; [2]Department of Neuropediatrics, CMIN-CHUdSA, Porto, Portugal

Background: Narcolepsy type 1 (NT1) is a rare chronic sleep disorder characterized by excessive daytime sleepiness (EDS), cataplexy (sudden loss of muscle tone precipitated by emotions), hypnagogic or hypnopompic hallucinations, and sleep paralysis. Diagnosis in pediatrics is often delayed due to less typical presentations, such as facial hypotonia with droopy eyelids or gait unsteadiness unrelated to emotions.

Case Presentation Summary: A 13-year-old teenager with complaints of muscular weakness and occasional falls since age three, adynamia, and fluctuating ptosis since age 11 was referred to a pediatric sleep consultation after extensive diagnostic evaluations due to suspected myasthenia, under treatment trial with salbutamol. Electromyography showed no decrement upon repetitive stimulation. Muscular biopsy, cardiac evaluation, and brain magnetic resonance imaging were normal. Blood tests were also normal, including liver function, lactate, ammonia, amino acids, creatine kinase, calcium, phosphorus, thyroid function, and transferrin isoelectric focusing. On average, the patient slept 9.5 hours/day, experiencing nocturnal sweating without awakenings or snoring, alongside complaints of morning headaches and EDS (evening naps without sleep attacks) over the past year. He also presented depressive symptoms, learning difficulties, and significant weight gain with obesity. Polysomnography revealed moderate obstructive sleep apnea (OSA) with hypoventilation, leading to the initiation of non-invasive ventilation. Despite good adherence, the complaints persisted, and frequent falls unrelated to emotions were referred. When asked, he described one episode of hypnagogic hallucination and sleep paralysis in the past. Multiple sleep latency test (MSLT) was inconclusive (mean sleep latency of 15 minutes and two sleep-onset rapid eye movement periods (SOREMPs)), and the reduced level of hypocretin-1 in cerebrospinal fluid (CSF) confirmed the NT1 diagnosis. Treatment with methylphenidate and venlafaxine resulted in reduced sleepiness and apathy, ptosis resolution, and absence of fall episodes. There was progressive appetite regulation, improvement to overweight, and mood stabilization.

Learning Points Discussion: This case highlights the diagnostic challenges of less typical NT1 presentations in pediatrics. Fluctuating ptosis, typical of cataplectic facies or due to sleepiness, can mimic myasthenic disorders. OSA related to obesity and depressive symptoms, both causes of EDS in adolescence presented in this case, are frequent comorbidities with narcolepsy that can delay the diagnosis. A mean sleep latency of <8 minutes and ≥2 SOREMPs are the MSLT adult criteria adopted for pediatrics. However, some studies report higher latencies in adolescents, reinforcing the need to redefine criteria in this age group. The hypocretin measurement in CSF was essential to confirm the diagnosis and initiate appropriate treatment, leading to successful symptom management and improved quality of life.

Session

03-OP-L-d1D

Time:
Thursday, 30/Nov/2023:
5:00pm - 7:00pm

Presentations

Will be presented as Oral Presentation Onsite
ID: 252/03-OP-L-d1D
Oral Presentation (Onsite)
Topics: PUBLIC HEALTH
Keywords: mental health, children & adolescents, parents, programme development

"Add Strength" to parents so that they can support their children's mental health

Okulicz-Kozaryn, Katarzyna Anna; Dzielska, Anna
Institute of Mother and Child, Poland

Introduction: Russian aggression caused a massive influx of war refugees to Poland, mainly mothers with children. In this situation, the Institute of Mother and Child, in cooperation with the Ministry of Health and in partnership with UNICEF, implemented activities to support the mental health of refugees.

Method: The project flow was based on the European Drug Prevention Quality Standards (EDPQS, 2011) model from (1) needs assessment, (2) resources assessment, (3) program formulation, (4) intervention design, (5) management and mobilization of resources; (6) delivery and monitoring; (7) final evaluations; (8) dissemination and improvement. Ad 1. Focus group interviews (FGI) with Ukrainian parents (4 groups, n=23 participants), discussing their current life situation, physical and mental health, ways of coping and expected support. Ad 3 &4. The results were used to build the "Add Strength" program to improve the well-being of parents and carers and develop their skills to support children in the face of adversity and difficulties. Ad 2&5. The critical resources mobilized to implement this program of 20 hours of workshops in groups of about ten parents/guardians were Ukrainian psychologists/pedagogues – war refugees themselves. Ad 6. Program trainers provided the monitoring data after each session, and participants gave feedback after the last session. Ad 7. The final evaluation was based on the pre-post design. Participants (n=533) completed the anonymous questionnaires covering the critical issues of the program: self-assessment of health (Healthy Days) and well-being (WHO-5), coping with stress (MINI-COPE), resilience (CD -RISC), post-traumatic growth (PTGI) and parenting practices (Parental Attitudes Questionnaire). Data were analyzed with the T-test and Sign-test for paired samples.

Results: Statistically significant positive changes in all outcome variables were observed (p<.001) in subjective assessment of health and well-being; increased use of positive and decreased use of negative coping strategies; resilience; PTG in terms of relating to others, acknowledging new possibilities, personal strength, spiritual change and appreciation of life; increase in accepting and autonomy attitudes and decrease in excessively demanding, excessively protective, inconsistent attitudes toward a child).

Conclusions: Coping with serious problems, such as war or refugee, is a challenge and a mental burden for the whole family. Parents/caregivers often need to support themselves to support their children. Conclusions from working with migrants from Ukraine may be helpful in working with families experiencing other crises, e.g. related to a chronic illness, a child's disability or minority groups.

Will be presented as Oral Presentation Onsite
ID: 220/03-OP-L-d1D: 2
Oral Presentation (Onsite)
Topics: PUBLIC HEALTH
Keywords: Adolescence; Epidemiological Study; Gaming Disorder; Health; Wellbeing

Gaming, health and wellbeing in adolescence: Evidence from the 2022 Italian Health Behaviour in School-aged Children study

Pivetta, Erika[1]; Canale, Natale[1]; Elgar, Frank[2]; Galeotti, Tommaso[1]; Marino, Claudia[1]; Lenzi, Michela[1]; Dalmasso, Paola[3]; Lazzeri, Giacomo[4]; Nardone, Paola[5]; Vieno, Alessio[1]
[1]Department of Developmental and Social Psychology, University of Padova, 35131 Padua, Italy; [2]Institute for Health and Social Policy, McGill University, 1130 Pine Avenue West, Montreal, Quebec, Canada; [3]Department of Public Health and Pediatrics, University of Torino, 10126 Torino, Italy; [4]Department of Molecular and Developmental Medicine, University of Siena, 53100 Siena, Italy; [5]National Centre for Disease Prevention and Health Promotion, Italian National Institute of Health, 00161 Rome, Italy

Background: For many adolescents, playing video games is a pleasurable pastime, allowing for socialisation and multi-sensorial stimulation. However, a minority of youth can develop maladaptive patterns of gaming and experience health impairments, so much so that a full-fledged gaming disorder may occur. Most studies investigating this phenomenon in youth have been carried out using self-selected/convenience and unrepresentative samples of adolescents. Further research is needed to gain robust evidence about its links to health and well-being. The present study used data on a nationally representative sample of Italian adolescents to (i) examine distinct groups of adolescents based on the severity of gaming disorder and (ii) compare these groups regarding health-related risk and protective factors.

Methods: Cross-sectional data from the 2022 Health Behavior in School-aged Children (HBSC) included 89321 Italian adolescents aged 11-, 13-, 15- and 17-year-olds. A cut-off approach based on the DSM-5 criteria for Internet Gaming Disorder (IGD; APA, 2013) and the IGD threshold values for Italian participants (Monacis et al., 2016) created four groups along a severity gradient. The groups were labelled as non-gamers (33.7%), low-risk gamers (51.6%), high-risk gamers (11.6%) and disordered gamers (3.1%). They were compared on their self-reported psychological and physical health, nutrition and physical activity, sleep characteristics and social well-being.

Results: Compared to non-gamers, low-risk gamers reported significantly better health-related outcomes in terms of lower risk of depression, lower stress, and fewer psychological symptoms and physical symptoms. In contrast, the disordered gamers showed significantly higher impairment in all health-related outcomes considered, including more melancholy mood, higher risk of depression, increased loneliness, higher stress, more psychological symptoms and physical symptoms, lower life satisfaction, worse health, being overweight, worse eating habits, lower vigorous physical activity, poorer sleep quality and duration, lower family and peer support.

Conclusions: This study highlights the importance of not considering video games harmful a priori by demonstrating that adolescents reporting low levels of gaming activities showed some better health-related outcomes than non-gamers. Nevertheless, our findings also revealed that disordered gaming patterns are associated with several adverse outcomes in different psychosocial domains and called for the implementation of tailored prevention strategies in adolescence.

Will be presented as Oral Presentation Onsite
ID: 181/03-OP-L-d1D: 3
Oral Presentation (Onsite)
Topics: PUBLIC HEALTH
Keywords: cross-classified multilevel analysis, social inequalities, HBSC, adolescent dietary health, social factors

How do Family, School and Neighbourhood Contexts relate to one another in forming Adolescent Dietary Behaviours?

Dierckens, Maxim[1]; Delaruelle, Katrijn[2]; De Clercq, Bart[3]; Clays, Els[1]; Deforche, Benedicte[1]
[1]Ghent University, Department of Public Health and Primary Care; [2]Ghent University, Department of Sociology; [3]Mensura, R&D Department

Background: The simultaneous role various social contexts across different levels can play in relation to adolescent dietary behaviours remains underexamined. To improve understanding, we studied the association between family, school and neighbourhood social factors with regard to adolescent dietary behaviours (fruit, vegetable, sweets and soft drink consumption), including their interaction effect with socioeconomic status (SES).

Methods: Data came from the 2017/18 Health Behaviour in School-aged Children (HBSC) survey in Flanders (Belgium). The sample included representative data from 8,020 adolescents in 164

schools and 303 neighbourhoods. Social factors at the individual level (family, student and teacher support) and contextual level (school culture of student and teacher support and school-level and neighbourhood-level SES) were considered. Cross-classified multilevel logistic regression analyses were performed.

Results: Adolescent dietary behaviours varied between schools but not between neighbourhoods. Family social support was positively associated with fruit and vegetable consumption, and student support with fruit consumption. Still, these social factors at the individual level were not related to unhealthy dietary behaviours (sweets and soft drink consumption). No associations were found between nutritional behaviours and school social factors (at individual- and contextual-level) nor neighbourhood social factors. None of the social factors moderated the association between SES and dietary behaviours.

Conclusions: School social factors have little bearing on adolescents' dietary behaviours, whereas some evidence was found that stronger social ties with family can benefit dietary health. Future research is needed to identify other possible school factors to advance understanding. Current findings provide cues for strengthening family social ties as dietary health promotion initiatives.

Will be presented as Oral Presentation Onsite
ID: 253/03-OP-L-d1D: 4
Oral Presentation (Onsite)
Topics: ADOLESCENT MEDICINE, PUBLIC HEALTH
Keywords: non-suicidal self-injuries, Emergency Department, school-aged youth, adolescents, retrospective cross-sectional study

Non-suicidal self-injurious behaviour (NSSI) in developmental age in Piedmont, Italy: trends in ED admissions and identification of possible predictive patterns through analysis of current ministerial sources.

Borraccino, Alberto[1]; Onorati, Roberta[2]; Ferracin, Elisa[2]; Mamo, Carlo[2]
[1]University of Torino, Department of Public Health and Paediatrics, Torino, Italy; [2]Epidemiology Unit, ASL TO3, Grugliasco (TO), Italy

Introduction: A deliberate mutilation of one's body tissue in the absence of lethal intent, defined as non-suicidal self-injury (NSSI), is recognised as an important health threat and a competitive risk of several factors, including suicidal behaviour. Such episodes seem to have been increasing in recent years in the adolescent population: a proportion of these result in a visit to the Emergency Department (ED), often without specific predictive factors. Although the phenomenon is growing, there are few epidemiological studies on trends in ED admissions for NSSI over time and associated predictive characteristics.

Objectives: To describe the ten-year trend of admissions to the PS for NSSI in the school-age and adolescent population in Italy, using different official administrative sources of the Piedmont Region; therefore, to identify possible predictive patterns, such as, for example, a drug consumption profile, a specific course of specialist visits requests or an excess of admissions to the ED for other causes, all preceding the NSSI event.

Methods: A retrospective cross-sectional study was conducted on all ED visits in patients aged 5-19 in the Piedmont Region, Italy. Data on visits to the ED, specialist visits undertaken, and drug prescriptions come from the ministerial database of health information for the period January 2011-October 2021. The proportions of ED visits due to an NSSI were calculated. Results were reported for a five-year age group per 100,000 visits per observation year, stratified by gender. The following were then identified and described: (i) drug consumption profiles for NSSI youth, compared to those of the same age who visited the ED for other causes; (ii) any visits to the ED; and (iii)

the number and type of other visits, which occurred before the NSSI, comparing the proportions with those of the population in the same age group.

Results: During the study period, a total of 2 134 488 visits to the ED occurred, with an NSSI ratio of 42.2 episodes per 100 thousand visits. NSSIs decreased between 2011 and 2013, then increased steadily from 30.2 to 67.1 events per 100 thousand between 2014 and 2019; NSSIs are more frequent overall in older girls (15-19 years), while in males, the increase in self-harm showed a steady rise. Among all NSSIs, 682 (79%) cases had one or more than one visit before their first NSSI, of which 550 visited the ED two or more times. Overall, 60% of the accesses to the emergency room were recorded as a psychological condition, 29% as a traumatic condition and 72% as an infectious condition. The median number of ED visits before the NSSI was four. Regarding the consumption of drugs by macro-category (Anatomical Therapeutic Chemical classification system, ATC), preliminary results showed an excess of use of anti-infective drugs in NSSIs when compared to the general population; from 15 years onwards, for both sexes, an excess of prescriptions for 'nervous system' drugs is also observed.

Conclusions: The dramatic increase in NSSI in recent years represents a severe health problem and deserves specific attention. As in other European countries, the phenomenon is more frequent in Italy in adolescence, despite not being absent at younger ages. A study of the possible predictive factors may help in the rapid identification of at-risk youth and could be helpful in the design of supporting preventive policies.

Will be presented as Oral Presentation Onsite
ID: 294/03-OP-L-d1D: 5
Oral Presentation (Onsite)
Topics: GENERAL PEDIATRICS, PUBLIC HEALTH
Keywords: Sharenting, social media, parents, primary care, Portugal

Sharenting: Do parents in Portugal recognize the bounderies and dangers on social media sharing about their children?

Soares Cardoso, Sandra; Liz Almeida, Ricardo; Reis, Sofia; Cálix, Maria José
Pediatrics Department, Centro Hospitalar Tondela-Viseu, Viseu, Portugal

Background: The use of social media is on the rise, and it is increasingly common for parents to share photographs, videos and other information about their children on social networks. This phenomenon of over-sharing digital content that provides information about children/adolescents is called "sharenting", which comes from the combination of the terms "parenting" and "sharing".

Methods: Observational multicentric prospective study, with a convenience sample: parents who use social networks who accompanied their child/adolescent to the outpatient clinic at primary health care in 3 different Portuguese cities for 1 month. Participants completed a survey with closed and/or short-answer questions. A descriptive analysis of the results was made. The aims were to collect information regarding the exposure of children/adolescents to social networks by their parents and characterize the use of social networks by these.

Results: During September 2021, 115 parents met the inclusion criteria and were accepted to participate (51 from Aveiro, 44 from Oporto and 20 from Coimbra), primarily females (n= 108; 93,9%), with a median age of 39 years old (minimum 22, maximum 56). More than 2/3 (69,5%) of parents had higher academic education. Participants' children mainly were included in the age group 10-17 years old (n=47; 40,9%), followed by 1-5 years old (n=28; 24,4%). The most used social network was Facebook (n=107; 93,0%), followed by Instagram (n=66; 57,4%), with most of the participants (73,0%) using more than one. Half of the participants (50,4%) stated that they have already shared images of their children on social media, with 53,4% with shares

at birth or during the first year of life (medium of 30 claims per participant). Twenty parents (17,4%) stated they were unaware of the social networks' privacy policies, and 64 (59,1%) felt safe sharing information. However, 26.1% (n=30) and 55.7% (n=64) of participants reported being moderately and very concerned about their child's safety due to exposure to social media.

Conclusions: Despite the small sample, the results align with the literature. Since the use of social media is increasing, there should be measures to protect children from sharenting. Parental education is the first prevention line, so Pediatricians can play a central role in making parents aware of the dangers associated with sharenting. This study resulted in a health education leaflet that is being distributed in health facilities that participated.

Will be presented as Oral Presentation Onsite
ID: 124/03-OP-L-d1D: 6
Oral Presentation (Onsite)
Topics: GENERAL PEDIATRICS, PUBLIC HEALTH
Keywords: alcohol-free hand sanitizer, microbial load reduction, randomized controlled trial, children, COVID-19

Microbial load reduction of alcohol-based and alcohol-free hand sanitizers in children aged 5-18 years old

Bastasa, Emmanuel Arianne Mendoza
Las Piñas Doctors Hospital, Philippines

Background: The recent COVID-19 pandemic taught us the importance of hand hygiene. Hand sanitizers became a significant commodity, and their demand rose many folds. Alcohol-free hand sanitizers, which are non-sting and hypoallergenic, are now being marketed for children. These sanitizers use non-alcoholic chemicals like benzalkonium chloride and essential oils to exert antimicrobial activity. However, studies regarding its efficacy in children are limited.

Objective: This study aims to compare the effectiveness of microbial load reduction of an alcohol-based and alcohol-free hand sanitizer after hand application in children.

Methods: The study is a pilot randomized clinical trial comparing the microbial load reduction after applying alcohol-based and alcohol-free sanitizer. The participants were aged 5-18 from a hospital-adopted community in Las Piñas City, Philippines, with no known sensitivity to any component of the hand sanitizers or active hand skin lesions. They were assigned randomly into three groups: sterile water, alcohol-based hand sanitizer, and alcohol-free hand sanitizer. Direct hand-plating was used to obtain samples before and after application. Samples were inoculated in a ready-made culture medium where aerobic plate count in colony-forming units (CFU) was measured. The primary outcome measure was microbial load reduction. Mean, standard deviation, Chi-square, and ANOVA tests analyzed the results.

Results: A total of 63 participants (21 per intervention group) were included in the study. Most participants were females (57.1%) and were 5-10 years old (57.1%). The demographic differences did not affect the initial microbial load (p=.502 for sex; p=.870 for age group). There was no significant difference in the baseline characteristics of the intervention groups (p=.320 for age, p=.256 for sex, and p=.102 for initial microbial load). There was a significant difference in microbial load reduction among the intervention groups (p=.002). The alcohol-based hand sanitizer was superior to alcohol-free hand sanitizer in microbial load reduction (246.1 CFU vs 65.6 CFU). (Table 1)

Table 1. Comparison of the 3 Intervention Groups in terms of Microbial Load Reduction				
Intervention	**M**	**SD**	***F***	***p***
Group	Reduction in Microbial Load			
Sterile water (control)	-122.14 CFU	362.10	6.806	0.002
Alcohol-based Hand Sanitizer	246.91 CFU	357.53		
Alcohol-free Hand Sanitizer	65.62 CFU	237.16		

Note: df=2. Not Significant at .05 level.

Conclusion: In this study, alcohol-based hand sanitizer is more effective than alcohol-free hand sanitizer in microbial load reduction on the hands of children aged 5-18.

Will be presented as Oral Presentation Onsite
ID: 296/03-OP-L-d1D: 7
Oral Presentation (Onsite)
Topics: DERMATOLOGY, ADOLESCENT MEDICINE
Keywords: Dermatology, Transition, Adolescent Medicine, Qualitative

Transition and Developmentally Appropriate Healthcare in Adolescent Dermatology services

Patel, Ria; Segal, Terry; Martyn-Simmons, Claire
University College London Hospital, United Kingdom

Background: Developmentally Appropriate Healthcare (DAH) recognises young people as a distinct group catering to their changing biopsychosocial needs. Transition is the process of planning and preparing patients for the move from paediatric to adult services. DAH/transition should be provided within dermatology, addressing the psychological impact of skin conditions. This multi-centre descriptive study identified and assessed hospital dermatology services within North Central London (NCL). Patient perceptions of a specialist adolescent clinic were investigated.

Methods: NICE transition guidance (NG43), "You're welcome" DAH guidance and the Northumberland DAH toolkit were used to design data-collection instruments. Questionnaires were disseminated to clinical leads, and checklist observations were carried out through clinic visits. Patients were consulted via a questionnaire and interviews. Results were analysed using descriptive statistics and framework analysis. Each NCL service varied in their provision of DAH/Transition support. Barriers included a lack of infrastructure, e.g. a transition lead/nursing support. The UCLH adolescent clinic was well-received, although the timing of appointments interfered with school attendance. Patients aged 16 and over were significantly more likely (p=0.004) to place importance on being seen alone compared to younger patients. Female patients were significantly more likely (p=0.006) to have their mental health impacted by their skin condition compared to male patients. Patient interviews emphasised the importance of a developmentally appropriate approach to transition support, inclusive for neurodivergent patients.

Learning Points Discussion: The adolescent services in NCL were able to meet more guideline recommendations compared to the paediatric services. This indicated that the resources/infra-structure used to establish these specialist services may improve the services' ability to meet the guidelines on DAH/Transition. Patient priorities/preferences occasionally differed from guidelines and clinician perceptions. This emphasises the importance of consulting young people to ensure

services are designed with them to meet their needs effectively. This study's protocol could be used to investigate other specialties/regions.

Will be presented as Oral Presentation Onsite
ID: 130/03-OP-L-d1D: 8
Oral Presentation (Onsite)
Topics: INFECTIOUS DISEASES, PUBLIC HEALTH
Keywords: vaccination, immunization, public health

Reducing Under-Vaccination to Enhance Vaccination Coverage at School Entry in the U.S.

Yang, Y. Tony
The George Washington University, United States of America

Background: This study investigates the policies and impacts of under-vaccination, also known as provisional enrollment — the practice of allowing children to attend school while they complete their required vaccinations — across various U.S. states. Notably, while nearly all states have adopted provisional enrollment regulations, the nature of these rules and the rates of provisional enrollment vary significantly. In a detailed examination of provisional enrollment laws, we identified five core components: dose- and vaccine-specific requirements, authorized personnel types, the grace period for vaccination completion, follow-up protocols, and non-compliance repercussions.

Methods: State-by-state analyses reveal that kindergarten provisional enrollment percentages range from less than 1% to over 8% for the 2015-2021. Two states — Pennsylvania and California — have enacted measures to reduce provisional entrants and boost vaccination coverage at school entry. In Pennsylvania, shortening the grace period led to a considerable decline in provisionally enrolled kindergarteners and a subsequent rise in those up-to-date on required vaccinations. California took an educational approach to address its high provisional enrollment rates.

Results: Our data indicates a substantial decrease in the rate of provisional enrollment following the reduction in the grace period, whereas medical exemption rates remained steady, and nonmedical exemption rates slightly increased. Additionally, we noted a negative correlation between changes in provisional enrollment rates and changes in the number of kindergarteners up-to-date on vaccinations. However, no significant correlation was found between medical or nonmedical exemption changes.

Conclusions: The study suggests that strategies aimed at reducing provisional entrants may increase the percentage of up-to-date kindergarteners on vaccinations at school entry without leading to a corresponding increase in exemptions. The findings provide a vital initial step toward a better understanding the school entry pathway and its impact on public health. Further research is needed to delve into the potential of these findings to improve public health strategies.

Will be presented as Oral Presentation Onsite
ID: 242/03-OP-L-d1D: 9
Oral Presentation (Onsite)
Topics: NUTRITION & DIETS
Keywords: Synbiotics, HMO, probiotics, nutrition

Infant formula with a specific age-adapted synbiotic blend of six human milk oligosaccharides and B. infantis LMG11588 plus B. lactis CNCM I-3446 supports healthy, age-appropriate growth and is well-tolerated: a staged analysis of a double-blind, randomized, controlled trial

Miranda, Javier[1]; Claris, Olivier[2]; Gil-Campos, Mercedes[3]; Salamanca, Ignacio[4]; Cornette, Luc[5]; Alliet, Philippe[6]; Léké, André[7]; Castanet, Mireille[8]; Piloquet, Hugues[9]; de Halleux, Virginie[10]; Mitanchez,

Delphine[11]; Vandenplas, Yvan[12]; Maton, Pierre[13]; Jochum, Frank[14]; Olbertz, Dirk[15]; Negre, Sergio[16]; Lahiry, Anirban[17]; Silva Zolezzi, Irma[18]; Hays, Nicholas P.[18]; Sprenger, Norbert[19]; Picaud, Jean-Charles[20]

[1]Department of Pediatrics, Hospital Vithas, Valencia, Spain; [2]Department of Neonatology, Hôpital Femme Mère Enfants, Bron, France; [3]Paediatric Metabolism Unit, Reina Sofia University Hospital, University of Cordoba, IMIBIC, CIBEROBN, Cordoba, Spain; [4]Department of Pediatrics, Instituto Hispalense de Pediatria, Sevilla, Spain; [5]Department of Pediatrics, Instituto Hispalense de Pediatria, Sevilla, Spain; [6]Department of Pediatrics, Jessa Hospital, Hasselt, Belgium; [7]Neonatal Medicine and Intensive Care, Centre Hospitalier Universitaire Amiens Picardie, Amiens, France; [8]CIC INSERM U1404, Department of Pediatrics, Rouen University Hospital Charles Nicole, Rouen, France; [9]Child Chronic Disease Service, Centre Hospitalier Universitaire de Nantes, Nantes, France; [10]Neonatology Division, CHU de Liège-CHR de la Citadelle, Liège, Belgium; [11]Service de Néonatologie, Centre Hospitalier Universitaire de Tours, Tours, France; [12]KidZ Health Castle, Vrije Universiteit Brussel, UZ Brussel, Brussels, Belgium; [13]Service Néonatal, Clinique CHC-Montlégia, Liège, Belgium; [14]Department of Pediatrics, Evangelisches Waldkrankenhaus Spandau, Berlin, Germany; [15]Department of Neonatology, Klinikum Südstadt Rostock, Rostock, Germany; [16]Department of Pediatrics, Hospital Quironsalud, Valencia, Spain; [17]Clinical Research Unit, Nestlé Research, Lausanne, Switzerland; [18]Research & Development, Nestlé Product Technology Center – Nutrition, Vevey, Switzerland; [19]Nestlé Institute of Health Sciences, Nestlé Research, Lausanne, Switzerland; [20]Service de Néonatologie, Hôpital Universitaire de La Croix-Rousse, Lyon, France

Background: Formulas supplemented with human milk oligosaccharides (HMOs) and probiotics may promote multiple health benefits, especially immune-related ones in formula-fed infants. This ongoing trial assesses growth, gastrointestinal (GI) tolerance, and gut microbiome outcomes in infants fed with formulas supplemented with 6 HMOs and two probiotics from birth to age 15 months (mo). Here, we report staged endpoint analysis results for all infants up to age 4.

Methods: In a multicenter European trial (Clinical trials.gov: NCT04962594), formula-fed infants (FFI) aged ≤14 days (d) were randomised to control formula (CF, n=117, partially hydrolysed 100% whey-based formula) or experimental formula (EF, n=119, same formula supplemented with 1.77g/L HMOs [2′FL, DFL, 3-FL, LNT, 3′SL, 6′SL], B. lactis [CNCM I-3446], and B. infantis [LMG11588]). Non-randomized breastfed infants (BF, n=82) served as a reference group. The primary outcome was weight gain velocity (WGV) in EF vs. CF, measured as mean daily WG from enrollment to age 4mo, with a non-inferiority margin of −3g/d. The secondary objective was to demonstrate increased Bifidobacterium abundance in EF vs. CF at age 3 (reported separately). Additional endpoints in this report include anthropometric measures, stooling patterns (3-D parent diary), GI tolerance (validated Infant Gastrointestinal Symptom Questionnaire [IGSQ, score range 13-65]), and serious adverse events through 4mo.

Table 1. Difference in weight gain velocity (g/day) from enrollment to age 4 months

Population	Groups	Weight gain velocity, g/day, mean (SD)	Difference between groups [1]		
			Estimate	95% CI	Non-inferiority p-value
Full analysis set	CF (*n* = 98)	27.9 (5.3)			
	EF (*n* = 95)	29.5 (5.9)	1.59	0.07, 3.11	<0.001
Per protocol set	CF (*n* = 77)	27.8 (5.1)			
	EF (*n* = 72)	29.0 (5.4)	1.50	-0.15, 3.15	<0.001

[1]From an ANCOVA model with baseline weight, sex, mode of delivery and center as covariates. CF, control group; EF, experimental group.

Results: WGV from enrollment to age 4mo (Table 1) was non-inferior in EF vs. CF-fed infants. In the per-protocol set, the estimated mean difference (95% confidence interval) in WGV between EF (n=72; mean ± SD, 29.0 ± 5.4g/d) and CF (n=77; 27.8 ± 5.1g/d) fed infants was 1.50g/d (–0.15, 3.15; p-value for non-inferiority<0.001); WGV in BF infants was similar (n=51; 26.9 ± 5.7g/d). Throughout this study, interval EF and CF groups had similar weight-for-age, length-for-age, head circumference-for-age, and weight-for-length z-scores and all mean ± 95%CI z-scores were tracked closely (± ~0.5 SD) with the WHO median. EF and CF groups had similar soft stooling patterns and IGSQ scores at all time points. Mean IGSQ scores at 4 were low (≤22.7) in all groups, indicating good GI tolerance. Parent-reported and physician-confirmed SAEs were similar in EF (18 events in 18 infants) and CF (17 events in 15 infants); no SAEs were considered to be related to the study formulas.

Conclusions: A partially hydrolysed infant formula with a specific synbiotic blend of 6 HMOs and B. infantis plus B. lactis supports healthy, age-appropriate growth is safe and well-tolerated through 4 months of age. Future analyses through 15 months of age will provide additional evidence on the impact of EF feeding on these endpoints, as well as fecal and blood biomarkers of immune development.

Session

04-OP-L-d1D

Time:
Thursday, 30/Nov/2023:
5:00pm - 7:00pm

Presentations

Will be presented as Oral Presentation Onsite
ID: 243/04-OP-L-d1D: 1
Oral Presentation (Onsite)
Topics: NUTRITION & DIETS
Keywords: synbiotic, HMO, probiotics, microbiome, infant

Gut microbiota and probiotic establishment in healthy term infants fed an infant formula with a specific age-adapted synbiotic blend of six human milk oligosaccharides and B. infantis LMG11588 plus B. lactis CNCM I-3446: a staged analysis of a double-blind, randomized, controlled trial

Picaud, Jean-Charles[1]; Moll, Janne Marie[2]; Miranda, Javier[3]; Claris, Olivier[4]; Gil-Campos, Mercedes[5]; Salamanca, Ignacio[6]; Cornette, Luc[7]; Alliet, Philippe[8]; Léké, André[9]; Castanet, Mireille[10]; Piloquet, Hugues[11]; de Halleux, Virginie[12]; Mitanchez, Delphine[13]; Vandenplas, Yvan[14]; Maton, Pierre[15]; Jochum, Frank[16]; Olbertz, Dirk[17]; Negre, Sergio[18]; Lahiry, Anirban[19]; Rodríguez-García, Paula[2]; Silva Zolezzi, Irma[20]; Hays, Nicholas P.[20]; Sprenger, Norbert[21]
[1]Service de Néonatologie, Hôpital Universitaire de La Croix-Rousse, Lyon, France; [2]Clinical Microbiomics, Copenhagen, Denmark; [3]Department of Pediatrics, Hospital Vithas, Valencia, Spain; [4]Department of Neonatology, Hôpital Femme Mère Enfants, Bron, France; [5]Paediatric Metabolism Unit, Reina Sofia University Hospital, University of Cordoba, IMIBIC, CIBEROBN, Cordoba, Spain; [6]Department of Pediatrics, Instituto Hispalense de Pediatria, Sevilla, Spain; [7]Department of Neonatology, AZ Sint-Jan Hospital, Brugge, Belgium; [8]Department of Pediatrics, Jessa Hospital, Hasselt, Belgium; [9]Neonatal Medicine and Intensive Care, Centre Hospitalier Universitaire Amiens Picardie, Amiens, France; [10]CIC INSERM U1404, Department of Pediatrics, Rouen University Hospital Charles Nicole, Rouen, France; [11]Child Chronic Disease Service, Centre Hospitalier Universitaire de Nantes, Nantes, France; [12]Neonatology Division, CHU de Liège-CHR de la Citadelle, Liège, Belgium; [13]Service de Néonatologie, Centre Hospitalier Universitaire de Tours, Tours, France; [14]KidZ Health

Castle, Vrije Universiteit Brussel, UZ Brussel, Brussels, Belgium; [15]Service Néonatal, Clinique CHC-Montlégia, Liège, Belgium; [16]Department of Pediatrics, Evangelisches Waldkrankenhaus Spandau, Berlin, Germany; [17]Department of Neonatology, Klinikum Südstadt Rostock, Rostock, Germany; [18]Department of Pediatrics, Hospital Quironsalud, Valencia, Spain; [19]Clinical Research Unit, Nestlé Research, Lausanne, Switzerland; [20]Research & Development, Nestlé Product Technology Center – Nutrition, Vevey, Switzerland; [21]Nestlé Institute of Health Sciences, Nestlé Research, Lausanne, Switzerland

Background: Human milk oligosaccharides (HMOs) are non-digestible fibers driving gut microbiome development in early life and promoting multiple health benefits. B. longum subsp. infantis (B. infantis) is an HMO-utilizing infant-type Bifidobacterium species dominating early life gut microbiome. It is increasingly recognised as important for age-appropriate gut health and immune development, and globally, a progressive loss of HMO-utilizing bifidobacteria is observed. This ongoing trial aims to assess growth and gastrointestinal tolerance (reported separately) and gut microbiome modulating effects in infants fed with formulas supplemented with 6 HMOs and two probiotics from birth to age 15 months (mo). The secondary objective is higher Bifidobacterium abundance in experimental formula (EF) vs. control formula (CF) fed infants at age three mo. Here, we report staged endpoint analysis results for all infants up to age three mo.

Methods: In a multicenter European trial (Clinical trials.gov: NCT04962594), healthy infants aged ≤14 days were randomised to CF (n=117, partially hydrolysed 100% whey-based formula), or EF (n=119, same formula supplemented with 1.77g/L HMOs [2′FL, DFL, 3-FL, LNT, 3′SL, 6′SL], B. lactis [CNCM I-3446], and B. infantis [LMG11588]). Non-randomized breastfed infants (BF, n=82) were enrolled as references. Fecal samples collected at baseline and age three mo were analysed for microbiota via shotgun metagenomics. The complete analysis set (FAS) sample size for microbiota analyses was n=111 (CF), n=105 (EF), and n=72 (BF). Microbiome differences between the randomised group's EF and CF were assessed by analysing differential abundance using a compositionality-bias-corrected mixed linear model adjusting for baseline age and study site and differential prevalence using a Fisher's exact test.

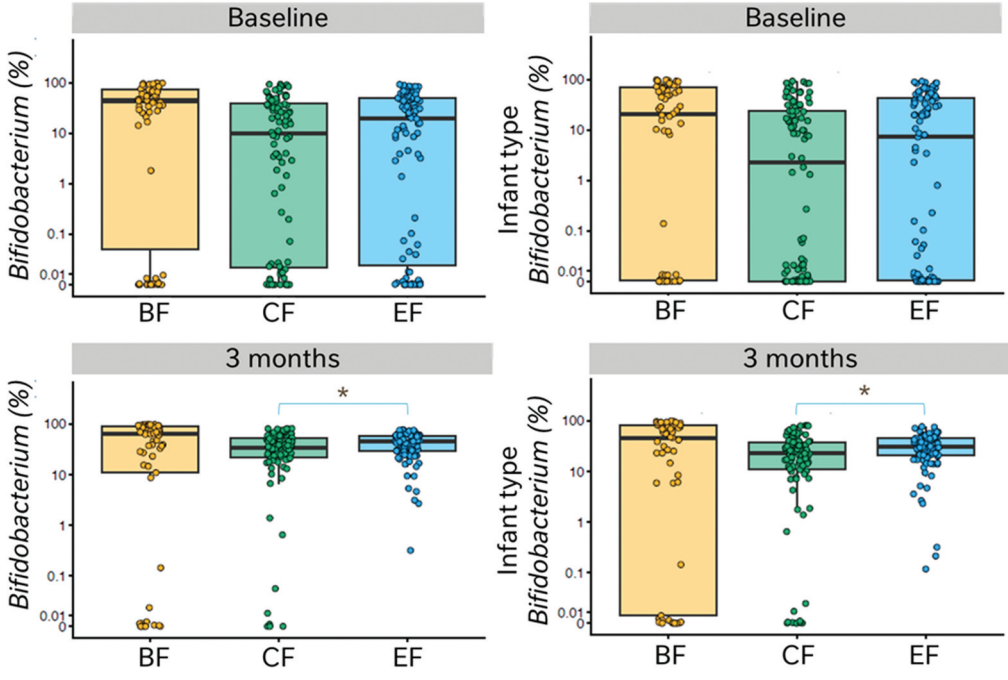


Figure 1. ***Bifidobacterium*** **(total and infant-type) abundance at baseline and at age 3 months (abundance shown on a pseudo-log scale). In the FAS, EF group had significantly increased** ***Bifidobacterium*** **abundance compared to CF group at age 3 months (* p<0.05; total** ***Bifidobacterium*** **abundance (median (interquartile range [IQR])): EF: 44.7% (30.8%); CF: 34.1% (29.3%), infant-type** ***Bifidobacterium*** **abundance: EF 31.4% (24.5%); CF: 22.6% (27.0%)). Boxplots display the lower and upper quartiles (upper and lower box edges, respectively), the median (horizontal line inside box), and the extreme of the data observations within 1.5*IQR (whiskers).**

Results: At baseline, Bifidobacterium abundance was similar between EF and CF-fed infants. At age 3mo, EF-fed infants had a significantly higher Bifidobacterium abundance than CF-fed infants (Figure). Notably, at baseline and at age 3, BF infants had a bimodal distribution with high and low Bifidobacterium abundance; low abundance may indicate a lack of HMO utilisation capacity. In the CF group, many infants also showed very low abundance at both time points, while all EF-fed infants had a higher bifidobacteria abundance at three mo. Similar group differences were observed for infant-type bifidobacteria (B. longum subsp. longum, B. infantis, B. breve, B. bifidum, and B. scardovii). Both B. infantis and B. lactis were significantly higher in EF compared to CF groups, showing a prevalence of 100% and 97%, respectively. B. infantis LMG51188 strain tracking showed high probiotic colonisation in EF (~75% of infants). Pathogen analysis via virulence factors revealed very low prevalence (<10/288 for Escherichia coli and Sarcina perfringens (formerly known as Clostridium perfringens); 0 for Campylobacter jejuni). Only toxigenic Clostridiodes difficile showed a high prevalence and abundance at age three mo in the CF group, with both being significantly lower in the EF group.

Conclusion: An infant formula with a specific synbiotic blend of 6 HMOs and B. infantis plus B. lactis supported the expansion of beneficial bifidobacteria, especially infant-type species in all infants. The reduced load and prevalence of toxigenic C. difficile indicates improved gut health by reducing a risk factor for gastrointestinal infection.

Will be presented as Oral Presentation Onsite
ID: 306/04-OP-L-d1D: 2
Oral Presentation (Onsite)
Topics: GENERAL PEDIATRICS, PUBLIC HEALTH
Keywords: school doctors; well-being; prevention

School-toilets underuse: the perspective of French school-doctors

Godeau, Emmanuelle[1,2]
[1]Department of Human and Social Sciences, EHESP School of Public Health, Rennes, France; [2]UMR 1295 CERPOP, Inserm, Université Toulouse III - Paul Sabatier, Team SPHERE, Toulouse, France.

Background: Based on recent statistics, access to school-toilets can be considered no more an issue in Europe & North America (UNICEF, 2020), with 99% of basic sanitation services in schools in 2019 (63% overall). However, presence does not mean use. We will illustrate this paradox from the perspective of French school-doctors. In France, prior being in post, during their year of training, school-doctors have to work on a relevant school health topic with a health promotion perspective. Almost 40 years ago, visiting over 500 rural primary schools, a school-doctor found 14% of toilets in an «intolerable state» while 90% needed improvement. Children's complaints were in accordance (Bordage-Dussutour, 1985). Twenty years later, in a questionnaire (126 girls; urban secondary school), another school-doctor found that 31% do not use school-toilets, 45% do not feel secure, 91% find them dirty and smelly, 9,5% experience bladder weakness. Daily observations of toilets revealed a conflict between disciplinary rules and students' fundamental needs (Lenoir, 2005). In 2018, 2119 questionnaires of parents about their children's behaviours and perceptions about school-toilets found an overall use of 87% with 69% of appropriate use for urine. The main complains were lack of hygiene and comfort (51%), lack of security or privacy (33%) and limited accessibility (28%) (Chometon, 2020).

Case presentation: Driven by these precedents, in 2022, 24 school-doctors conducted a collaborative project on school-toilets. In a health promotion perspective, they collected data from 164 adults and 225 students. They agreed on one global aim: "School toilets, a place of challenges and a reflection of the well-being of each and everyone"; one health priority: "Ensuring appropriate and respectful access for pupils' needs" and one general objective: "Mobilize all actors to ensure access to toilets and uses that respect the basic needs of pupils". By the end of their training, their overall recognition of the importance of school-toilets improved. Two school-doctors from this group

developed a questionnaire assessing the state of schools-toilets in a broad perspective. Since then, they have presented their ongoing project to the new classes of school-doctors, illustrating the importance of school-toilets for children's and adolescents' health.

Learning Points Discussion: Still and even in France, students underuse school-toilets, causing medical problems, and lowering school well-being with the risk of endangering learning availability, confirming this is a true public health issue. School-doctors are uniquely positioned to address it from a health promotion perspective. However, action is still needed.

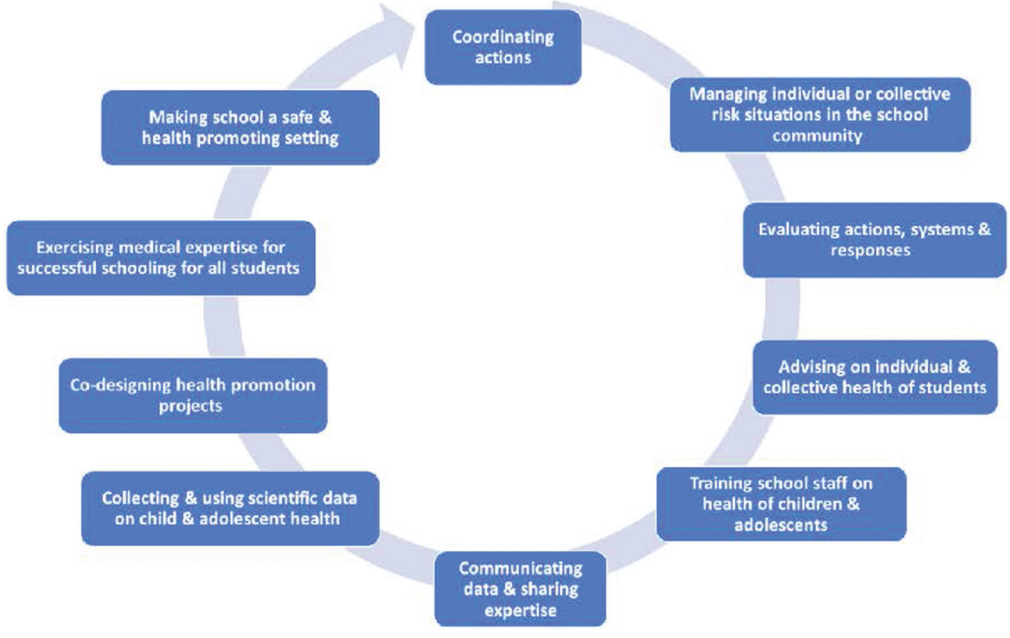
Will be presented as Oral Presentation Onsite
ID: 307/04-OP-L-d1D: 3
Oral Presentation (Onsite)
Topics: GENERAL PEDIATRICS, PUBLIC HEALTH
Keywords: School doctors; training; health promotion

Improving the health of students by improving the training of school-doctors, a challenge for France in the current times

Godeau, Emmanuelle[1,2]
[1]Department of Human and Social Sciences, EHESP School of Public Health, Rennes, France; [2]UMR 1295 CERPOP, Inserm, Université Toulouse III - Paul Sabatier, Team SPHERE, Toulouse, France.

Background: School health services are key players in community health and prevention for children and adolescents. The way school health is considered and implemented differs between countries despite recent WHO guidelines on school health services (2021). Since 1991, school nurses and school doctors belong to the Ministry of Education in France. We will focus on school doctors responsible for 12,000 students. The numerous tasks of French school doctors encompass: (1) Individual approach: mandatory check-ups and, at any time, interventions for those with special needs or for situations of concern. (2) Population approach: health education, monitoring school environment, training staff on child and adolescent health, and collecting data. (3) Management of health emergencies in the school community: potential traumatic events, infectious diseases.

Figure 1.



Case presentation: This presentation will focus on the specificities of the training of school doctors and its adaption to current circumstances. The EHESP School of Public Health, in coordination with the Ministry of Education, is responsible for the national training of school doctors. After passing a competitive entrance exam, each incumbent must follow individualized training between 8 and 16 weeks, depending on their speciality (mainly general practice, paediatrics and public health) and their previous career. Outside training weeks, school doctors are in post in schools. In the last 15 years, the training has been revised to match the ten core competencies expected from school doctors [figure 1], which are not taught as such in medical school. To improve the relevance of this training in a rapidly changing world, the contents and pedagogical methods need to evolve. For example, the current curriculum gives more space for adolescent health, mental health and environmental crises. Interactivity is prioritized throughout the training (fieldwork, case studies, exchange of practices, problem-solving, role-plays, serious games ...). It develops as well as capacity building (communication, soft skills), acknowledging the need to care for the carers. (figure 1)

Learning Points Discussion: France, like other countries, faces an increase in children and adolescents' health needs, even more so in mental health, as well as a shortage of school doctors. Importantly, their training must prepare them to change their working paradigm from cure to prevention, from clinical settings to school as a health setting, from an individual to a collective perspective. School doctors are key players for schools to adopt an actual health promotion perspective and fight health inequalities to benefit all students' health and learning success.

Will be presented as Oral Presentation Onsite
ID: 305/04-OP-L-d1D: 4
Oral Presentation (Onsite)
Topics: PSYCHIATRY, PUBLIC HEALTH
Keywords: Inclusive education; self-administered surveys; data quality

Improving the measure of chronic health conditions in self-reported questionnaires among adolescents: a French approach

Sentenac, Mariane[1]; Godeau, Emmanuelle[1,2]; Spilka, Stanislas[3]; Ehlinger, Virginie[2]; Godart, Nathalie[4,5]; Huas, Caroline[4,5]; Ali, Aminata[4,5]; Hassler, Christine[4]
[1]Department of Human and Social Sciences, EHESP School of Public Health, Rennes, France; [2]UMR 1295 CERPOP, Inserm, Université Toulouse III - Paul Sabatier, Team SPHERE, Toulouse, France.; [3]French Monitoring Centre for Drugs and Drug Addiction - Observatoire français des drogues et des toxicomanies (OFDT), 69, rue de Varenne, 75007, Paris, France; [4]INSERM, UMR 1018, Centre de Recherche en Épidémiologie et Santé des Populations (CESP), Université Paris-Saclay. Villejuif, France; [5]Fondation Santé des Etudiants de France (FSEF), Service hospitalo-universitaire de Santé Mentale de l'Adolescent et du Jeune Adulte (SMAJA), Paris, France.

Background: Consequently, due to major achievements in legislation promoting inclusive education over the last decades, the number of students with disabilities has increased in mainstream schools. Documenting inclusion implies having data on health behaviors, and well-being of all students schooled in mainstream settings; however, such data are scarce due to the diversity in concepts and the difficulties in measuring chronic health conditions and disabilities (CC/D) in self-administered surveys. In France, since the extended definition of disability provided by the Disability Act of 11 February 2005, psychological and learning disorders are now included, which questions their self-identification in a non-diagnosis-based approach. This work aims to compare how adolescents presenting psychiatric and non-psychiatric disorders answer to measures of disability in self-questionnaires.

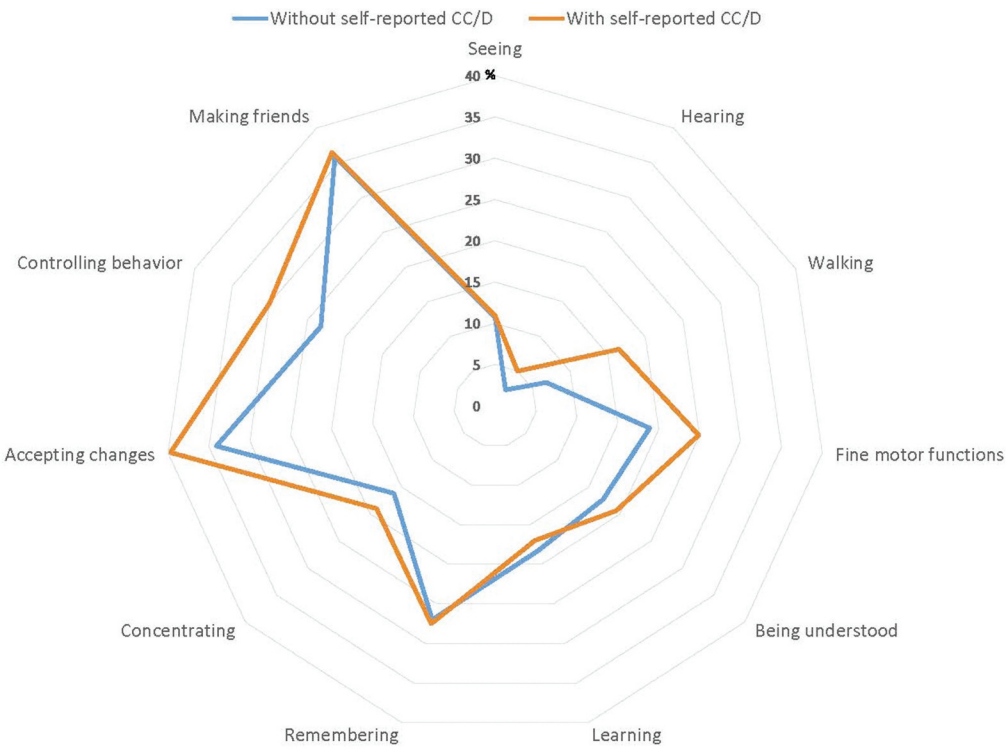


Figure 1. Proportion of students without and with self-reported chronic health conditions and disabilities (CC/D) reporting having difficulties, by domain of functioning.

Methods: This study is part of the French national survey in middle- and high school among adolescents on health and substances (EnCLASS), a repeated biennial cross-sectional survey conducted in schools by self-questionnaire, merging two international surveys (HBSC & ESPAD). In 2022, an oversample of young people cared for severe psychiatric or somatic pathologies in 13 clinics combining care and educational provision was included. Diagnoses were extracted from medical records. Students self-reported whether they have a "chronic illness or disability diagnosed by a doctor" and whether this hindered "their participation in school". Functional limitations were assessed with the Global Activity Limitation Indicator (GALI) and the UNICEF Child Functioning module. Statistical analyses aimed to compare responses to the generic items on CC/D according to the nature of disorders diagnosed.

Results: The final sample consisted of 544 students (girls: 65.7%; 15-22 years). Most students (76.5%) had a psychiatric disorder (e.g. anxiety and depressive disorder, anorexia nervosa); others had a non-psychiatric disorder (e.g. diabetes, obesity, migraine). Overall, 36.7% of students reported CC/D, of which 57.4% felt restricted in participation at school. Compared to students reporting CC/D, those who did not declare a CC/D were more likely to have psychiatric disorders (83% vs. 69%) but were less likely to be limited in daily activities (69% vs. 91%). No evidence of difference regarding the domain of functional limitations was found between groups except regarding the ability to walk (figure 1).

Conclusions: Improving the quality of data collected on students with a chronic condition/disability in national surveys such as EnCLASS will enable us to offer appropriate responses to their special needs in an inclusive perspective of proportionate universalism.

Will be presented as Oral Presentation Onsite
ID: 216/04-OP-L-d1D: 5
Oral Presentation (Onsite)
Topics: INFECTIOUS DISEASES, ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: Respiratory Syncytial Virus, Wheezing, Cross-sectional survey, RSV prevention, Healthcare costs

Burden of respiratory syncytial virus (RSV) infection and subsequent wheezing on infants and children: a multi-country parent's perception cross-sectional survey

Custovic, Adnan[1]; Mestre-Ferrandiz, Jorge[2]; Kragten-Tabatabaie, Leyla[3]; Laurent, Julie[4]; Sellem, Laury[4]; Koslap-Petraco, Mary[5]; Cadeddu, Chiara[6]
[1]Professor of Paediatric Allergy, National Heart and Lung Institute, Imperial College London, London, UK; [2]Health Economist, Profesor Asociado, Universidad Carlos III, Madrid, Spain; [3]ReSViNET foundation, Board of Directors, Zeist, The Netherlands; [4]Carenity, Online Patient Community, Paris, France; [5]Clinical Assistant Professor, Stony Brook University School of Nursing, NY, USA; [6]Department of Life Sciences and Public Health, Università Cattolica Del Sacro Cuore, Rome, Italy

Background: Respiratory Syncytial Virus (RSV) is the leading cause of hospitalisation for acute lower respiratory tract infections in infants under 1yo. Epidemiological studies suggest RSV bronchiolitis is associated with an increased risk of subsequent wheezing in children. This survey aimed to document the parents' perception of the potential link between RSV infection and subsequent wheezing-related healthcare and family costs and parents' awareness about RSV preventative solutions.

Methods: Using the Carenity online patient community and market research agencies, this cross-sectional survey (February-April 2023) enrolled 1,200 parents with at least one child aged ≤ 6 years and who lived in the US, UK, Spain, or Italy (n=300 per country). Based on parents' self-reported answers

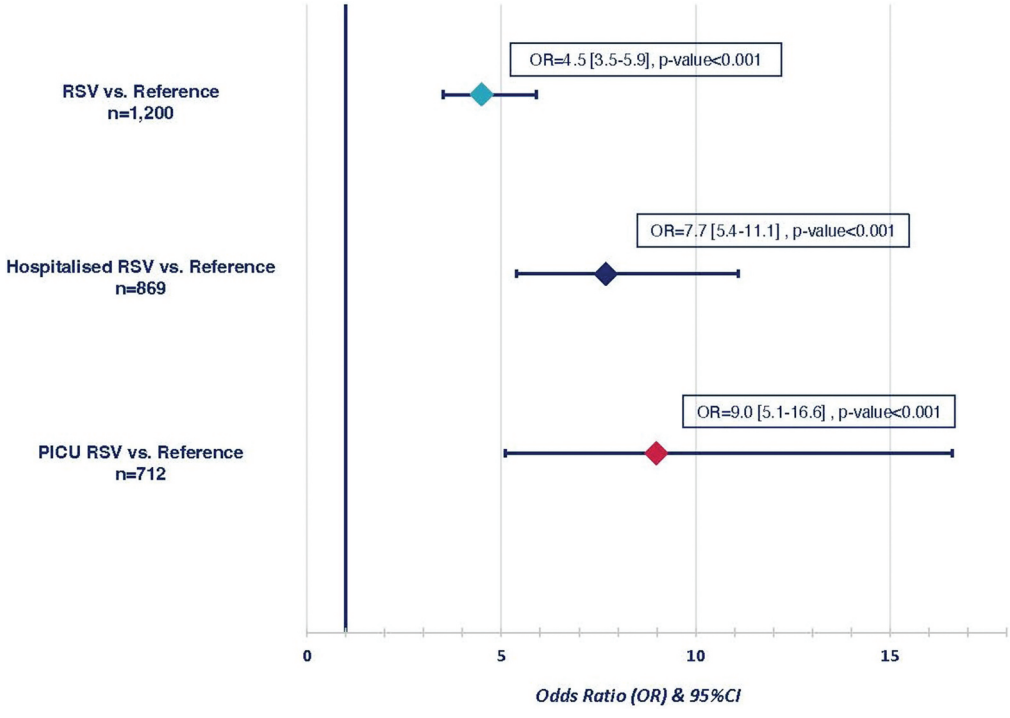


Figure 1. Associations between RSV infection and the presence of wheezing in children aged below 6 years old in the overall survey sample (n=600in the RSV group, n=600 in the Reference group) and in sub-groups of hospitalised RSV infection (n=269) or paediatric intensive care unit (PICU) admission for RSV (n=112).

to an online questionnaire, children diagnosed with RSV/bronchiolitis before 2 and in the last five years were included in the RSV group (n=150 per country), and those never diagnosed with RSV/bronchiolitis in the Reference group (n=150 per country). Multivariable logistic regression models and stepwise selection procedures were used to evaluate the association between RSV infection and subsequent wheezing in children. Chi-square and Fisher's exact tests were used to compare the wheezing-related healthcare utilisation and costs between the RSV and Reference groups.

Results: The mean age at RSV diagnosis was 11.2 months (SD=7.2). 45% of RSV cases led to hospitalisation, and 61% reported at least one wheezing episode. Overall, the odds of subsequent wheezing were 4.5 (95%CI 3.5-5.9) higher in the RSV group than in the Reference group. The strength of this association increased in subgroup analyses based on RSV infection severity (Figure 1). Similar trends were observed in country-specific studies. Moreover, respiratory system specialists and paediatricians were significantly more visited for wheezing-related issues in the RSV (53% and 75% of parents reporting ≥1 visit since wheezing onset, respectively) than in the Reference group (33% and 57%). Costs related to prescribed medications for wheezing were significantly higher in the RSV group (69%) than in the Reference group (55%), and medications were the primary source of parents' expenses. Finally, 60% of parents felt they lacked knowledge about RSV prevention, and 30% did not feel sufficiently supported to manage their children's wheezing.

Conclusions: This survey suggests a potential association between RSV infection before the age of 2 and the presence of subsequent wheezing in children. In addition, wheezing was associated with increased healthcare utilisation, especially when combined with an RSV infection. Finally, this survey highlights the need for improved awareness about RSV prevention

Will be presented as Oral Presentation Onsite
ID: 323/04-OP-L-d1D: 6
Oral Presentation (Onsite)
Topics: PUBLIC HEALTH
Keywords: mental health, early childhood, marginalized groups, maternal stress, hair cortisol concentrations

Maternal hair cortisol concentrations and early childhood mental health in marginalized Roma communities

Chovan, Shoshana[1]; Filakovska Bobakova, Daniela[1]; Madarasova Geckova, Andrea[1]; Reijneveld, Sijmen A.[2]; de Kroon, Marlou L. A.[2,3]
[1]Department of Health Psychology and Methodology of Research, Faculty of Medicine, Pavol Jozef Safarik University, Slovak Republic; [2]Department of Community & Occupational Medicine, University of Groningen, Groningen, the Netherlands; [3]Department of Public Health and Primary Care, Centre Environment & Health, KU Leuven, Leuven, Belgium

Background: We aimed to capture differences in maternal hair cortisol concentrations (HCC) and mental health between children aged 15 – 18 months from MRCs and the majority population in eastern Slovakia and to explore the association of maternal HCC with mental health in early childhood.

Methods: In the RomaREACH study conducted in Slovakia, data were collected on children's mental health (Caregiver Reported Early Development Instrument – Mental Health subscale - CREDIMH). Regarding HCC, 3 cm hair samples were collected from the mothers and assessed using ELISA testing (EIAHCOR – Cortisol Competitive Human ELISA kit, Invitrogen). Data were analysed using multiple linear regression on 1000 bootstrapped samples in IBM SPSS 23.

Findings: Mothers from MRCs had twice as high levels of HCC compared to the majority of mothers, and children from MRC had more frequent early mental health symptoms (B/confidence interval,

CI): 2.43/1.56; 3.37; R2 = 0.40), when adjusted for maternal age and child's sex. Next, elevated maternal HCC was associated with early mental health problems (B/CI: 0.02/0.01;0.04; R2 = 0.22), with the same adjustment. However, when added to the model, only belonging to MRC was a significant predictor of worse mental health. HCC did not mediate the relationships between belonging to MRC and the child's mental health.

Discussion: Mothers from MRC have significantly higher levels of HCC. Children of mothers with higher levels of HCC are more likely to have mental health problems. Still, HCC levels did not mediate the relationship between belonging to MRC and children's mental health outcomes. This suggests that other causal pathways explain this relationship, particularly related to deprivation, e.g., education, household equipment, household debt, billing problems, and overcrowding.

Will be presented as Oral Presentation Onsite
ID: 291/04-OP-L-d1D: 7
Oral Presentation (Onsite)
Topics: GENERAL PEDIATRICS, ENDOCRINOLOGY
Keywords: Hypercholesterolaemia, hypothyroidism, LDL, cholesterol

Hypercholesterolaemia secondary to hypothyroidism: a case report

Shemar, Ria; Afreh-Mensah, Donald; Kenway, Sophie; Adavappa Parvathamma, Prasad
The Royal Wolverhampton NHS Trust, United Kingdom

Background: Hypercholesterolaemia in children is an important cause of early onset atheroma and coronary artery disease in adulthood. Early recognition of raised total cholesterol and low-density lipoprotein (LDL) in children can, therefore, reduce the risk of myocardial infarction or stroke later in life. Familial hypercholesterolaemia is the most common cause of primary hypercholesterolaemia. Secondary causes include hypothyroidism, obesity, nephrotic syndrome and type 1 diabetes. In hypothyroidism, serum LDL accumulates due to a reduction in the number of cell surface LDL receptors, leading to reduced uptake and breakdown of LDL. Therefore, hypothyroidism is associated with raised LDL and total cholesterol, and conversely, hyperthyroidism leads to low levels of these. Here, we discuss a case report of a child who presented with lethargy and hyperlipidaemia who did not have thyroxine levels tested initially in the primary care setting. The patient was later diagnosed with hypothyroidism, highlighting the importance of the link between thyroxine and lipid metabolism.

Case Presentation: A 4-year-old girl presented in primary care with fatigue. Baseline blood was undertaken, which showed persistently raised lipids (LDL and total cholesterol) and iron deficiency anaemia. Based on these results, a referral was made to general paediatrics. In the clinic, the patient's mother reported that the fatigue had improved with oral iron supplementation. There were no developmental concerns noted. Clinically, her systemic examination was normal. The patient did, however, have periorbital swelling, with coarse skin and mild non-pitting oedema. Baseline blood tests were undertaken to explore possible secondary causes of hypercholesterolemia. Thyroid Stimulating Hormone (TSH) was noted to be >500mlUl, with low T4 levels <5.4pmol/L, highlighting hypothyroidism. Her full blood count showed microcytic hypochromic anaemia, with Haemoglobin of 85g/dl. Ferritin levels were normal, and the coeliac screen was negative. The patient was commenced on 50 micrograms of levothyroxine once daily, with a plan to follow up in 2-3 weeks after repeat TSH blood was completed.

Discussion/Learning Points: Thyroxine is intrinsically linked with lipid metabolism. This case is a reminder to all clinicians to consider the possibility of abnormal thyroid hormone levels in any patient presenting with deranged lipids. Research shows at least 10% of those with abnormal lipids will be secondary to abnormal thyroxine levels. The risk between hypercholesteremia and ischaemic heart disease is well established; therefore, rapid recognition of any secondary causes can reduce the risk of adverse cardiovascular events.

Session

05-OP-L-d2D

Time:
Friday, 01/Dec/2023:
5:00pm - 7:00pm

Presentations

Will be presented as Oral Presentation Onsite
ID: 187/05-OP-L-d2D: 1
Oral Presentation (Onsite)
Topics: RARE DISEASES
Keywords: Alpers syndrome, POLG1, refractory seizures, liver failure

Alpers syndrome; challenges in diagnosis due to varying phenotypes

Kadam, Rochita[1]; Benbrahim, Assia[1]; Fathalla, Waseem[2]
[1]Department of Pediatrics, Sheikh Shakhbout Medical City, United Arab Emirates; [2]Department of Pediatric Neurology, Sheikh Shakhbout Medical City, United Arab Emirates

Background: Alpers syndrome is a rare mitochondrial DNA depletion syndrome with about 1 in 100,000 incidences caused by homozygous/compound heterozygous mutation in the polymerase gamma1 (POLG1) gene. It usually manifests in infants with a clinical triad of psychomotor regression, intractable epilepsy, and liver failure. There is a variance in genotypic and phenotypic presentations. We present two varying presentations of Alpers syndrome with two different genotypes (Table 1).

Case Presentation Summary: Case 1: A 3-month-old female infant born to consanguineous parents presented with hepatic dysfunction and liver failure. She initially had lethargy and hypotonia provoked by an acute febrile illness. Investigations revealed deranged liver enzymes, coagulopathy and hypoglycemia. Cerebrospinal fluid analysis was unremarkable. Neuroimaging was normal for age; MR spectroscopy showed elevated lactate and high choline peaks. Metabolic disorders, including mitochondrial cytopathies, were considered. Whole genome sequencing revealed POLG1 mutation (p.Arg807Cys, c.2419C>T) consistent with a diagnosis of Alpers syndrome. The infant died from progressive liver failure. Case 2: A sibship of 2 females, born to consanguineous parents, presented with focal refractory seizures and epileptic encephalopathy early in childhood with genetically confirmed Alpers syndrome with a homozygous mutation in the POLG1 gene (p.Arg1096Cys, c.3286C>T). Sib 1 presented at 13 months of age with refractory status epilepticus. Investigations, including CSF analysis, were unremarkable. Neuroimaging with Brain CT and Brain MRI was also unremarkable. EEG showed a picture of epileptic encephalopathy. Her seizures were refractory to multiple antiepileptics. Subsequently, mild asymptomatic hepatic derangement was noted. After multiple intercurrent illnesses requiring intensive care, she died due to complications of her syndrome at 7 years of age. Sib 2 presented similarly at 14 months of age with focal refractory seizures.

Table 1.

Age at presentation	Gender	Genotype	Phenotype
3 months	Female	p.Arg807Cys, c.2419C>T	Liver failure
13 months	Female	Arg 1096Cys, c.3286C>T	Refractory seizures
14 months	Female	Arg 1096Cys, c.3286C>T	Refractory seizures

Her investigations, including CSF analysis, were unremarkable except for mild hepatic derangement. Neuroimaging was bland as well. EEG showed an epileptic encephalopathy with frequent rhythmic discharges. Despite multiple anti-epileptics, she continues to have refractory seizures and intermittent deteriorations during intercurrent illnesses requiring admissions.

Learning Points Discussion: Alpers syndrome is a rare, often fatal mitochondrial DNA depletion disorder. Diagnosis can be challenging in children as genotypic and phenotypic variability is common. Alpers syndrome should be considered in infants presenting with refractory focal seizures, liver failure, and psychomotor regression. Diagnosis is important for prognostication, avoidance of fatal hepatoxic drugs (Valproic acid) and avoiding enlisting for liver transplant in those with progressive or catastrophic liver failure.

Will be presented as Oral Presentation Onsite
ID: 109/05-OP-L-d2D: 2
Oral Presentation (Onsite)
Topics: RARE DISEASES
Keywords: Heart, liver, Danon disease

Heart and liver disease in a child

Sales Marques, Jorge
HOSPITAL CUF TRINDADE, Portugal

Background: Danon disease cause hypertrophic cardiomyopathy (HCM), proximal-limb muscle weakness, muscular atrophy, high levels of creatine kinase (CK) and hepatic enzymes, ophthalmologic involvement and learning problems.

Case report: Molecular genetics studies showed mutations in the LAMP2 gene. This gene is located on the X chromosome. We present a case of a 13-year-old boy with HCM and liver dysfunction. His mother also showed mild HCM during an observation.

Discussion: This case was confirmed by a positive LAMP2 gene: the c.1003C>T (p.Gln335*) variant in the LAMP2:NM_013995.2 gene results in a premature (stop) codon and is therefore predicted to be pathogenic. Genetic counselling was offered to the parents for the next pregnancy. The boy will need later on to do a heart transplant.

Conclusions: When we have a patient with cardiomyopathy, particularly hypertrophic type, associated with liver dysfunction, the diagnosis of Danon disease must be considered.

Will be presented as Oral Presentation Onsite
ID: 108/05-OP-L-d2D: 3
Oral Presentation (Onsite)
Topics: RARE DISEASES
Keywords: Cardiac rhabdomyoma, Tuberous Sclerosis Complex, Turner syndrome

Newborn with 3 diseases at the same time

Sales Marques, Jorge
HOSPITAL CUF TRINDADE, Portugal

Background: Cardiac rhabdomyoma (CR) is a benign tumor and the most common type of cardiac tumor in children. They appear with multiple lesions and usually regress spontaneously. The great majority of cases are associated with Tuberous Sclerosis Complex (TSC). Turner syndrome (TS) is an

important cause of short stature in girls. More than one-half of all patients with TS have a mosaic chromosomal complement (45, X/46, XX).

Case report: We present a case of a newborn with prenatal ultrasound at 32 weeks gestation showing a fetal cardiac tumor. Postnatal echocardiography confirmed CR with multiple heart myomas. The baby, later on, developed skin hypopigmentation and moderate motor delay. Mutational analysis of TSC1 and TSC2 genes using next-generation sequencing revealed that the proband has a likely pathogenic variant c.1283_1285delCCT, P.(Ser428del) in TSC2. Microarray detected mosaic Turner syndrome.

Discussion: To our knowledge, these 3 diseases are not mentioned in the literature. We didn't start growth hormone therapy in this case for two reasons. First, because the karyotype is a mosaic and affects only 30% of cells, the final stature will not be so much affected. The other reason is the high risk of brain tumors caused by TSC. Genetic counselling is recommended to the family.

Conclusions: The prognosis can be unfavourable due to frequent association with tuberous sclerosis complex and the resulting neurological impairment. Turner syndrome and its correlation with these two diseases remains unclear. Do we need to do a karyotype in all patients with CR with or without MS?

Will be presented as Oral Presentation Onsite
ID: 110/05-OP-L-d2D: 4
Oral Presentation (Onsite)
Topics: RARE DISEASES
Keywords: infantile onset, late onset, Pompe disease

Pompe Disease: infantile vs late onset presentation

Sales Marques, Jorge
HOSPITAL CUF TRINDADE, Portugal

Background: Pompe disease (PD) is an inherited metabolic disorder caused by a deficiency of acid α-glucosidase (GAA), leading to lysosomal accumulation of glycogen, mainly in skeletal and cardiac muscles as well as the nervous system. Patients with PD develop cellular dysfunction and muscle damage. PD can be classified into two classic forms, namely infantile-onset PD (IOPD) and late-onset PD (LOPD).

Objective: To clarify the main symptoms of infantile and late-onset presentation and how we can avoid a bad prognosis

Discussion: Delayed treatment, particularly in IOPD, would result in significant organ damage and early death. Nonetheless, early diagnosis and timely treatment are often hampered by the rarity of PD and its wide variety of overlapping symptoms. This presentation reviews the common clinical symptoms of PD and outlines the essentials of PD management. The implications of newborn screening (NBS) and the clinical performance of enzyme replacement therapy (ERT) are highlighted.

Conclusions: Knowing the symptoms of infantile and late-onset cases and early diagnosis of both forms using NBS are important for the clinical evolution of the child with PD.

Will be presented as Oral Presentation Onsite
ID: 134/05-OP-L-d2D: 5
Oral Presentation (Onsite)
Topics: NEONATOLOGY

Keywords: Keywords: congenital heart disease, paternal environmental risk factors, epigenetics, paternal physical activity.

Paternal peri-conceptional physical activity and the risk of congenital heart disease in offspring: a case-control study

Atieh, Ornina[2]; Grandjean, Valérie[3]; Yarkiner, Zalihe[4]; Saliba, Zakhia[5]; Raad, Georges[2]; Fadous Khalife, Marie Claude[1,2]
[1]UH-Notre Dame Des Secours, Lebanon (Lebanese Republic); [2]School of Medicine and Medical Sciences, Holy Spirit University of Kaslik, Kaslik, Lebanon; [3]Université Cote d'Azur,Inserm, Team Control of Gene expression, Nice, France; [4]Department of Basic Sciences and Humanities,Faculty of Arts and Sciences, Northern Cyprus International University, Turkey; [5]Department of Pediatric Cardiology, Hotel Dieu de France University Medical Center, Saint Joseph University, Beirut, Lebanon

Background and Objective: Both genetic and epigenetic mechanisms have been shown to contribute to the development of congenital heart disease (CHD). Previous research has primarily focused on genetic and maternal environmental factors, while paternal risk factors have received less attention. This study investigates the potential association between paternal pre-conceptional physical activity levels and other risk factors and the risk of congenital heart disease (CHD) in offspring.

Methods: An observational case–control study was conducted in Lebanon with 279 participants. Inclusion criteria were identified as children with confirmed CHD born between 2012 and 2022 and matched to controls by age. Moreover, this study excluded children with genetic syndromes and maternal causes of CHD, except smoking and alcohol consumption. The assessment of paternal physical activity was carried out using the Global Physical Activity Questionnaire.

Results: The study included 128 CHD cases (45.9%) and their parents, as well as 151 healthy infants (54.1%) and their parents. A significant difference was observed between the case and control groups, with a higher percentage of paternal smoking during peri-conception in the case group (69.5% vs. 55.6%, p=0.0019). Paternal involvement in recreational-related physical activity during the peri-conception period was associated with a reduced risk of CHD development in offspring (OR=0.55, 95% CI: 0.33-0.92, p=0.024). In addition, paternal smoking was associated with a 1.7-fold increased risk of CHD in offspring (OR=1.70, 95% CI: 1.029-2.83, p=0.038).

Conclusion: This observational study is the first to suggest a potential link between paternal physical activity and CHD in offspring, which could be attributed to epigenetic alterations. Nonetheless, additional prospective and molecular studies are required to validate these findings.

Will be presented as Oral Presentation Onsite
ID: 143/05-OP-L-d2D: 6
Oral Presentation (Onsite)
Topics: NEUROLOGY
Keywords: Duchenne muscular dystrophy, gene therapy, exon skipping, read through

Therapeutic amenability in a cohort of children with genetically confirmed Duchenne muscular dystrophy. A single center experience

Alkhoja, Olla Amer; Fathalla, Waseem Mahmoud
Sheikh Shakhbout Medical City, Abu Dhabi,United Arab Emirates

Background: Duchenne muscular dystrophy (DMD), the most common type of muscular dystrophy, is a severe progressive muscle-wasting disease that leads to disability and fatal cardiomyopathy. It

is caused by X-linked pathogenic variants in the DMD gene. Steroids have long been the standard of care to delay the age of loss of ambulation and respiratory failure. Genetic therapeutic approaches that aim to restore a partially functional dystrophin protein are now available or in development. These involve one of three approaches: (a) exon skipping approach, which changes the out-of-frame mutation to an in-frame; (b) read-through of the premature stop codon; and (c) gene therapy through a virus vector. In this study, we evaluate the spectrum of pathogenic variants in our cohort of genetically confirmed patients to identify their amenability to treatment with one of the above novel gene-based therapies.

Method: All patients who were diagnosed with Duchene muscular dystrophy in our pediatric neurology clinic at a tertiary care centre in Abu Dhabi, UAE, between 2000 and 2023. Inclusion criteria: patients below 18 years of age patients who are genetically confirmed to have DMD. Exclusion criteria: Patients above 18 years of age and patients who are not genetically confirmed to have DMD or whose genetic test report was not available were excluded from this study. Genetic mutations of all patients who met inclusion criteria were reviewed, and amenability to treatment was identified based on the currently available therapies using the database: https://www.dmd.nl/DOVE.

Results: A total of 24 patients were initially included based on the inclusion criteria, out of which 3 patients were excluded as their genetic test reports were unavailable. The remaining 21 patients were included in our study. Our results show that 47.6% (10 patients) of our patients are amenable to one of the currently available therapies. More specifically, 33.3% (7 patients) are amenable to exon-skipping therapy with a drug that is currently available and approved for treating patients with DMD, and 14.3% (3 patients) are amenable to the read-through therapy that is approved for patients who are confirmed to have a particular mutation causing a stop codon in the DMD gene. Interestingly, our result demonstrates that 38% of our patients have a mutation that makes them to be theoretically amenable to exon-skipping therapy; however, no drugs are currently available for their specific mutation. Moreover, only 1 patient (4.8%) in our study was found to be amenable to the recently approved gene therapy; of note, this patient has also been found to be amenable to the exon skipping therapy. Lastly, out of the 21 patients, we have 3 patients (14.3%) who are not amenable to any of the 3 therapeutic approaches.

Conclusion: Our study demonstrates the fact that there is a rapid evolution in the therapeutic approaches related to Duchenne Muscular Dystrophy. It significantly highlights the importance of having a genetic confirmatory test for all DMD patients, as it is essential for identifying treatment amenability. Moreover, our study illustrates how crucial it is to keep patients with DMD theoretically amenable to treatment on steroids to maintain their ambulation and delay motor regression until treatment is available. Our study also shows that adding DMD to the newborn screening program could help in identifying at-risk individuals and minimize treatment delay.

Will be presented as Oral Presentation Onsite
ID: 189/05-OP-L-d2D: 7
Oral Presentation (Onsite)
Topics: NEUROLOGY
Keywords: SMA, Spinal Muscular Atrophy, SMN2, NAIP, genotype

Genotype-phenotype correlation in patients with spinal muscular atrophy. A single centre experience.

Benbrahim, Assia[1,3]; Kadam, Rochita[1,3]; Mehasi, Taif[1,3]; Fathalla, Waseem[2,3]
[1]Pediatric Residency Program, Department of Pediatrics; [2]Department of Neurology; [3]Sheikh Shakhbout Medical City (SSMC), Abu Dhabi,United Arab Emirates

Table 1.			
SMN2 Copy Number	**SMA type I**	**SMA type II**	**SMA type III**
0	80%	0%	0%
2	20%	100%	0%
3	0%	0%	40%
4	0%	0%	60%

Background: Chromosome 5q-associated spinal muscular atrophy (5q SMA) is an autosomal recessive neurodegenerative disorder. Deletions in the SMN1 gene result in SMA, while SMN2 and NAIP genes are considered modifying factors for the clinical severity and age of the disease onset. The correlation between SMN2 copy number and severity is approximately 85%. One copy of SMN2 and four or greater copies of SMN2 were highly correlated with the severe and mild phenotypes, respectively. In this study, we reviewed our patient cohort SMN2 copy number and NAIP deletion. We aimed to establish a correlation between the genotypes and the clinical SMA type to help in genetic counselling, prenatal diagnosis and phenotypic prediction.

Method: We reviewed the clinical presentation, genotype and outcomes of 12 patients with SMA following and receiving gene modifying therapy at our clinic (5 patients with SMA type I, 2 patients with type II and 5 patients with type III). Multiplex ligation-dependent probe amplification (MLPA) PCR was used to detect the deletion of exons 7 and 8 of the SMN1 gene and exon 5 of the NAIP gene. We examined the correlation between the phenotype and the deletion pattern of Survival motor neuron one (SMN1) and neuronal apoptosis inhibitory protein (NAIP) genes.

Results: Patients with SMA type 1 and NAIP deletion had an early presentation of symptoms and complications needing ventilatory support. One patient with SMA type I with two copies SMN2 and a 50% reduction in NAIP genes showed a milder phenotype. 80% (4/5) of our SMA type I patients had 2 SMN2 copies while 20% (1/5) had 3 SMN2 copies. One patient with SMA type II had 2 SMN2 copies, and the other had no SMN2 copy count done. .60% (3/5) of SMA type III with 4 SMN2 copies, while (2/5) 40% of SMA type III with 3 SMN2 copies. (Table 1)

Conclusions: We observed that patients with SMN1 and NAIP genes were associated with severe symptomatic SMA type 1, while patients with a higher number of SMN2 had less severe SMA types. Our cohort phenotype/genotype distribution is in line with published literature correlating a higher SMN2 copy genotype with a milder phenotype. This is crucial for counselling pre-symptomatic tested patients and anticipating the phenotype.

Will be presented as Oral Presentation Onsite
ID: 147/05-OP-L-d2D: 8
Oral Presentation (Onsite)
Topics: NEUROLOGY
Keywords: Biotinidase deficiency, biotin, seizure disorder

Emergence of seizures despite presymptomatic treatment in family members with Biotinidase deficiency: Case Series

Alkhoja, Olla Amer; Fathalla, Waseem Mahmoud
Sheikh shakhbout medical city, United Arab Emirates

Background: Biotinidase Deficiency is an autosomal recessive metabolic disorder caused by profound (< 10% mean normal serum activity) or partial (10%-30% mean normal serum activity) deficient activity of the biotinidase enzyme. If biotinidase deficiency is left untreated or treated too

late after the onset of manifestations, persistent long-term neurologic and cutaneous complications may occur. The seizures in biotinidase deficiency are considered unresponsive to conventional antiepileptic drugs, though rapidly responsive to biotin therapy. Biotin supplementation markedly improves and likely prevents symptoms in those treated early.

Objectives: To report on 3 siblings with biotinidase deficiency, 2 of whom, despite timely presymptomatic replacement with biotin, had the emergence of seizures responsive to conventional anti-seizure drug therapy.

Case Presentation Summary: We report an interesting series of 3 siblings with biochemically confirmed biotinidase deficiency that was detected on newborn screening, 2 of whom were presymptomatically treated with biotin since day 1 of life based on a family history of the disease in their older male sibling. Despite compliance with standard Biotin daily therapy, one of the siblings developed seizures that were initially managed by doubling then tripling the dose of biotin, even though a standard dose of 5-10 mg daily prevents the emergence of neurological manifestations of Biotinidase deficiency when started presymptomatically. Her seizures then responded to levetiracetam. Of interest, her older sibling (the proband), who is currently an 8-year-old male, has also suffered from the emergence of seizures while on Biotin therapy and required levetiracetam for seizure control. The youngest affected sibling, who is currently 4 months old, did not develop a seizure with a standard dose of biotin replacement and is being followed up for the possibility of the emergence of a seizure that might require a conventional antiepileptic agent. All of the 3 siblings currently have normal neurodevelopment. There is a significant family history of 2 sibling deaths before 6 months of age due to a metabolic crisis before a confirmed diagnosis of Biotinidase deficiency.

Conclusions: Our case series demonstrates several learning points: (1) Early presymptomatic biotin replacement prevents death and poor neurodevelopmental outcome, (2) emergences of seizures on biotin replacement should raise concern for a comorbid independent epileptic disorder and warrant initiation of appropriate antiepileptic drug therapy.

Will be presented as Oral Presentation Onsite
ID: 262/05-OP-L-d2D: 9
Oral Presentation (Onsite)
Topics: NEONATOLOGY
Keywords: Neonatology, Neonates, Anorectal malformations, Posterior sagittal anorectoplasty

Anorectal malformations in the Neonatal Intensive Care Unit of a level 3 hospital - retrospective analysis from 2008 to 2023

Paulino, Sara Geraldes[1]; Atouguia, Domingas[2]; Dias, Mariana Borges[2]; Soares, Henrique[3]; Pissarra, Susana[3]
[1]Department of Paediatrics, Centro Hospitalar Universitário São João, Portugal; [2]Department of Paediatric Surgery, Centro Hospitalar Universitário São João, Portugal; [3]Neonatal Intensive Care Unit, Centro Hospitalar Universitário São João, Portugal

Background: Anorectal malformations (ARM) occur in approximately 1:5.000 neonates and can be associated with other congenital malformations and syndromes. The etiology is likely multifactorial, with certain maternal conditions established as risk factors for ARM. Treatment is surgical and is usually performed during the neonatal period. This study assessed the epidemiology, etiology, association with other malformations/syndromes, potential risk factors (maternal age, multiple pregnancies, maternal illness, tobacco exposure, and assisted reproduction), management and long-term prognosis.

Methods: This was a retrospective observational study in which clinical records of all the neonates diagnosed with anorectal malformations admitted to the NICU (Neonatal Intensive Care Unit) of a Level III Hospital between 2008 and 2023 were analyzed. Newborns whose clinical records did not contain information about NICU admission and/or follow-up in outpatient consultation were excluded. Statistical analysis was conducted using the SPSS program.

Results: The clinical records of 34 newborns (n=21; 61.8% male) were analyzed. It wasn´t possible to establish a causal relationship with maternal risk factors/pathologies due to the small population size. The diagnosis was made during the first physical examination in 30 patients (88.2%). There was only one prenatal diagnosis. In 4 cases (11,8%), the diagnosis was suspected on the 2nd and 3rd days of life due to the absence of meconium passage or abdominal distension associated with vomiting. The most prevalent presentation was anal imperforation (AI) with perineal fistula (n=10; 29.4%), the most common in male neonates. In female newborns, the most frequent was AI with recto-vestibular fistula (n=8; 61,5%). Out of the total, 22 patients (64.7%) had concomitant other malformations, with genitourinary malformations being the most common (n=20; 58,8%), followed by cardiac malformations (n=11; 32,4%). Seven neonates (20.6%) had a syndromic background, with 3 cases of VACTERL syndrome. Six (60.0%) of AI with perineal fistula, 7 (87.5%) with vestibular fistula, and one with vaginal fistula were treated with a single-stage posterior sagittal anorectoplasty (PSARP). In 14 patients (41.2%), colostomy was performed, followed by subsequent PSARP. Regarding long-term complications, the most common was constipation requiring medication (n=8; 23,5%).

Conclusions: Most anorectal malformations were associated with other malformations, with their anatomy allowing for correction in a single-stage surgery during the neonatal period in a significant percentage of cases. Further studies are needed to investigate the association with maternal pathology and to characterize long-term complications.

Will be presented as Oral Presentation Onsite
ID: 213/05-OP-L-d2D: 10
Oral Presentation (Onsite)
Topics: GENERAL PEDIATRICS, ADOLESCENT MEDICINE
Keywords: Vitamin D deficiency, Risk factors, Environmental factors, Sunlight exposure, Rickets, Comorbidities, Body Mass Index (BMI), Bone profile

Vitamin D deficiency and associated demographic risk factors in children in a tertiary hospital in Abu Dhabi.

Abuhamad, Ahmed Y M[1]; Almasri, Neamat[1]; Al Karaghouli, Yusur[1]; Kadam, Rochita[1]; Alhashmi, Mohamed[2]; Alzaabi, Eiman[3]; Deeb, Asma[1,2]; Fischer, Philip R[1,2,4]
[1]SEHA/ Department of Pediatrics, Sheikh Shakbout Medical City (SSMC), Abu Dhabi, United Arab Emirates (UAE),; [2]Khalifa University College of Medicine and Science, Abu Dhabi,UAE; [3]Department of Pathology and Laboratory at SSMC; [4]Department of Pediatric and Adolescent Medicine, Mayo Clinic, Rochester, MN, USA.

Background: Vitamin D plays a vital role in bone growth, immunologic function, and the nervous system; when deficient in the body, it can cause developmental delays and impaired growth. Despite ample sunshine, vitamin D deficiency continues to be prevalent in the Middle East. The data still lacks the exact current situation of vitamin D status in the. We aim in this study to identify the rate of vitamin D deficiency at a tertiary hospital in Abu Dhabi and to identify associated risk factors in children and adolescents.

Methodology: A retrospective observational study was conducted using electronic medical records of pediatric patients who underwent 25-hydroxyvitamin D testing at SSMC between 1 January 2020 and 31 December 2021. Data on age, gender, ethnicity, weight, body mass index (BMI), and

other potential risk factors for vitamin D deficiency in children were noted. Patients already receiving treatment for vitamin D deficiency were excluded from the study. The collected data were analysed using standard statistical methods.

Results: Out of 26,818 patients under 18 years old who visited the outpatient clinic, 1,519 underwent 25-hydroxyvitamin D testing; 51% were male (n=755). After applying our exclusion criteria, 1,311 participants were included, of which 755 (57.6%) had vitamin D concentrations of ≤50 nmol/L. The highest prevalence of Vitamin D deficiency was in those older than 16 years, with 86% of participants being deficient, followed by the 10- to 16-year-old age group at 66.4%. More females (62.9%, n=407) than males (52.4%, n=348) were identified as Vitamin D deficient.

Conclusion: Vitamin D deficiency is prevalent among children seeking medical care in the UAE. Pediatricians should have a low screening threshold for hypovitaminosis D, or widespread supplementation could be considered.

Session

08-OP-V-d2B

Time:
Friday, 01/Dec/2023:
11:30am - 1:30pm

Presentations

Will be presented as Oral Presentation Virtually
ID: 284/08-OP-V-d2B: 1
Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS, INFECTIOUS DISEASES
Keywords: Cellulitis, orbital region, pediatrics

Cellulitis of the orbital region - A 10-year review of hospitalized patients

Morais Ribeiro, Isabel[1]; Vieira, Susete[1]; Fonseca Sousa, Dora[1]; Teixeira, Carla[1,2]; Marques, Laura[1,2]; Ramos, Ana[1,3]; Fernandes, Alexandre[1,2]
[1]Pediatrics Department, Centro Materno-Infantil do Norte Albino Aroso (CMIN) - Centro Hospitalar Universitário Santo António (CHUdSA), Porto, Portugal; [2]Infectious Diseases and Immunodeficiencies Unit, CMIN, CHUdSA; [3]Pediatric Pneumology Unit, CMIN-CHUdSA

Background: Preseptal cellulitis (PSC) and orbital cellulitis (OC) represent a spectrum of infections varying in severity. This study aims to characterize the clinical features and complications in patients diagnosed with these infections within a tertiary hospital setting.

Methods: A retrospective analysis was conducted on patients admitted between January 2013 and December 2022 diagnosed with preseptal or orbital cellulitis.

Results: 77 patients were admitted due to cellulitis of the orbital region; 51.9% (n=40) with OC and 48.1% (n=37) PSC. The majority (59.7%) were male, and 19.5% had chronic disease, mainly respiratory, with three patients having immunodeficiency. The median age in the OC group was three vs. five years in PSC. Admissions occurred primarily during winter and spring (63.7%). All patients presented with periorbital inflammatory signs, with 22% (n=17) showing clinical features suggesting post-septal involvement. Of those, 82.3% (N=14) were diagnosed with orbital cellulitis ($p<0.005$). The average time from symptom onset to diagnosis was 1.75 days (SD 1.44). Sinusitis

was the most common predisposing factor, with 80% in the OC group and 56.7% in the PSC group (p<0.04). Univariable logistic regression analysis identified sinusitis as the sole predictive patient-related factor for orbital cellulitis (OR=2.857, p<0.044). There was no correlation between leukocytosis, elevated C-reactive protein levels, and specific diagnoses. Blood cultures were positive in 4 patients. Computed tomography (CT) scans were performed in 77% of cases, with three patients undergoing magnetic resonance imaging. Complications included subperiosteal abscesses (3 cases), intra-orbital abscesses (1 case), and optic neuritis (1 case). Empirical antibiotics were administered to all patients, mainly parenteral 3rd generation cephalosporin. Most of the patients received dual antibiotic therapy. Pre-admission antibiotic use did not correlate with hospitalization duration. Orbital cellulitis patients experienced more extended hospital stays (8,85 days - DP 3,490) compared to preseptal cellulitis cases (6,57 days - DP 4,018) (p<0.009). Corticosteroids were prescribed to 41 patients (53,2%). Of those, 21 patients (51.9%) had CO. Among patients with complications, 71.4% (N=5) exhibited signs of severity upon admission (p<0.005). Eight patients underwent surgical treatment. Favourable outcomes were achieved through medical and/or surgical interventions.

Conclusions: Cellulitis of the orbital region was a frequent cause of hospital admission in our population (almost 8 cases in a year). A high degree of suspicion is needed to diagnose these infections since the presence of the traditional clinical signs for post-septal involvement was not specific for the diagnosis (only 35% of OC presented these signs). This could explain the high number of CT scans performed. A multidisciplinary team is essential to obtain the best outcome.

Will be presented as Oral Presentation Virtually
ID: 248/08-OP-V-d2B: 2
Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS, EMERGENCY PEDIATRICS
Keywords: gross hematuria, etiology, emergency department, paediatric nephrology

Clinical profile of pediatric patients with gross hematuria: A nine-year retrospective analysis

Morais Ribeiro, Isabel[1]; Vieira, Susete[1]; Matos, Paula[2]
[1]Pediatrics Department, Centro Materno-Infantil do Norte Albino Aroso (CMIN) - Centro Hospitalar Universitário Santo António (CHUdSA), Porto, Portugal;; [2]Nephrology Unit, Pediatric Service, CMIN, CHUdSA;

Background: Gross hematuria is a distressing symptom for parents and children, often leading to a prompt search for medical attention. This study aims to explore clinical profiles and diagnostic features of children presenting with gross hematuria in our pediatric emergency department.

Methods: We performed a retrospective analysis of patients admitted to a tertiary hospital's emergency department with gross hematuria from January 2014 to December 2022, reviewing their admission medical records and subsequent follow-up data.

Results: Over the nine years, 108 patients, with a median age of 11 years (range: 0 – 17), were admitted to the emergency department, with 72% (n=78) being male. Notably, 22% of patients had a potentially relevant family history (urolithiasis, deafness and vesical uretral reflux). The majority (74%) of patients were previously healthy. For 79% of the patients, it was their first episode of gross hematuria. However, most cases presented as asymptomatic gross hematuria, 53 patients (49%) exhibited accompanying symptoms. Additionally, 13% had a history of upper respiratory tract infections in the preceding 2-3 weeks. During the physical examinations, the most common findings included alterations in the urethral meatus and abdominal tenderness. Hypertension was observed in only eight patients. Hematuria was non-glomerular in origin in most of the cases (91%). The most frequent causes identified were urinary tract infection (9%), erythrocyturia following intense physical exercise (5%), or preputial/urethral trauma (5%). Abdominal

ultrasound was performed in 81% of cases, with pathological findings detected in 29%, including urolithiasis (4%), renal hematoma (4%), and Nutcracker Syndrome (4%) being the most common. Hematuria was of glomerular origin in only 5% of cases, with acute post-streptococcal glomerulonephritis being the predominant cause. Other observed glomerular reasons included IgA nephropathy, mesangioproliferative glomerulonephritis, and Alport Syndrome. In 40% of patients, no identifiable cause for hematuria was found. 66% of the patients were referred for further follow-up with a pediatric nephrologist consultation.

Conclusions: Although the long-term prognosis appears benign, children with asymptomatic gross hematuria often exhibit clinically significant urinary tract abnormalities. Vigilant follow-up is essential.

Will be presented as Oral Presentation Virtually
ID: 282/08-OP-V-d2B: 3
Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS
Keywords: white coat, attire, clothing

What type of clothes should pediatricians wear?

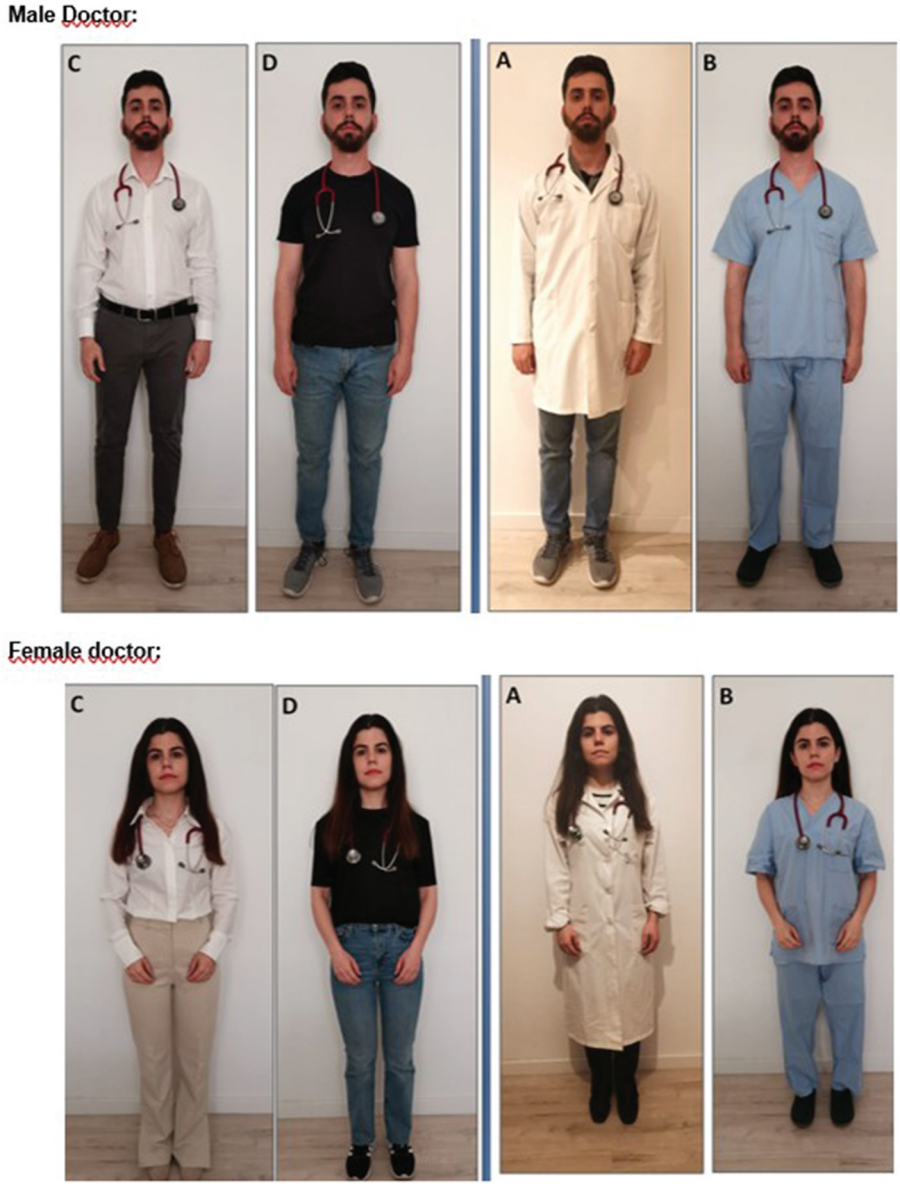
Ribeiro, Mário[1]; Gomes, Tânia[2]; Durães, Ana[2]; Collado, Tahydi[2]
[1]Serviço de Pediatria, Hospital de Braga, Portugal; [2]USF São Vítor

Background: The attire of healthcare professionals, including pediatricians, plays a vital role in shaping patient and parents' perceptions and can potentially influence clinical outcomes. The white coat of a pediatrician is a possible means of separation between the doctor and the family. While the importance of a professional appearance in healthcare settings is widely acknowledged, limited research has explored the specific impact of pediatrician attire on the opinions of pediatric patients and their caregivers. This study aims to investigate the effect of pediatrician attire on patient and caregiver perceptions and satisfaction. Additionally, it seeks to identify the preferences and expectations of both patients and caregivers regarding the attire of pediatricians.

Methods: A cross-sectional study collected data from pediatric patients and their caregivers. Participants were shown two doctors (male and female) wearing different clothes (white coats, scrubs, formal, and casual) (figure 1). After analyzing the images, adolescents and caregivers were given a questionnaire to rate their perceptions of different pediatrician attire styles and their influence on trust. Children between 5 and 9 years old used a smiley face rating scale. An additional semi-structured questionnaire, given only to caregivers, regarding paediatrician-patient communication, was also analyzed.

Results: Over three months, 177 questionnaires were conducted, involving 35 children (5 to 9 years old), 53 adolescents (10 to 18 years old), and 89 caregivers. Children's favourite male outfit was the white coat and scrubs, while their favourite female outfit was the scrubs. Despite children's preferences, the casual and formal clothing styles received positive reviews in 91% of cases. Adolescents and caregivers' favourite outfit, for both male and female doctors, was the white coat. In contrast to children, adolescents and caregivers tended to evaluate the informal clothing style negatively. Regarding caregivers' opinions about the paediatrician's approach during the examination, the majority (51%) didn't consider the tone of speech used by the pediatrician critical. However, the type of language was considered necessary by 88% of caregivers, preferring clear language over vague or overly technical jargon. When comparing different physicians' years in practice, caregivers preferred mid-career doctors (45%) over doctors beginning their careers or those in late-stage jobs.

Figure 1.



Conclusions: Understanding the influence of pediatrician attire on patient perceptions and clinical outcomes is crucial for providing patient-centred care. The white coat is the best outfit for pediatric evaluations regardless of the patient's age. Caregivers and adolescents do not find a casual outfit acceptable, but children between 5 and 9 seem to accept this type of clothing. Caregivers consider the language used more important, preferring simple, everyday language over the tone used in communication.

Will be presented as Oral Presentation Virtually
ID: 285/08-OP-V-d2B: 4
Oral Presentation (Virtual)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: food allergy, tree nuts, diagnostic value

Molecular sensitization profile in tree nuts allergy

Costa, Ines Ferreira[1]; Oliveira, João Nogueira[1]; Pinto, Diana[2]; Araújo, Ana Rita[2]; Teixeira, Fernanda[2]
[1]Pediatrics Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António; [2]Pediatrics Allergology Unit, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António

Background: Tree nut (TN) allergy has been increasing in the pediatric population. However, its prevalence in Portugal remains unknown. The risk of anaphylaxis and the importance of these foods in a balanced diet make determining the molecular profile of sensitization essential to avoid unnecessary restrictions. This study aimed to describe the sensitization to TN in a sample of pediatric patients living in the north of the country and assess its impact on the need for a restrictive diet.

Methods: Retrospective study, with descriptive analysis of the results of ImmunoCAP® ISAC 112 in children/adolescents, performed from January 2020 to June 2023 in a Portuguese tertiary hospital. 177 exams were included. The median age was 10 years (IQR 7), with 68% male. The main criteria for carrying out the test were the decision of immunotherapy in polysensitized patients (56%), multiple food allergies (26%) and TN allergies (12%).

Results: Sensitization to at least 1 nut was identified in 42 patients (24%), and adding peanuts increased in 46 patients (26%). The most prevalent are hazelnuts, with 14% sensitized to species-specific allergens, followed by walnuts (11%), peanuts (10,5%), cashews (8,5%) and brazil chestnuts (3,4%). Of the total number of patients sensitized to TN and peanuts, 11.3% are monosensitized (n=20). These patients follow a diet avoiding this specific allergen and ingesting the remaining nuts.

Conclusions: This study made it possible to find the prevalence of allergy to nuts in a sample of Portuguese pediatric patients. TN are a group of nutritious foods that offer numerous health benefits, so carrying out a molecular profile is important to allow all patients to have a diet that avoids only the fruits involved. This permits a more targeted approach to each patient, promoting better control of the disease and a better quality of life.

Will be presented as Oral Presentation Virtually
ID: 247/08-OP-V-d2B: 5
Oral Presentation (Virtual)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: cystic fibrosis, fungal respiratory infections, Scedosporium spp, modulator therapy

Understanding and managing fungal respiratory infections in a patient with cystic fibrosis

Morais Ribeiro, Isabel[1]; Losa, Ana[1]; Cardoso, Ana Lúcia[2,3]; Araújo, Ana Rita[1,5]; Barbosa, Telma[1,2,4]
[1]Pediatrics Department, Centro Materno-Infantil do Norte Albino Aroso (CMIN) - Centro Hospitalar Universitário Santo António (CHUdSA), Porto, Portugal; [2]Cystic Fibrosis Reference Center, CHUdSA; [3]Pediatric Intensive Care Unit, CMIN, CHUdSA; [4]Pediatric Pneumology Unit, Pediatric Service, CMIN, CHUdSA; [5]Pediatric Allergy Unit, Pediatric Service, CMIN, CHUdSA

Background: Fungal respiratory infections have emerged as significant contributors to morbidity and disease progression in patients with cystic fibrosis (CF). The complex pathogenesis involves genetic, environmental, and microbiological factors, with CF's thick mucus promoting fungal colonization. Additionally, antibiotics and other CF therapies disrupt the respiratory microbiome, promoting fungal growth and exacerbating the lung disease. Despite the growing recognition of this issue, guidelines for managing fungal infections in CF remain scarce and controversial.

Case Presentation Summary: We present a 9-year-old CF girl, F508del heterozygous with severe pancreatic insufficiency, diagnosed through the newborn CF screening since the first year of life, presented frequent pulmonary exacerbations with intermittent infection by Stenotrophomonas

maltophilia, Serratia marcescens, and Pseudomonas aeruginosa, under continuous inhaled antibiotic therapy. She also had severe pancreatic and respiratory insufficiency, requiring non-invasive ventilation during sleep periods. The first fungal identification (A. fumigatus- Af) occurred at six years old, with multiple pulmonary exacerbations since then, some of which required intravenous therapy. One episode met the Allergic Bronchopulmonary Aspergillosis (ABPA) criteria, supported by positive Af-specific IgE and a maximum total IgE of 2404 KU/L. The patient received systemic corticosteroid therapy in association with itraconazole, with a favorable clinical response and reduction of IgE levels. From 7 years old onwards, persistent identification of Scedosporium spp in secretions was observed, with persistent elevation of total IgE, leading to several periods of antifungal therapy (with voriconazole and terbinafine) and corticosteroid therapy, with slight improvement in lung function, but still with persistence of exacerbations upon attempts to suspend corticosteroid therapy. At 8.5 years old, the patient's clinical condition had a significant improvement after initiating modulator therapy with Elexacaftor/Tezacaftor/Ivacaftor (ETI). Her lung function improved, with FEV1 measurements rising to 85.69 (from the previous 81.90), and pulmonary exacerbations were controlled, allowing the discontinuation of steroid therapy and decreased IgE levels. Omalizumab was considered but not pursued due to the patient's remarkable improvement with modulator therapy.

Learning Points Discussion: Although corticosteroids remain an important tool in managing inflammation associated with fungal disease in CF, efforts to reduce steroid dependence through early diagnosis, antifungal therapy, and modulator treatments, are crucial for improving patient outcomes and quality of life, as demonstrated in this case. Given the potential for fungal infection to exacerbate lung disease and compromise clinical outcomes, there is a clear need for further research in this area to inform clinical practice and optimize patient care.

Will be presented as Oral Presentation Virtually
ID: 290/08-OP-V-d2B: 6
Oral Presentation (Virtual)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY, HAEMATOLOGY/ONCOLOGY
Keywords: atopic dermatitis, dupilumab, quality of life

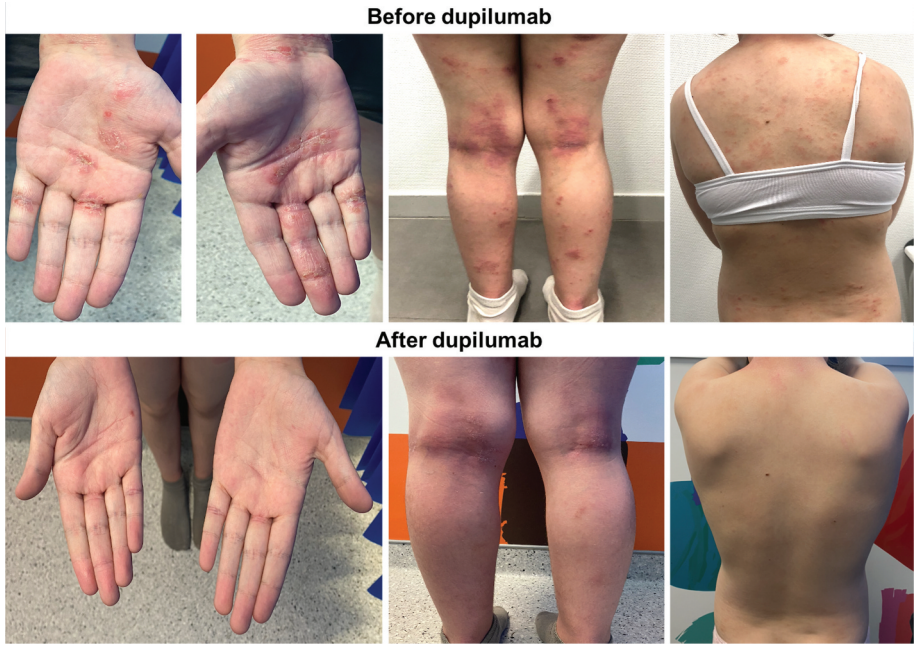
Use of dupilumab in transplanted adolescent with severe atopic dermatitis

Costa, Ines Ferreira[1]; Pinto, Diana[2]; Araújo, Ana Rita[2]; Maia, Íris[3]; Ferreira, Rosa Branca[4]; Inácio, Isabel[5]; Teixeira, Fernanda[2]
[1]Pediatric Service, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto; [2]Pediatric Allergology Unit, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto; [3]Pediatric Service, Portuguese Institute of Oncology, Porto; [4]Bone Marrow Transplantation Unit, Portuguese Institute of Oncology, Porto; [5]Endocrinology Service, Portuguese Institute of Oncology, Porto

Background: Atopic dermatitis-like graft-versus-host disease (GVHD) is a skin condition that occurs after hematopoietic stem cell transplantation (HSCT). Distinguishing this entity from atopic dermatitis (AD) can be challenging as they share similar clinical features, and in severe cases, both may require chronic immunosuppression. Given the inherent risks, safer and more effective alternatives are needed.

Case Presentation Summary: We report a case of an adolescent with persistent AD after a hematopoietic stem cell transplantation treated with dupilumab, a monoclonal antibody blocking interleukin 4 and 13, approved for the treatment of moderate-to-severe AD. A 14-year-old girl with mild AD since the first 6 months of life treated with emollients was diagnosed with bone marrow aplasia when she was 3 years old. She received an allogeneic HSCT 6 months after developing cutaneous followed by intestinal GVHD and has been treated since then with systemic corticosteroids. Despite the initial improvement of cutaneous clinical symptoms, it got worse whenever

Figure 1.



attempts were made to reduce corticosteroid therapy. Over time, in addition to the side effects of the corticosteroids, she was advised to follow a restrictive diet due to her sensitisation to multiple foods. At 11 years old, a dermatological examination revealed a moderate-to-severe AD (Eczema Area and Severity Index [EASI]:16) with a negative impact on quality of life (Dermatology Life Quality Index [DLQI]:27). When she was 11 years old, a skin biopsy revealed spongiotic dermatitis and features consistent with AD. Due to persistent dermatitis, the risks vs. benefits of dupilumab were considered, and she started this biologic drug at 14 years old. After 3 months on dupilumab, his pruritus and dermatitis significantly improved, and she reduced corticotherapy. (figure 1)

Learning Points Discussion: Our case and available reports seem to support dupilumab use in transplant patients and suggest that it may reduce the need for systemic immunosuppression in the pediatric population. However, a more extended follow-up period and further and larger studies are needed to evaluate long-term efficacy and safety.

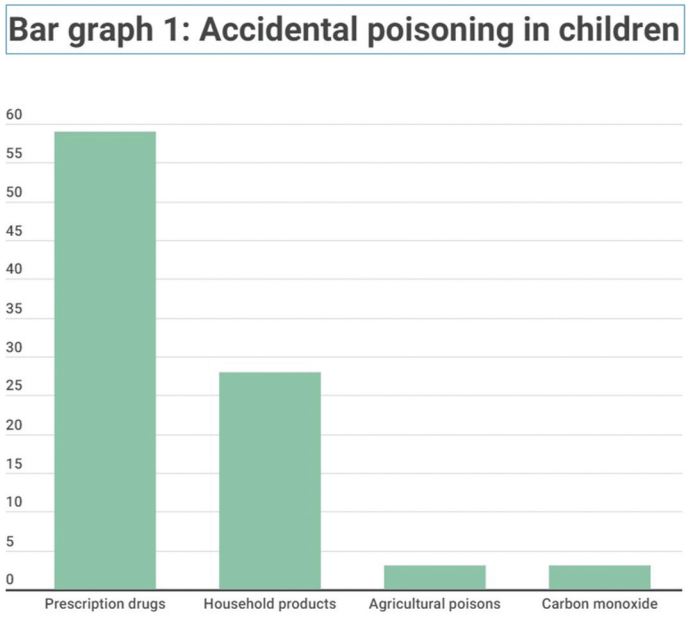
Will be presented as Oral Presentation Virtually
ID: 259/08-OP-V-d2B: 7
Oral Presentation (Virtual)
Topics: EMERGENCY PEDIATRICS
Keywords: Accidental poisoning, drug self-poisoning, acute alcohol intoxication, poisoning

Patterns of acute pediatric intoxication

Ribeiro, Mário; Ginja, Filipe; Lima, João; Vilaça, Joana
Serviço de Pediatria, Hospital de Braga, Portugal

Background: Accidental poisoning (AP), drug self-poisoning (DSP), and acute alcohol intoxication (AAI) are events that require urgent evaluation as they may present associated morbidity and mortality. This study aimed to evaluate the epidemiological characteristics of pediatric patients with AP, DSP, and AAI admitted to the pediatric emergency department.

Figure 1.



Methods: We conducted a retrospective and cross-sectional study of patients with AP, DSP, and AAI admitted to the pediatric emergency department of a tertiary-care hospital from January 2020 to December 2022.

Results: This study enrolled 254 patients, involving children (33%, n=84) and adolescents (67%, n=170). In the children group (mean age of 2.6 ± 1.2 years), AP mainly occurred at home (96%). The most frequent drugs involved were prescription drugs (59%), followed by household products (32%), Agricultural poisons (3.5%), and carbon monoxide (3.5%) (bar chart-1). Hospitalization was required in 3.5% of AP cases. Adolescents with DSP (35%, n=89) were primarily females (79.8%), living in urban areas (66%), and with psychiatric disorders (55%). Suicidal poisonings were significantly common in female patients ($p < 0.001$). Adolescents with a previous DSP were likelier to have another self-induced poising, using a combination of different drugs instead of a single class of pharmaceuticals [$p(\chi 2)=0.003$]. In AAI cases (28%, n=71), the majority (66%) were male, 9.8% had a prior AAI, and 8.5% had concomitant cannabis use. (figure 1)

Conclusions: Poisoning is still a severe reason for morbidity, with prescription drugs being the most common cause of poisoning. Most AP cases are preventable, mainly due to the lack of adult supervision and careless attitude toward chemical storage. Female adolescents should be regarded as having an increased risk of VDP, mainly when associated with psychiatric disorders, while AAI cases are more prevalent in males.

Will be presented as Oral Presentation Virtually
ID: 264/08-OP-V-d2B: 8
Oral Presentation (Virtual)
Topics: INFECTIOUS DISEASES, PUBLIC HEALTH
Keywords: gastroenteritis, salmonella, campylobacter

Evolution of pediatric acute bacterial gastroenteritis in the last 11 years

Ribeiro, Mário[1]; Araújo, Daniela[1]; Ribeiro, Ana[1]; Gomes, Francisca[1]; Albuquerque, Luís[2]; Alves, Manuela Costa[1]
[1]Serviço de Pediatria, Hospital de Braga, Portugal; [2]Serviço de Patologia Clínica, Hospital de Braga, Portugal

Background: Acute bacterial gastroenteritis (ABG) is a common cause of evaluation in the pediatric emergency department. ABG constitute an important source of morbidity, sometimes requiring hospitalization. This study aims to characterize the etiology and epidemiology of ABG, evaluate antibiotic resistance rates, and assess the impact of the pandemic on its incidence.

Methods: We conducted a retrospective study of patients diagnosed with ABG in a tertiary-care pediatric hospital from January 2012 to December 2022.

Results: 770 positive stool cultures were obtained, with a median age of 2.5 ± 1.4 years. ABG was more frequent in males (58.8%). The most frequently isolated bacteria were Campylobacter (68%), followed by Salmonella (33.5%) and Yersinia (23%). The most common presenting symptoms were fever (73.8%), vomiting (52.7%), and bloody diarrhea (41%). Hospitalization was required in 23% of cases. Despite the progressive increase in positive stool cultures, the annual hospitalization rate remained stable over the 11 years. In the last five years, there was a significant increase in the incidence of Campylobacter (2012 to 2016: 19 cases/year; 2017 to 2022: 73 cases/year), with a notable increase during the years of the COVID-19 pandemic (Figure 1). In contrast, during the same period, the number of cases related to Salmonella gastroenteritis remained stable (2012 to 2016: 16.2 cases/year; 2017 to 2022: 16 cases/year). Regarding the seasonality of the disease, the variability of bacterial ABG was similar over the years, with a peak incidence between July and September. Salmonella typhimurium showed a resistance rate of 62.5% to ampicillin and 12.5% to trimethoprim/sulfamethoxazole. There was no evidence of ampicillin resistance in Salmonella enteritidis. (figure 1)

Conclusions: Campylobacter and Salmonella remain the most common agents in ABG, although with different prevalence rates. This data corroborates the increasing trend of Campylobacter ABG in Europe, with a predominance in early childhood. Unlike other infectious diseases, Campylobacter ABG significantly increased during the COVID-19 pandemic.

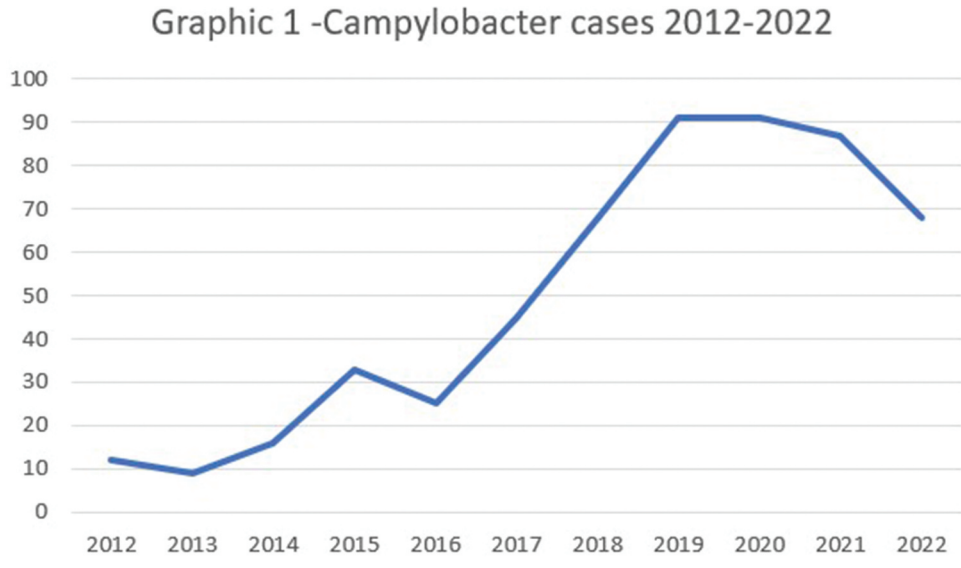


Figure 1. Campulobacter cases 2012-2022.

Will be presented as Oral Presentation Virtually
ID: 169/08-OP-V-d2B: 9
Oral Presentation (Virtual)
Topics: RARE DISEASES, NEUROLOGY
Keywords: Harlequin syndrome, Autonomic Nervous System Diseases, Hyperhidrosis, Rare Diseases

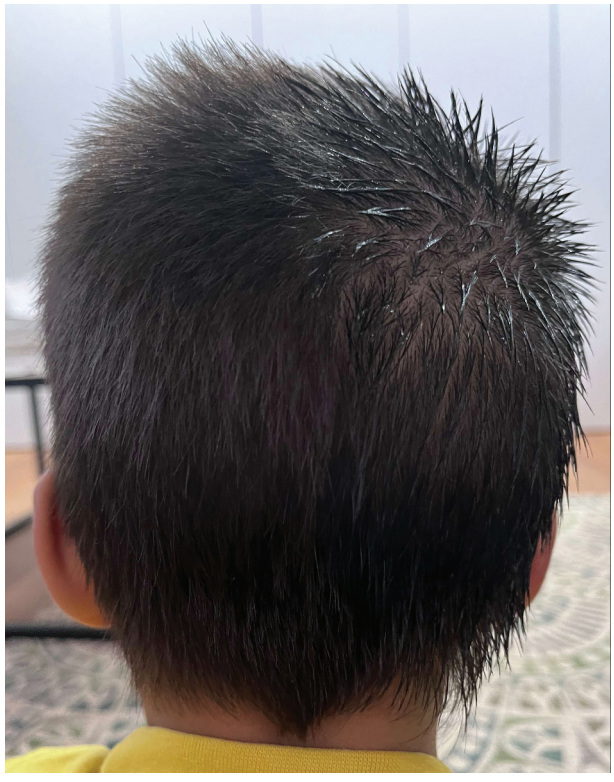
Harlequin syndrome in children: secondary until proven otherwise

Sousa Dias, Maria; Meneses, Mariana; Barroca Macedo, Rita; Soares, Sérgia
Hospital Pedro Hispano, Portugal

Background: Harlequin syndrome is a rare autonomic disorder characterized by well-delimited unilateral hyperhidrosis and flushing. Vascular smooth muscle and eccrine sweat glands are controlled by the sympathetic nervous system, whose fibbers originate from the hypothalamus, descend in the brainstem, and exit the spinal cord at T1 to T3 level. Depending on the affected part of this pathway, Harlequin syndrome can have different etiologies: hypothalamic immaturity; lesion of the sympathetic fibers by compression or surgical or anesthetic procedures; or idiopathic, triggered by exercise, heat, or emotions. Although most adult cases are idiopathic, a great proportion of the reported cases in children have secondary causes.

Case Presentation Summary: A 4-year-old boy was referred to the Pediatric Neurology outpatient clinic for a single episode of unilateral facial and upper body sweating during a febrile illness. His mother brought photographs that evidenced the sharply demarcated right-side cranial sweating (figure 1). The event never repeated itself, even at other febrile episodes. He had an uneventful medical and surgical history and didn't take any medications. There were no other associated symptoms or signs, including headaches or sensory or motor deficits, his vital signs were in the normal range, and his physical examination, including a comprehensive neurological assessment,

Figure 1.



was unremarkable. Laboratory investigation, comprising thyroid function and cerebral, spine, and thoracic magnetic resonance angiography, excluded secondary causes. Considering the diagnosis of idiopathic Harlequin syndrome, the benign nature of the condition was explained to the child and his parents, and they continued to follow up with his general pediatrician.

Learning Points Discussion: Harlequin syndrome presents with a characteristic sudden onset hemifacial pallor and anhidrosis, with a compensatory flushed and hidrotic contralateral side. The changes can also comprise the arms and chest, depending on the extension of the nerve fibers affected, or involve the entire half of the body, especially in neonates. Vasomotor instability due to hypothalamic immaturity is very common in newborns, and it's responsible for the high incidence of Harlequin syndrome in this population. Autonomic nerve fibber compression can be caused by goiter, thoracic tumors, or carotid artery dissection, and neurological diseases such as Guillain-Barré syndrome or multiple sclerosis can also present with these findings. A detailed history and careful physical examination, as well as various analytic and imaging studies, are essential to rule out underlying conditions. Idiopathic Harlequin syndrome is a benign self-limiting condition requiring reassurance to the patient and family about its auto-resolutive nature.

Will be presented as Oral Presentation Virtually
ID: 170/08-OP-V-d2B: 10
Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS, ENDOCRINOLOGY
Keywords: Goiter, Hashimoto Disease, Hypothyroidism, Thyroxine

Pediatric goiter: a relevant incidental finding

Sousa Dias, Maria; Meneses, Mariana; Freitas, Catarina; Espada, Filipa
Hospital Pedro Hispano, Portugal

Background: Acquired goiter can present at any age. Diagnostic evaluation is aimed at assessing thyroid function and identifying the underlying cause. In Portugal and other iodine-sufficient countries, the most frequent cause of goiter in children is Hashimoto thyroiditis. This autoimmune thyroiditis usually presents as a firm bosselated goiter discovered incidentally and, in most cases, these children are euthyroid and asymptomatic. However, as a chronic condition that causes destruction and atrophy of the gland, hypothyroidism will eventually present, with its principal manifestations being decreased height velocity, short stature, and delayed puberty.

Case Presentation Summary: A 10-year-old girl was seen at the emergency department for a febrile illness. Although her infectious screening was innocent, she was noticed to have a goiter (figure 1) and was sent to the Pediatric Endocrinology outpatient clinic. Her personal history was unremarkable, including her growth pattern and blood pressure screening, and there was no family history of autoimmune conditions. Her physical exam was significant for a non-tender, apparently homogenous, firm goiter, and her Tanner stage was 1. Laboratory investigation showed highly positive anti-peroxidase and antithyroglobulin antibodies (>2000 UI/mL and 197 UI/mL, respectively), slightly elevated thyroid-stimulating hormone (TSH) (7.4 µUI/mL), and normal free-T4 (0.86 ng/dL) and neck echography was relevant for voluminous thyroid gland with exuberant inflammation. Regarding the diagnosis of mild subclinical hypothyroid Hashimoto thyroiditis, reassessment was planned in 3 months. At that stage, analytical reevaluation revealed a high TSH (513 µUI/mL) with low free-T4 (<0.42 ng/dL), and levothyroxine replacement was started. At 3 months review, thyroid function was in the normal range, and gland size had decreased by a third.

Learning Points Discussion: Hormone replacement therapy plays a crucial role in Hashimoto's thyroiditis. Clinical and severe subclinical hypothyroidism (TSH >10 µUI/mL) warrant intervention to ensure normal thyroid function during the child's critical growth and pubertal development phase. For patients with mild subclinical hypothyroidism (TSH 5-10 µUI/mL), treatment decisions are more

Figure 1.

complex, with some centers suggesting treatment for symptomatic and confirmed autoimmune thyroiditis cases, while others support vigilance. Children promptly diagnosed and treated before the onset of puberty often experience catch-up growth and achieve normal adult height. Regardless of the approach, regular monitoring of thyroid function and growth remains an essential part of guaranteeing optimal management and early intervention if necessary.

Will be presented as Oral Presentation Virtually
ID: 251/08-OP-V-d2B: 11
Oral Presentation (Virtual)
Topics: NEONATOLOGY, HAEMATOLOGY/ONCOLOGY
Keywords: Neuroblastoma, Hemorrhagic Shock, Neonatology

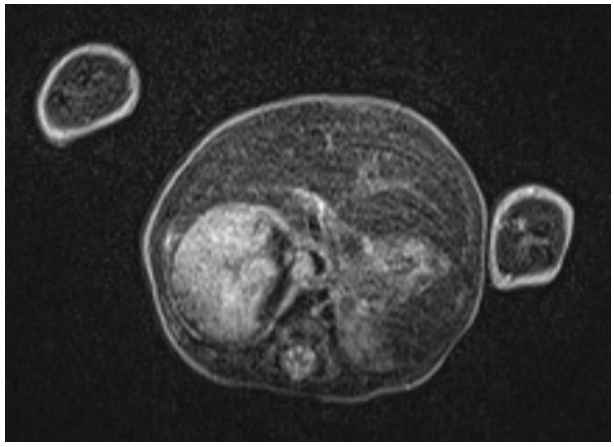
Neonatal hemorrhagic shock: a rare presentation of congenital neuroblastoma

Sousa Dias, Maria[1]; Estevinho, Norberto[2]; Bom Sucesso, Maria[2]; Peixoto, Sara[1]; Rosário, Marta[2]
[1]Hospital Pedro Hispano, Portugal; [2]Centro Hospitalar Universitário de São João, Portugal

Background: Neuroblastoma is the most common solid tumor in neonates. It can develop anywhere along the sympathoadrenal axis and present a broad spectrum of clinical behavior. Congenital neuroblastomas are most frequently detected incidentally at the third-trimester obstetric ultrasound or through palpation of an abdominal mass on examination. Other rarer presentations can relate to nerve mass compression, catecholamine metabolism, or "blueberry muffin" subcutaneous nodules disseminated disease. Exceptionally, neonates demonstrate a unique disease prognosis, with favorable outcomes with a 5-year survival rate of 90%, even for metastatic disease.

Case Presentation Summary: A first child of a healthy 35-year-old mother was born by eutocic delivery at 39 weeks and four days of gestation, after a supervised and uneventful pregnancy. The newborn girl had an Apgar score of 8-9-10, and anthropometry was adequate for gestational age.

Figure 1.



At 5 hours of life, she was admitted to the neonatal intensive care unit due to hypotony, paleness, groaning, and poor feeding. Arterial gasometry showed metabolic acidosis, lactacidemia, and severe anemia, with 6.7 g/dL of hemoglobin. Analytical evaluation revealed leukocytosis with negative C-reactive protein and procalcitonin, acute kidney injury, and disseminated intravascular coagulation. After initial stabilization with mechanical ventilation, blood and plasma transfusion, sodium chloride bolus, dopamine, and sodium bicarbonate, abdominal ultrasound and computed tomography was performed and detected a poorly defined 8 x 6.5 cm right retroperitoneal lesion, corresponding either to suprarenal hemorrhage or hemorrhagic neoformation. Regarding the patient's hemodynamic stability and after a multidisciplinary discussion with the Pediatric Surgery and Oncology teams, it was decided to wait for spontaneous tamponade of the hemorrhage. Subsequent laboratory studies revealed high homovanillic acid and an abdominopelvic magnetic resonance, confirmed the hypothesis of a 5.5 x 4 cm neuroblastoma (figure 1). A 123I-metaiodobenzylguanidine scintigraphy scan excluded metastases. Considering the diagnosis, the girl was submitted to total tumor resection and is under Pediatric Oncology follow-up.

Learning Points Discussion: Hemorrhagic shock, although rare, may serve as a presenting sign of congenital neuroblastoma. Two-thirds of these tumors originate in the abdomen, more commonly in the adrenal glands. It is fundamental to distinguish from more prevalent conditions such as adrenal hemorrhage, which has a highly distinct disease course and prognosis. Awareness of the diverse clinical presentations, some of which demand immediate medical attention, is essential in ensuring appropriate diagnosis and patient care.

Will be presented as Oral Presentation Virtually
ID: 333/08-OP-V-d2B: 12
Oral Presentation (Virtual)
Topics: INFECTIOUS DISEASES
Keywords: Mode Of Delivery, Infectious Morbidity, Long-Term Morbidity, Premature Twins

Cesarean delivery in extreme and very preterm twins is an independent risk factor for long-term infectious morbidity of the offspring

Ben Shitrit, Itamar[1]; Shiner, Eyal[2]; Pariente, Gali[2]; Sergienko, Ruslan[1]; Wainstock, Tamar[1]
[1]Department of Public Health, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel; [2]Department of Obstetrics and Gynecology, Soroka University Medical Center, Ben-Gurion University of the Negev, Beer-Sheva, Israel

Objective: Controversy exists in the literature regarding the preferred mode of delivery in extremely preterm gestation. Studies on the optimal mode of delivery in twin pregnancies <28 weeks

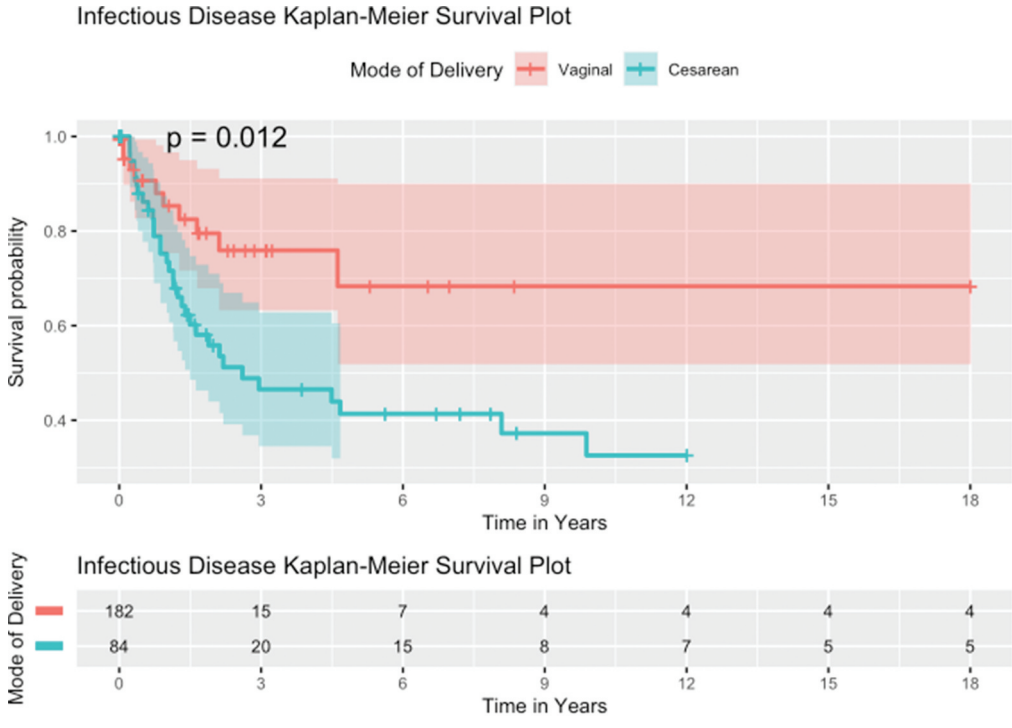
are scarce. In this study, we sought to elucidate the relationship between the mode of delivery and the long-term infectious morbidity of the offspring in twins delivered extremely and very preterm (24 to 27+6 weeks and 28-31+6 weeks, respectively).

Materials and Methods: A retrospective population-based cohort study was performed, including all very and extreme preterm deliveries occurring between 1991 and 2021 at a regional tertiary medical centre. Offspring were followed up until the age of 18 years. Singletons, higher-order multiples, perinatal deaths, and cases with congenital malformations were excluded. A Kaplan-Meier survival curve was used to compare the cumulative infectious morbidity incidence, and a multivariable Cox hazards regression model was used to control for confounders.

Results: The study included 738 offspring: 338 (46%) were born via vaginal delivery and 400 (54%) via cesarean delivery (CD). Long-term infection morbidity was significantly higher in the CD group (57%, n=229, vs. 25%, n=83, in vaginal births; p < 0.001). The Kaplan-Meier curve elucidated a notable rise in infection-related morbidity incidence for the CD cohort (log-rank test p <0.001). The Cox model, adjusting for gestational diabetes, preeclampsia, maternal age, and ethnicity, underscored CD as an independent risk factor for long-term infection events with an adjusted hazard ratio of 1.75(95% CI, 1.36–2.26, p <0.001). Furthermore, cesarean delivery was associated with long-term infection morbidity across all gestational age groups: extremely preterm group (HR 2.35, 95% CI 1.18-4.67, p= 0.010) and very preterm (HR 1.70, 95% CI, 1.32-2.23, p< 0.001). (table 1)

Conclusion: Cesarean delivery in extreme and very preterm twins is associated with an increased risk for long-term infections and morbidity of the offspring. Emerging hypotheses suggest that exposure to maternal flora during vaginal delivery and the release of stress hormones during contractions may protect against long-term infections-related morbidity in preterm twins.

Table 1.



Will be presented as Oral Presentation Virtually
ID: 336/08-OP-V-d2B: 13
Oral Presentation (Virtual)
Topics: NEUROLOGY
Keywords: Mode Of Delivery, Neurological Morbidity, Long Term Morbidity, Premature Twins

Cesarean delivery in preterm twins and the long-term risk for neurological morbidity of the Offspring

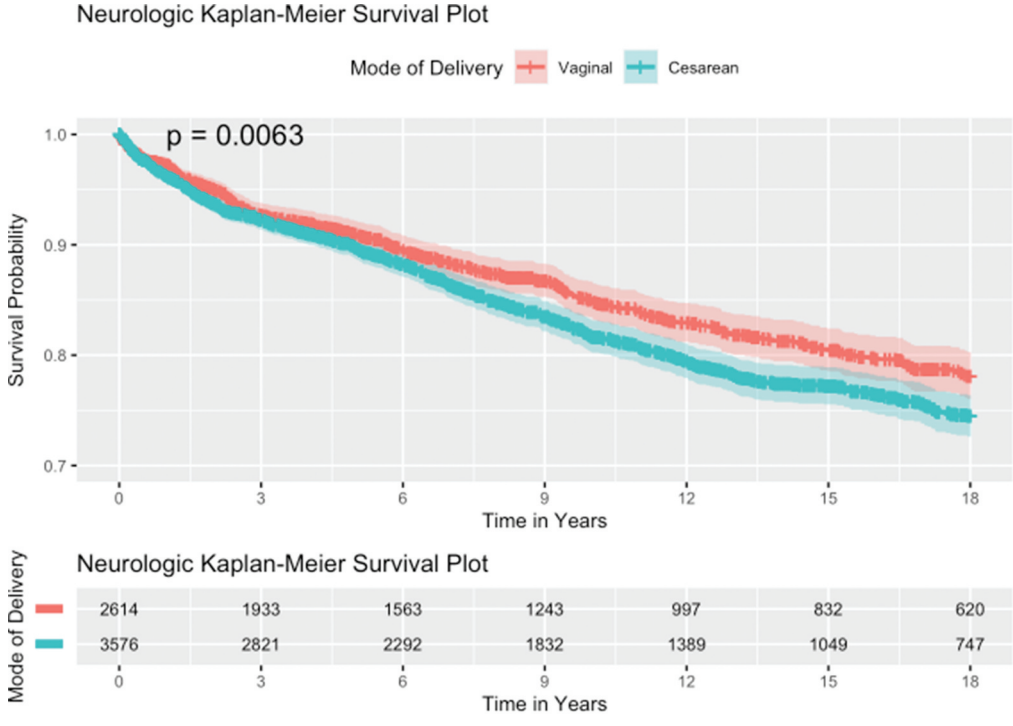
Ben Shitrit, Itamar[1]; Shiner, Eyal[2]; Pariente, Gali[2]; Sergienko, Ruslan[1]; Wainstock, Tamar[1]
[1]Department of Public Health, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel; [2]Department of Obstetrics and Gynecology, Soroka University Medical Center, Ben-Gurion University of the Negev, Beer-Sheva, Israel

Objective: To ascertain whether the mode of delivery impacts the long-term risk for neurologic morbidity of the offspring in preterm twin deliveries.

Materials and Methods: This population-based cohort analysis included preterm twin deliveries between 1991 and 2021. The study population was divided into two groups: cesarean deliveries (CD) versus vaginal deliveries (VD). Singletons, higher-order multiples, perinatal deaths, and cases with congenital malformations were excluded. The evaluation of cumulative neurological hospitalization rate over time was performed with a Kaplan–Meier survival analysis. A Cox proportional hazards model was used to study the independent association between mode of delivery and neurological morbidity while controlling for potential confounders. The analysis was further stratified by gestational age: extremely preterm (24-27+6), very preterm (28-31+6), and late preterm (32-36+6).

Results: During the study period, 6190 deliveries met the inclusion criteria, 2614 CD (42%), and 3576 (58%) VD. A total of 917 neurological hospitalizations were documented, with 371 (15%) in the VD group compared to 634 (18%) in the CD group (p<0.001). The survival curves showed higher cumulative

Table 1.



neurological morbidity rates in the CD vs. the VD group (p =0.006). The Cox analysis demonstrated CD as an independent risk factor for pediatric neurological hospitalizations while adjusted for ethnicity and gestational diabetes with an adjusted hazard ratio of 1.15 (95% CI, 1.01–1.30, p =0.036). Specifically, CD was associated with an increased risk for neurological morbidities only among the very preterm group (HR 1.16, 95% CI 1.02-1.33, p=0.025). (Table 1)

Conclusion: Preterm CD is an independent risk factor for neurological morbidity of the offspring.

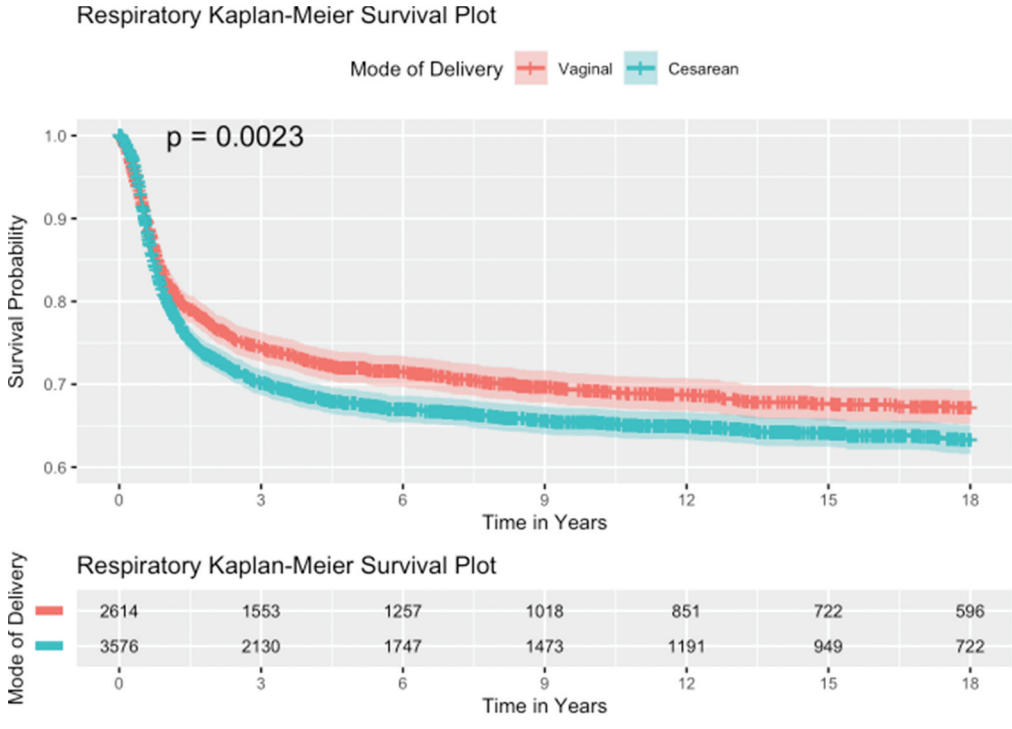
Will be presented as Oral Presentation Virtually
ID: 334/08-OP-V-d2B: 14
Oral Presentation (Virtual)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: Mode Of Delivery, Respiratory Morbidity, Long Term Morbidity, Premature Twins

Cesarean versus vaginal delivery for preterm twin deliveries is an independent risk factor for long-term pediatric respiratory morbidity of the offspring

Ben Shitrit, Itamar[1]; Shiner, Eyal[2]; Pariente, Gali[2]; Sergienko, Ruslan[1]; Wainstock, Tamar[1]
[1]Department of Public Health, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel; [2]Department of Obstetrics and Gynecology, Soroka University Medical Center, Ben-Gurion University of the Negev, Beer-Sheva, Israel

Objective: To compare the long-term respiratory morbidity of preterm twin deliveries born by cesarean vs. vaginal delivery.

Materials and Methods: A population-based cohort analysis including all preterm twin deliveries born between 1991 and 2021, comparing long-term respiratory morbidity of offspring according to the mode of delivery (cesarean vs vaginal birth). Offspring with congenital malformations, perinatal deaths, singletons and multiples exceeding twins were excluded. The primary outcome metric, respiratory morbidity, tracked up to the age threshold of 18 years. A Kaplan-Meier survival curve was deployed for



visualizing cumulative respiratory morbidity incidence, complemented by a Cox regression model, which accounted for potential confounding variables. The analysis was further stratified by gestational age: extremely preterm (24-27+6), very preterm (28-31+6), and late preterm (32-36+6).

Results: Within the study's duration, 6190 preterm deliveries met the inclusion criteria; 42% were via cesarean deliveries (CD; n = 2614), and 58% (n = 3576) were vaginal deliveries. Respiratory morbidity was significantly higher in preterm twins delivered by cesarean deliveries (1167 (33%) vs. 714 (27%) in vaginal deliveries, p < 0.001). The Kaplan-Meier survival curve depicted a markedly heightened cumulative incidence of respiratory morbidity in the CD group (log-rank p = 0.002; Figure). Utilizing a Cox proportional hazards model, accounting for gestational age and ethnicity, CD displayed a significant independent association with long-term respiratory morbidity of the offspring (adjusted hazard ratio =1.17, 95%CI, 1.07–1.29, p < 0.001). Furthermore, cesarean delivery was associated with long-term respiratory morbidity across all gestational age groups besides the extremely preterm group (HR 2.30, CI 0.98-5.41, p= 0.043); very preterm (HR 1.65, CI, 1.17-2.32, p= 0.003); and late preterm (HR 1.10, CI 1.00-1.22, p=0.046).

Conclusion: Cesarean versus vaginal delivery for premature twins is an independent risk factor for long-term pediatric respiratory morbidity of the offspring.

Will be presented as Oral Presentation Virtually
ID: 335/08-OP-V-d2B: 15
Oral Presentation (Virtual)
Topics: GASTROENTEROLOGY
Keywords: Mode Of Delivery, Gastrointestinal Morbidity, Long Term Morbidity, Premature Twins

Mode of delivery and long-term gastrointestinal morbidity of the preterm twin

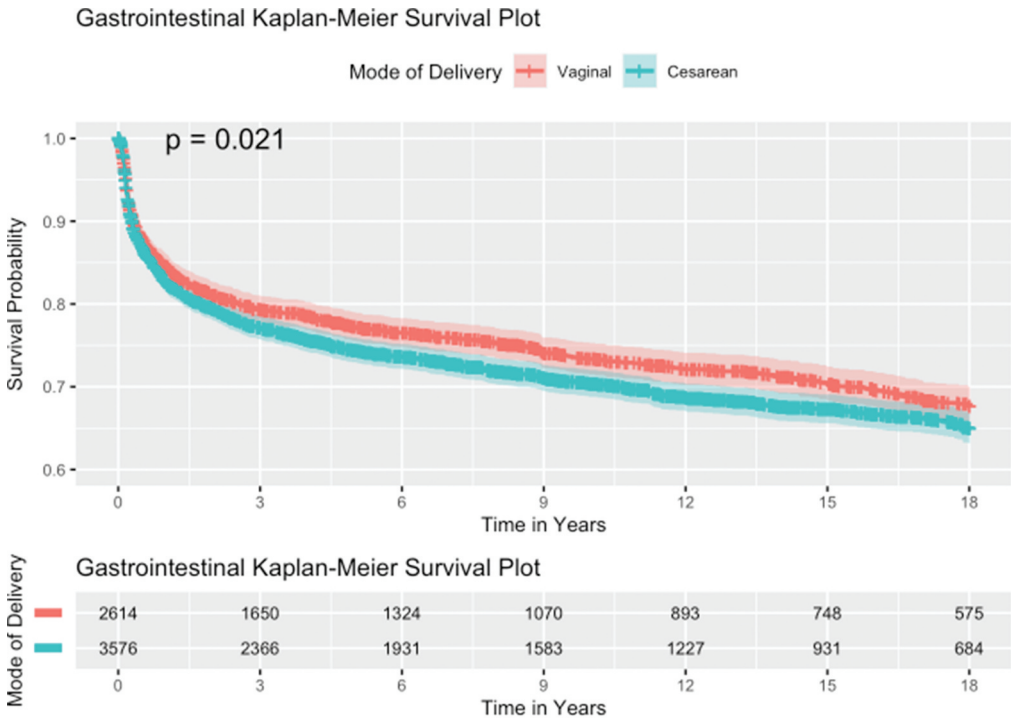
Ben Shitrit, Itamar[1]; Shiner, Eyal[2]; Pariente, Gali[2]; Sergienko, Ruslan[1]; Wainstock, Tamar[1]
[1]Department of Public Health, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel; [2]Department of Obstetrics and Gynecology, Soroka University Medical Center, Ben-Gurion University of the Negev, Beer-Sheva, Israel

Objective: We aimed to examine the potential association between cesarean delivery (CD) vs. vaginal delivery (VD) and long-term gastrointestinal morbidity in preterm twins.

Materials and Methods: A population-based cohort analysis including all preterm twin deliveries occurring between 1991-2021 at a tertiary medical centre was performed, comparing long-term gastrointestinal hospitalization of offspring according to the mode of delivery (cesarean vs. vaginal births). Offspring with congenital malformations, perinatal deaths, singletons, and multiples exceeding twins were excluded. Gastrointestinal morbidity (up to age 18 years) was defined using predefined ICD9 codes, as recorded in hospital records. A Kaplan-Meier survival curve was constructed to compare the cumulative incidence of first gastrointestinal-related morbidity. A Cox proportional hazard model was used to control for confounders.

Results: Of the 6190 eligible preterm deliveries, CD accounted for 42% (n = 2614) and VD 58% (n = 3576). Gastrointestinal morbidity was more pronounced in the CD group: (n=1040, 29%) compared to (n=653, 25%) in vaginal births (p < 0.001). The Kaplan-Meier curve elucidated a notable increase in gastrointestinal morbidity for CD (log-rank p = 0.021; Figure). The Cox model, adjusting for maternal age, gestational age, gestational diabetes, and ethnicity, underscored CD as having a significant link with enduring gastrointestinal morbidity in offspring, with an adjusted hazard ratio of 1.14 (95% CI, 1.04–1.26, p =0.008).

Conclusion: Cesarean delivery in premature twins is an independent risk factor for long-term gastrointestinal morbidity of the offspring. Possibly, exposure to maternal flora during vaginal



delivery and the stress hormones secreted during contractions might play a protective role against long-term gastrointestinal morbidity of the premature twin.

Session

09-OP-V-d2C

Time:
Date: Friday, 01/Dec/2023
2:30pm - 4:30pm

Presentations

Will be presented as Oral Presentation Virtually
ID: 210/09-OP-V-d2C: 1
Oral Presentation (Virtual)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: asthma, children, dupilumab, systemic corticosteroids, prior exacerbations

Dupilumab reduces systemic corticosteroid exposure in children with uncontrolled moderate-to-severe asthma regardless of prior exacerbations

Hamelmann, Eckard[1]; Deschildre, Antoine[2]; Ducharme, Francine M.[3]; Sher, Lawrence D.[4]; de Mir, Ines[5]; Xia, Changming[6]; Gall, Rebecca[6]; Ledanois, Olivier[7]; Jacob-Nara, Juby A.[8]; Sacks, Harry[6]; Rowe, Paul J.[8]; Deniz, Yamo[6]
[1]Department of Pediatrics, Children's Center Bethel, University of Bielefeld, Bielefeld, Germany; [2]University Lille, CHU Lille, Pediatric Allergy and Pulmonology Department, CHU Lille, Lille, France; [3]Departments of Pediatrics and of Social and Preventive Medicine, University of Montreal, Montreal, Canada; [4]Peninsula Research Associates, Rolling Hills Estates, CA, USA; [5]Hospital Vall d'Hebron, Barcelona, Spain; [6]Regeneron Pharmaceuticals Inc., Tarrytown, NY, USA; [7]Sanofi, Paris, France; [8]Sanofi, Bridgewater, NJ, USA

Background: There is a need to decrease recurrent rescue systemic corticosteroid (SCS) exposure to treat exacerbations in patients with asthma, especially children. Dupilumab is a fully human mAb that blocks the shared receptor component of IL 4/13, vital and central drivers of type 2 inflammation in multiple diseases. In VOYAGE (NCT02948959), dupilumab was generally well tolerated, significantly reduced severe asthma exacerbations and improved lung function in children with uncontrolled moderate-to-severe asthma. This post hoc analysis of VOYAGE assessed dupilumab efficacy in reducing the need for rescue SCS in children with moderate-to-severe asthma and type 2 inflammatory phenotype at baseline (blood eosinophil count ≥150 cells/μL or fractional exhaled nitric oxide [FeNO] ≥20 ppb).

Method: Children aged 6–11 were randomized to dupilumab 100/200mg or placebo every 2 weeks for 52 weeks. The annualised number of total SCS courses (including oral, IM, IV) and the percentage of patients without exacerbations were analysed in subgroups stratified by the number of exacerbations before VOYAGE.

Results: Unadjusted annualized total SCS courses in patients with type 2 inflammatory phenotype with 1, 2 and ≥3 prior exacerbations were 0.49 (placebo, n=43) vs 0.16 (dupilumab, n=77), 0.74 (placebo, n=31) vs 0.33 (dupilumab, n=69), and 1.18 (placebo, n=32) vs 0.78 (dupilumab, n=63), respectively. Dupilumab treatment led to fewer exacerbations. For dupilumab and placebo, the percentage of patients without exacerbations in those who had 1 prior exacerbation was 87.0% and 69.8%; in those who had 2 prior exacerbations, it was 79.7% and 58.1%; and in those who had ≥3 prior exacerbations, was 61.9% and 56.1%, respectively.

Conclusion: In children with uncontrolled moderate-to-severe asthma, dupilumab effectively reduced the SCS burden related to exacerbations, regardless of prior exacerbation history. Unadjusted annualized total SCS coursesa during VOYAGE in patients with type 2 inflammatory phenotype (baseline blood eosinophils ≥150 cells/μL or FeNO ≥20 ppb), stratified per number of prior exacerbations. [Figure 1]. A course of SCS is considered continuous if treatment is separated by less than 7 days. The total number of SCS courses during the treatment period is divided by the number of patient-years followed in the treatment period for that patient. This analysis includes patients from VOYAGE who enrolled in the open-label extension study EXCURSION.

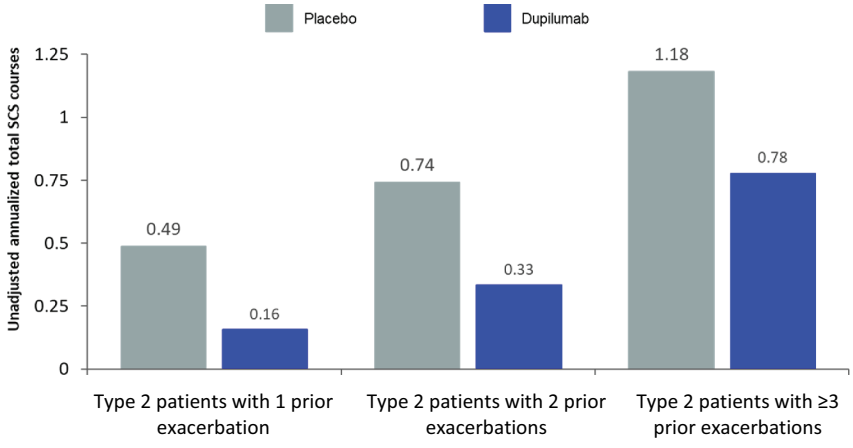


Figure 1. Unadjusted annualized total SCS courses[a] during VOYAGE in patients with type 2 inflammatory phenotype (baseline blood eosinophils ≥150 cells/μL or FeNO ≥20 ppb), stratified per number of prior exacerbations.Type 2 patients with 1 prior exacerbation Type 2 patients with 2 prior exacerbations Type 2 patients with ≥3 prior exacerbations

[a]A course of SCS is considered continuous if treatment is separated by less than 7 days. The total number of SCS courses during the treatment period divided by the number of patient-years followed in the treatment period for that patient.

Will be presented as Oral Presentation Virtually
ID: 190/09-OP-V-d2C: 2
Oral Presentation (Virtual)
Topics: ADOLESCENT MEDICINE
Keywords: adolescent health; substance abuse; drug abuse

Factors related to substance use among adolescents in a primary health care unit

Costa Azevedo, Andre[1,2]; Costa e Silva, Andre[2]; Lage, Nicole[1]; Mendez, Raquel[1]
[1]Unidade de Saúde Familiar Lethes, Unidade Local de Saúde do Alto Minho, Viana do Castelo, Portugal; [2]Pediatrics Department, Unidade Local de Saúde do Alto Minho, Viana do Castelo, Portugal

Background: Adolescence is a critical stage in life and can be considered the most transformative period in the individual's life. Recently, several studies have reported increased substance use in teenagers at an early age, representing a public health concern. Many factors have been related, such as experimental curiosity, peer and family influence, and personality problems. This study aimed to characterize the experimentation/consumption of substances (alcohol, tobacco and cannabis) and establish a relationship with possible factors associated with experimentation.

Methods: An observational and cross-sectional study was carried out for 5 months. It was conducted with a convenience and random sample of adolescents who visited a primary health care unit for their child and youth health routine appointments. A questionnaire prepared by the authors was applied, which included demographic data, socio-family characterization and school performance, and questions characterizing the consumption of alcohol, tobacco, and cannabis.

Results: 134 replies were obtained (50.7% were female; the median age of 13). Regarding alcohol consumption, 65.4% had tried, with a median age of experimentation of 13; 52% had obtained alcohol in a public place (public event/cafe/bar/shop), and the remaining person offered it; 90% affirms that friends consume alcohol and in all of them at least one cohabitant consumes it. Concerning tobacco consumption, 59.3% had tried, with a median age of 15; 81.5% stated that tobacco was offered by someone else, and 92.6% stated that friends consume tobacco. Regarding cannabis, 6.7% claim to have tried, with a median age of 16, with 77.8% referring that friends also use it. The general prevalence of experimentation was higher among males. Consumption among friends was a predictor of alcohol consumption; school retention, going out at night and consumption among friends were predictors of tobacco consumption; there were no predictive factors for cannabis. Teenagers who have tried cannabis have also tried alcohol and tobacco.

Conclusions: Alcohol was the earliest consumed substance, followed by tobacco and cannabis, which aligns with the literature. Despite the ban on selling tobacco and alcohol to minors, they continue to purchase them in public establishments, which indicates the great accessibility and inadequate control of the sale. It is essential to understand the socio-environmental context of adolescents identifying vulnerable groups to prevent substance use. Consumption by friends is a predictive factor for trying alcohol and tobacco, which enhances the importance of peers.

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Oral Presentation (Virtual)
Topics: RARE DISEASES, EMERGENCY PEDIATRICS
Keywords: pericardial cyst; mediastinum enlargement

cogent public health

An incidental finding of a giant pericardial cyst: case presentation, evaluation and management approach

Aires Martins, Inês[1]; Costa Correia, Bárbara[2]; Pimenta, Sofia[2]; Reis, Ana[2]
[1]Department of Pediatrics, Centro Materno-Infantil do Norte Albino Aroso, Centro Hospitalar Universitário de Santo António, Porto, Portugal; [2]Department of Pediatrics and Neonatology, Centro Hospitalar Tâmega e Sousa, Penafiel, Portugal

Background: Pericardial cysts have an incidence of 1 in 100,000, typically occurring along the right heart border in the middle or anterior mediastinum, accounting for 6% of mediastinal masses. Although commonly congenital, other causes include infection, cardiac surgery, and autoimmune diseases. They are typically asymptomatic and usually detected incidentally on imaging. Symptoms may be caused by cyst-related mass effect, hemorrhage or infection, including persistent cough, chest pain, dysphagia and dyspnea. Most pericardial cysts are benign, prompting a conservative approach for asymptomatic cases, whereas symptomatic or rapidly enlarging cysts warrant surgical resection. They generally have a favorable prognosis; however, their natural history is unknown.

Case Presentation Summary: An 8-year-old boy with a history of acute pericarditis presented to the Emergency Service complaining of a persistent two-month cough and right chest pain since the day before. Dyspnea, fever, night sweats, weight loss or malaise were denied. There were no known contacts with tuberculosis. Upon admission, vital signs and physical examination were normal. A chest radiography was performed and showed mediastinal enlargement (Figure 1a). The computed tomography scan showed atelectasis of the left inferior lobe, mild cardiomegaly with moderate pericardial effusion and a 62mm cystic lesion in close relation to the pericardium. An electrocardiogram showed normal sinus rhythm. Blood analysis, including B-Type Natriuretic Peptide (BNP), D-dimer, myoglobin, and troponin I, yielded no alterations. A transthoracic echocardiogram confirmed the presence of a small-volume pericardial effusion with a structurally and functionally normal heart. The investigation was complemented with a magnetic resonance imaging scan that revealed a 62mm pericardial cyst (Figure 1b). Comprehensive complementary study, including immunologic assays and mycobacterium tuberculosis screening, was unremarkable. A conservative approach was decided and at eight months follow-up, the patient is clinically and radiologically stable.

Learning Points Discussion: Despite being a rare entity, pericardial cysts should be considered in the differential diagnosis of mediastinal masses and should be distinguished from more common causes, like lymphadenopathies and bronchogenic cysts, and from more serious conditions, like cardiovascular anomalies and aneurysms. In this case, a conservative approach was adopted because the pericardial cyst was mainly asymptomatic despite its size. This supports the current evidence advocating for tailoring management strategies to individual cases. Regarding its etiology, it could be hypothesized that this pericardial cyst was either congenital or secondary to the previous acute pericarditis episode.

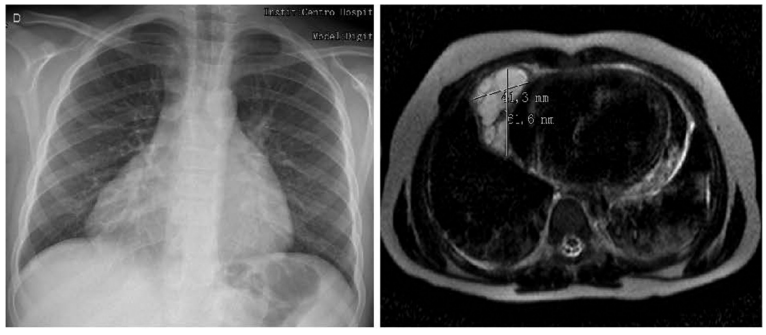

Figure 1. a) Enlargement of mediastinum in the chest radiography; b) MRI showing pericardial cyst in the right hemithorax, measuring 61.6 x 41.3mm.

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ID: 273/09-OP-V-d2C: 4
Oral Presentation (Virtual)
Topics: PSYCHIATRY, EMERGENCY PEDIATRICS
Keywords: early mobilization, intensive care, oversedation, negative impact, mechanical ventilation

Building a culture of early mobilization in the pediatric intensive care unit

Araújo Oliveira, Inês[1]; Caldas Afonso, Sara[2]; Losa, Ana[1]; Vieira, Beatriz[3]; Sofia Rodrigues, Ana[4]; Amorim, Rosa[2]; Cardoso, Ana Lúcia[5]; Sarmento, Alzira[5]; Fernandes, Paula Cristina[5]
[1]Pediatric Department, Centro materno infantil do norte, centro hospitalar de Santo António, Portugal; [2]Department of Rehabilitation Medicine, Centro Hospitalar Universitário de Santo António; [3]Pediatric Department, Centro Hospitalar Póvoa de Varzim/Vila do Conde, Póvoa de Varzim; [4]Pediatric Department, Centro Hospitalar do Médio Ave, V.F. Famalicão; [5]Pediatric Intensive Care Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António

Background: The culture of sedation and immobilization in the pediatric intensive care unit (PICU) is associated with ICU-acquired weakness, sleep disturbances, delirium, and poor functional, neurocognitive and psychosocial outcomes. An early mobility program for mechanically ventilated (MV) pediatric patients with associated prolonged immobilization and sedation represents a pioneering approach designed to revolutionize the care of critically ill children.

Objective: The prospective cohort trial of a PICU is to mitigate the potential negative long-term impact by embracing controlled movement and exercise as fundamental components of care and optimized sedation management. It is essential to balance the need for patient comfort and pain relief with the imperative of maintaining alertness and cooperation.

Methods: A total of 572 patients were screened over three years, and 132 needed invasive mechanical ventilation at least for 48 hours. Median age of participants was 5,46 years, and 83 (58,87%) were male. Physiatry evaluation and orientation were only requested for 30 patients (22,22%) during their hospitalization in the PICU, and only 10 patients (X%) maintained follow-up consultations.

Learning Points Discussion: Opioids and benzodiazepines, respectively, like fentanyl and midazolam, are commonly used classes of analgesic and sedative drugs with potential role in early mobilization for critically ill children. High doses of the first drug can cause euphoria or dysphoria. Still, the second one is detrimental to slow-wave or non-REM sleep, leading to sleep disturbances that contribute further to delirium risk. The problem is that both have half-life increases that contribute to frequent dosing or continuous infusion, tolerance development, and accumulation of active metabolites. In this trial, the medium of the maximum dose used of fentanil was 0,31 mcg/Kg/h and 2,9 mcg/Kg/h of midazolam. In conclusion, it is necessary to prevent under or over-sedation and related morbidities and for that, optimizing sedation is essential to the successful implementation of early mobilization programs for critically ill children. The program extends beyond physical benefits, recognizing the profound psychological advantages for patients and their families.

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Topics: NEUROLOGY, EMERGENCY PEDIATRICS
Keywords: Pediatric Intensive Care; Status epilepticus;

Pediatric Intensive Care Admissions for Status Epilepticus: a comprehensive case series of 9 years

Rodrigues, Ana Sofia[1,2]; Araújo Oliveira, Inês[1,3]; Losa, Ana[1,3]; Vieira, Beatriz[1,4]; Teixeira, Beatriz[1,3]; Figueiroa, Sónia[5]; Ribeiro Fernandes, Sofia[1]; Cardoso, Ana Lúcia[1]; Fernandes, Paula Cristina[1]
[1]Pediatric Intensive Care Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António; [2]Pediatric Department, Centro Hospitalar do Médio Ave, V.F. Famalicão; [3]Pediatric Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António; [4]Pediatric Department, Centro Hospitalar Póvoa de Varzim/Vila do Conde, Póvoa de Varzim; [5]Neurology Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António

Background: Status epilepticus (SE) is a critical neurological emergency with potentially devastating consequences, especially in the pediatric population. Various factors, including epilepsy, infections, fever, head injuries, and metabolic imbalances, can cause it. This work aimed to provide insights into the clinical characteristics, management strategies, outcomes and follow-up in this challenging patient group.

Methods: We conducted a retrospective analysis with a review of medical records of pediatric patients admitted to our Pediatric Intensive Care Unit (PICU) for SE between 1stJan2013 and 31stDec2021, collecting data on demographics, etiology, clinical presentation, diagnostic workup, treatment modalities, complications, and long-term outcomes.

Results: Our study included 43 patients, 72% male. Median age at admission was 2.25 years old (interquartile range, IQR 1.2-9,1). 40% had previous episodes of seizures, 26% including previous SE. Neurological comorbidities were present in 51% (most frequent Dravet Syndrome in 18%). Seizure semiology varied; fever was the most associated symptom (60%). Management approaches in the emergency department included first-line therapy with a benzodiazepine in all patients except one; 12% of patients skipped second-line therapy and started midazolam infusion right after first-line therapy. Treatment in PICU encompassed antiepileptic drug therapy, mechanical ventilation, and, in select cases, antibiotic (67%), antiviral (42%) and immunoglobulin therapy (7%). Diagnostic evaluation involved neuroimaging in 67% and electroencephalography in 26%. Nervous system infection was confirmed in four cases, of which two were autoimmune encephalitis, one with identification of EBV in the cerebrospinal fluid and the other with Pseudomonas identification. The median duration of mechanical ventilation was one day (IQR 1-4), and the median length of stay was four days (IQR 2-7). The mortality rate for SE was approximately 5% (N=2), and during the follow-up, three patients died.

Conclusion: Our data points out the wide range of pediatric patients admitted to the PICU for SE, emphasizing the importance of prompt diagnosis and evidence-based management. Consistent with our findings, the literature has documented a male predominance in certain studies. The observed therapeutic variations before admission emphasize the complexity of managing SE and the need for a multidisciplinary approach to optimise outcomes in this vulnerable patient population. The outcome can vary widely depending on the cause, promptness of treatment, and underlying medical conditions. Early intervention and appropriate management are crucial to minimizing potential complications. The need for standard guidelines is highlighted because second-line therapy was not performed in 12% of our patients.

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ID: 275/09-OP-V-d2C: 6
Oral Presentation (Virtual)
Topics: EMERGENCY PEDIATRICS, HAEMATOLOGY/ONCOLOGY
Keywords: emerging disease, risk factors, intensive care

Venous Thromboembolism in Children: a study in a tertiary hospital

Araújo Oliveira, Inês[1]; Cardoso, Ana Lúcia[2]; Sarmento, Alzira[2]
[1]Pediatric Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António; [2]Pediatric Intensive Care Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António

Background and Objective: The incidence of Venous Thromboembolism (VTE) is much lower when compared to adults. Still, it is an emerging disease in pediatric age that includes deep vein thrombosis (DVT) and Pulmonary Embolism. The goal of this case series is to evaluate the most relevant features and the diagnosis, treatment and prevention of DVT in children, including associated risk factors. VTE often presents unique challenges in children due to anatomical and physiological differences compared to adults. Risk factors of pediatric VTE can vary widely, ranging from congenital conditions that affect blood clotting factors to acquired factors such as prolonged immobilization, trauma, surgery, malignancy, use of oral contraceptives or hormone, and presence of central venous catheters. Managing VTE in children involves a delicate balance between anticoagulation therapy to prevent clot growth and recurrence and the potential risks of bleeding complications.

Methods: Descriptive retrospective review of patients' records with a diagnosis of TVP in the last 5 years in a tertiary hospital's pediatric intensive care unit (PICU). The study population consisted of 11 patients, 6 (55,5%) of whom were female. The median age was 9 years old. The edema was the most frequent symptom, and the ileo-femoral venous segment was the most affected (7/6). Some patients had concomitant acquired risk factors: one with combined oral contraceptives, one with leukaemia, and two with recent surgery. One patient has discovered thrombophilia after an ethiology study of TVP. In addition to the risk factors mentioned in this study, 9 patients had central venous catheters at the site of the DVT. Election treatment was enoxaparin in all patients. TVP is a relatively rare event in childhood but, when present, causes significant morbidity and mortality. The literature documented the highest incidence of DVT in adolescents with lower limb impairment. Still, it is different in this report, and we found a conjunction of several risk factors that are likely to potentiate each other, leading to VTE.

Learning Points Discussion: It is important to remember this situation, which is not as common as in adulthood. The potential consequences of VTE in children can be significant, necessitating timely diagnosis and appropriate management. For that, healthcare professionals must exercise a high degree of suspicion when assessing symptoms. Understanding VTE is essential for healthcare practitioners to provide timely and effective care, minimizing potential long-term complications and optimizing the child's overall well-being. Ongoing research and clinical advancements continue to refine our understanding of pediatric VTE, enhancing both diagnosis and treatment strategies.

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Oral Presentation (Virtual)
Topics: ORAL HEALTH
Keywords: Odontogenic infection, tumour, ameloblastoma

Odontogenic infection in pediatric age - when evolution does not meet expectations

Araújo, Sara Alves[1]; Oliveira, Rodrigo[2]; Moreira, Mariana[2]; Silva, Joana[1]
[1]Centro Hospitalar de Entre o Douro e Vouga, Portugal; [2]Centro Hospitalar e Universitário de São João, Portugal

Background: Odontogenic infections are relatively frequent and cross-sectional across all age groups, being a source of comorbidities and a significant health burden. Although most pediatric

cases originate from tooth decay, their starting point may differ, creating doubts about the diagnosis.

Case Presentation Summary: A 15-year-old female without relevant pathological history was observed in a Stomatology consultation due to an impacted tooth, with the identification of an odontogenic cyst on the left jaw that underwent surgical drainage with partial resolution. She was admitted to the Pediatric Emergency Department (PED) five months after the procedure due to swelling of the left hemiface that began and progressively worsened on the same day, accompanied by trismus and drainage of purulent content into the oral cavity: no fever or other associated symptoms. On objective examination, she presented exuberant oedema associated with redness of the left hemiface, extending to the ipsilateral periorbital region, associated with oedema of the buccal mucosa with drainage of purulent content—no limitation of eye opening or eye movements. The remaining exam was unremarkable. The initial blood analysis showed leukocytosis with neutrophilia and elevated C-reactive protein. A maxillofacial CT scan revealed a voluminous odontogenic cyst filling the entire maxillary sinus and in contact with the pavement of the ipsilateral orbit, associated with a soft tissue component suggestive of extensive cellulite. Therefore, she was hospitalized under intravenous antibiotic therapy with amoxicillin/clavulanic acid, with subsequent transfer to the care of Stomatology. Given the clinical course, the suspicion of an odontogenic tumour was raised. Therefore, she underwent total surgical excision of the expansive lesion of the jaw and reconstruction of the orbital pavement without complications. The anatomopathological study of the lesion identified an odontogenic tumour of the ameloblastic type, currently maintaining clinical and imaging surveillance.

Learning Points Discussion: Ameloblastoma is the general population's second most common odontogenic tumour. However, the present case stands out given the reduced incidence of these tumours in pediatric age. Despite being benign, it is locally invasive and can lead to multiple local complications and significant deformity. Complete surgical excision is the only curative treatment for large lesions such as this one. Given the high rate of recurrences, clinical and imaging follow-up is mandatory for early detection and guidance.

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Oral Presentation (Virtual)
Topics: RARE DISEASES, GASTROENTEROLOGY
Keywords: autoimmune gastritis, anema, iron deficiency

Pediatric Autoimmune Gastritis: An underdiagnosed cause of iron deficiency anemia

Aires Martins, Inês[1]; Carvalho Queirós, Joana[1]; Lopes, Vilma[2]; Correia, Joana[1]; Lima, Rosa[3]
[1]Department of Pediatrics, Centro Materno-Infantil do Norte Albino Aroso, Centro Hospitalar Universitário de Santo António, Porto, Portugal; [2]Department of Pediatrics, Centro Hospitalar de Vila Nova de Gaia/Espinho, Porto, Portugal; [3]Gastroenterology Unit, Department of Pediatrics, Centro Materno-Infantil do Norte Albino Aroso, Centro Hospitalar Universitário de Santo António, Porto, Portugal

Background: Anemia represents a serious global public health concern. Although its etiology is multifaceted, nutritional deficiencies constitute a common cause of childhood anemia. Iron deficiency is the most frequent cause, accounting for approximately 50% of the cases. The etiology of iron deficiency anemia (IDA) can be attributed to several factors, such as inadequate dietary intake, gastrointestinal hemorrhage, impaired absorption and metabolic anomalies. Recently, a growing number of case reports have identified autoimmune gastritis (AIG) as a potential underlying cause of IDA.

Case presentation summary: A 12-year-old girl, previously healthy, was referred to the Pediatrics outpatient clinic due to iron deficiency anemia nonresponsive to oral iron supplementation. There was no personal or family history of hematologic, rheumatologic or autoimmune disorders. She denied excessive menstrual flow or other objective blood losses. There was no weight loss, and dietary habits had no risk factors for iron deficiency. Vital signs and physical examination were normal. Initial blood analysis unveiled microcytic anemia (hemoglobin (Hb) 10.9 g/dL, mean corpuscular volume (MCV) 76 fL, red cell distribution (RDW) 15%) accompanied by low ferritin levels (2 ng/mL), and no laboratory evidence of hemolysis. The peripheral blood smear was normal. A comprehensive complementary study, including fecal occult blood test, transglutaminase antibodies, S. cerevisiae antibodies, and antineutrophil cytoplasmic antibodies, yielded no alterations. Thyroid peroxidase antibodies were positive although thyroid function tests and thyroid ultrasound were normal. Antiparietal cell antibodies were positive (96 U/mL), and gastrin levels were elevated (997 pg/mL), while intrinsic factor antibodies were negative. This constellation of findings raised suspicion for autoimmune gastritis. An endoscopy was performed, revealing non-erosive pangastritis, fundus and antrum atrophy, and histological evidence of Helicobacter pylori infection. Subsequently, the patient started H. pylori eradication therapy and glycine ferrous sulfate supplementation for three months. At two years of follow-ups, she has no anemia (Hb 15 g/dL) and no iron deficiency (ferritin 59 ng/mL), with endoscopy showing superficial gastropathy and negative H. pylori status.

Learning Points Discussion: AIG is characterized by a chronic inflammation of the stomach fundus and corpus due to an autoimmune destruction of gastric parietal cells, leading to reduced acid output, hypochlorhydria and consequent decreased iron absorption. In the pediatric age, IDA is a common form of presentation that should raise suspicion of AIG. The role of H. pylori infection in activating or favoring the autoimmune process is still uncertain. Although AIG is mostly thought as a disease of the elderly with vitamin B12 deficiency and pernicious anemia, today it is recognized that it has a similar prevalence among all age groups. Furthermore, diagnosis of AIG is often delayed because of the absence of typical symptoms, and, therefore, clinicians should be increasingly aware of this entity.

Will be presented as Oral Presentation Virtually
ID: 200/09-OP-V-d2C: 9
Oral Presentation (Virtual)
Topics: ADOLESCENT MEDICINE
Keywords: internet gaming disorder, adolescence, gaming

Should we be worried about gaming? - a cross-sectional study on Internet Gaming Disorder among Portuguese adolescents

Aires Martins, Inês[1]; Carvalho Queirós, Joana[1]; Barroso, Antunes de Azevedo[2]; Rodrigues, Hugo[2]
[1]Department of Pediatrics, Centro Materno-Infantil do Norte Albino Aroso, Centro Hospitalar Universitário de Santo António, Porto, Portugal; [2]USF Saúde em Família, ACeS Grande Porto III - Maia/Valongo, ARS Norte, Portugal

Background: Internet gaming is a common recreational activity among adolescents. However, this population is particularly vulnerable to developing maladaptive patterns of excessive or problematic gaming. Internet gaming disorder (IGD) is persistent and recurrent gaming behaviour resulting in remarkable distress and impairment in essential life activities. Its estimated global prevalence is higher than other behavioral addictions, ranging between 0.7-15.6%. While common components have been identified, presentations of IGD vary across sociocultural settings. This study aimed to characterize a population of adolescents in the primary care setting in Portugal.

Methods: A cross-sectional study was conducted in a primary care unit in Portugal between January and July 2023. The Internet Gaming Disorder Scale 9 - Short Form (IGDS9-SF)

questionnaire was administered to adolescents aged 10-17. The IGDS9-SF is a unidimensional psychometric test comprising nine items that reflect the nine diagnostic criteria of IGD according to DSM-IV, and it is validated in Portuguese. The assumed cutoff point was 32.

Results: 41 adolescents were included, with a predominance of males (n=22, 55%) and a median age of 13.5 years old (min 10, max 17). The median score on the IGDS9-SF was 14.5 (min 9, max 36). No association was found between the IGDS9-SF score and age (p=0.711) or gender (p=0.271). Answers between genders were significantly different in the first (p=0.011), fourth (p=0.008), fifth (p=0.031), seventh (p=0.035), and in the eight questions (p=0.012), with males scoring higher than females. IGD was identified in one individual, a 13-year-old male with a total score of 36 on the IGDS9-SF. Questions number two (p<0.001), three (p<0.001), four (p=0.028), five (p=0.005), six (p<0.001) and seven (p<0.001) were significantly associated with the IGD outcome.

Conclusion: In this population, IGD had a prevalence of 2%. While moderate gaming has been associated with positive outcomes, a small subgroup of gamers report problematic and excessive play, and physicians should be aware of this condition. Unlike what has been reported in the literature, this study did not show an association between IGDS9-SF score and gender, which could be due to the small sample size because it did show that males tend to score higher than females in most questions.

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Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: asthma, children, dupilumab, every two weeks, efficacy

Efficacy of Dupilumab 200 mg Every 2 Weeks in Children with Moderate-to-Severe Asthma: A Post Hoc Analysis of VOYAGE and EXCURSION

Phipatanakul, Wanda[1,2]; Jackson, Daniel J.[3]; Vogelberg, Christian[4]; Bacharier, Leonard B.[5]; Dell, Sharon D.[6,7]; Altincatal, Arman[8]; Gall, Rebecca[9]; Ledanois, Olivier[10]; Sacks, Harry[9]; Jacob-Nara, Juby A.[11]; Deniz, Yamo[9]; Rowe, Paul J.[11]
[1]Boston Children's Hospital, Boston, MA, USA; [2]Harvard Medical School, Boston, MA, USA; [3]University of Wisconsin School of Medicine and Public Health, Madison, WI, USA; [4]University Hospital Carl Gustav Carus, Technical University Dresden, Dresden, Germany; [5]Monroe Carell Jr. Children's Hospital at Vanderbilt University Medical Center, Nashville, TN, USA; [6]BC Children's Hospital, Vancouver, BC, Canada; [7]University of British Columbia, Vancouver, BC, Canada; [8]Sanofi, Cambridge, MA, USA; [9]Regeneron Pharmaceuticals Inc., Tarrytown, NY, USA; [10]Sanofi, Paris, France; [11]Sanofi, Bridgewater, NJ, USA

Background: In phase 3 VOYAGE (NCT02948959), 6–11-year-old children with uncontrolled, moderate-to-severe asthma received dupilumab (DPL) 100mg q2w (body weight ≤30kg at baseline [BL]) or 200mg q2w (>30kg at BL) for 52 weeks (wks). In the 52-week open-label extension study of VOYAGE, EXCURSION (NCT03560466), children received dupilumab 100/200mg q2w or 300mg q4w. Across both studies, dupilumab reduced the annualized severe exacerbation rate (AER) and rapidly improved pre-bronchodilator percent-predicted forced expiratory volume in 1 second (pre-BDppFEV1) and was generally well tolerated. Pharmacokinetic and pharmacodynamic data from VOYAGE showed comparable dose exposure between dupilumab 100 and 200mg q2w regimens. This analysis assessed the efficacy of dupilumab 200mg q2w in children with moderate-to-severe asthma.

Method: This post hoc analysis of VOYAGE and EXCURSION includes children aged 6–11 years, with uncontrolled, moderate-to-severe asthma, who received dupilumab 200mg or placebo (PBO) q2w

for up to 52 wks in VOYAGE and dupilumab 200mg q2w for 52 wks in EXCURSION. Endpoints: unadjusted AER; change from VOYAGE BL in pre-BDppFEV1 at Wks 2 and 52.

Results: Of 408 children, 158 received dupilumab 200mg q2w in both VOYAGE and EXCURSION (DPL/DPL), 105 children received PBO in VOYAGE (52 wks) and dupilumab 200mg q2w in EXCURSION (52 wks) (PBO/DPL). In VOYAGE, (52 wks) unadjusted AER was significantly lower in dupilumab vs. PBO groups (0.392 vs 0.608). In EXCURSION, further reductions in unadjusted AER were observed after 52 weeks [0.129 DPL/DPL, 0.136 PBO/DPL]. Dupilumab improved change from BL pre-BDppFEV1 as early as Wk2 of VOYAGE by mean (SD) of 8.9 (15.3) percentage points and 13.2 (18.4) points by Wk52; in the PBO arm, marginal improvements were observed at Wk2 (3.6 [11.6] percentage points) and Wk52 (2.6 [13.6] points). In EXCURSION, dupilumab sustained improvements in pre-BDppFEV1 in the DPL/DPL arm (change from VOYAGE BL at Wk2: 11.3 [18.3]; Wk52: 12.2 [17.8] percentage points) and rapidly improved pre-BDppFEV1 in the PBO/DPL arm (EXCURSION Wk2: 6.7 [13.8] percentage points over VOYAGE BL), sustained to Wk52 (7.6 [16.1] points).

Conclusion: Dupilumab 200mg q2w showed comparable clinical efficacy to outcomes previously observed for the overall analysis of dupilumab 100/200mg q2w in children with uncontrolled, moderate-to-severe asthma.

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Oral Presentation (Virtual)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: allergic rhinitis; dysbiosis; microbiome

Understanding the relationship between nasal mucosa microbiome and allergic rhinitis in pediatric age

Costa Azevedo, Andre[1]; Hilário, Sandra[2]; Gonçalves, Micael[3]
[1]Pediatrics Department, Unidade Local de Saúde do Alto Minho, Viana do Castelo, Portugal, Portugal; [2]CESAM - Centro de Estudos do Ambiente e do Mar, Aveiro, Portugal; [3]Faculdade de Medicina da Universidade do Porto - FMUP, Porto, Portugal

Background and Objective: Human nasal mucosa harbors a distinct community of microorganisms that modulate the host immune response. Therefore, an imbalance in the microbial communities might enhance chronic respiratory diseases such as Allergic Rhinitis (AR). However, there is limited research regarding the relationship between microbiome dysbiosis and the development of AR in pediatric age. Thus, this study focused on summarizing the current evidence for associations between AR and the nasal mucosa microbiome in children and adolescents.

Methods: A systematic review was performed using PRISMA guidelines. An electronic search was performed using 4 databases. Two reviewers first screened the titles and abstracts of the studies, and the eligible full texts were then independently assessed. Any divergences were discussed with a third reviewer. Inclusion criteria included original English articles related to alterations in nasal mucosa microbiome in pediatric age and studies including next-generation sequencing platforms.

Learning Points Discussion: Of the 144 articles retrieved after removing duplicates, 5 articles met the inclusion criteria. Species richness and bacteria taxonomic diversity were lower in infants with AR than healthy control (HC) subjects. Distinct bacterial community composition was observed between HC and AR subjects regardless of their age. Despite the scarcity of published data in this research field, the bacterial composition of nares and nasopharynx consists of several genera, including Acinetobacter, Corynebacterium, Dolosigranulum, Haemophilus, Moraxella, Staphylococcus and Streptococcus. In the hypopharyngeal region of AR children, Streptococcus

and Moraxella were the dominant genera. Regarding the nasal cavity, the genera Pseudomonas and Acinetobacter were more abundant in AR subjects. Moreover, in AR children exposed to passive smoke, Staphylococcus spp. was abundant in both anterior nares and hypopharynx. This systematic review is the first to report alterations in the nasal mucosa microbiome of children and adolescents with AR. The bacterial community of the nasal mucosa decreased in AR patients compared to HC. These findings are of paramount importance to understanding how microbiome influences the development of allergic diseases. Moreover, it offers insights for developing promising biomarkers for early diagnosis and to help the scientific and clinical community search for new therapeutic and prognostic options for AR.

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ID: 269/09-OP-V-d2C: 12
Oral Presentation (Virtual)
Topics: ENDOCRINOLOGY
Keywords: adolescence, type 1 diabetes mellitus, insulin therapy, physical activity, bioelectrical impedance analysis

Anthropometric, biochemical and tensional profiles in adolescents with type 1 diabetes

Vieira, Beatriz[1]; Costa Azevedo, Andre[2]; Boas, Nuno Vilas[3]; Mendes, Catarina[4]; Freitas, Joana[4]; Oliveira, Maria João[4]; Borges, Teresa[4]
[1]Pediatrics Department, Centro Hospitalar da Póvoa de Varzim/Vila do Conde, Póvoa de Varzim, Portugal; [2]Pediatrics Department, Unidade Local de Saúde do Alto Minho, Viana do Castelo, Portugal; [3]Pediatrics Department, Centro Hospitalar do Oeste, Caldas da Rainha, Portugal; [4]Pediatric Endocrinology Unit, Centro Materno-Infantil do Norte Albino-Aroso do Centro Hospitalar Universitário de Santo António, Porto, Portugal

Background: Type 1 Diabetes Mellitus (T1DM) is a chronic disease considered the most common endocrine-metabolic disease in childhood/adolescence. In most cases, T1DM develops during childhood, leading to prolonged exposure to the deleterious effects of insulin deficiency and hyperglycaemia, causing micro/macrovascular complications and can affect linear growth and pubertal development. Recent studies have shown that diabetic children have a higher prevalence of dyslipidaemia, high blood pressure and obesity.

Objectives: To evaluate the anthropometric, body composition, lipid and blood pressure profiles of adolescents with T1DM and to determine the influence of intensive insulin therapy type on their health status.

Methods: This cross-sectional study, conducted in a grade III hospital between July and September 2023, enrolled adolescents with T1DM meeting inclusion criteria of ages 12 to 18 years and a minimum 2-year T1DM duration. Exclusions comprised children with other health conditions impacting body composition. Demographic, clinical and laboratory data were analysed. Body composition analysis was carried out by bioelectrical impedance.

Results: We obtained a sample of 42 adolescents (59.5% male; mean age: 14.88 ± 1.64 years; average disease duration: 6.62 ± 3.61 years; 85.7% with Continuous Subcutaneous Insulin Infusions (CSII) vs 14.3% with Multiple Daily Injections (MDI)). Thirty-two participants used a continuous glucose monitoring system, but only 26 had an adequate sensor usage time (≥70%). The MDI group showed a higher mean HbA1c (8%) than the CSII group (7.4%) (p=0.065). A positive correlation was observed, but not statistically significant, between HbA1c levels and fat mass percentage, IMC z-score, waist circumference (WC) percentile, systolic blood pressure percentile and triglyceride levels. 21.4% of the patients were poorly controlled (HbA1c ≥ 8%), with tendencies for higher fat mass percentage, IMC z-score and WC percentile. No significant relationships were found between the glycaemic control group and diabetes duration, daily insulin dose, age and

hours of physical activity. The four adolescents with dyslipidemia and 7 of the 8 with cardiovascular risk (waist-to-height ratio> 0.5) had an HbA1c>7%. The median number of hours of physical exercise per week was statistically different between boys and girls (6.25 vs. 3). No differences were observed between the MDI and CSII groups. More hours of exercise were related to a better lipid profile. Surprisingly, obese individuals (n=6) exercised more than the others (p<0,05).

Conclusions: This study highlights the complexity of T1DM in adolescence, emphasizing the importance of comprehensive care beyond glycemic control. Managing associated health issues, like dyslipidemia, hypertension, and obesity, is crucial for improving long-term outcomes.

Will be presented as Oral Presentation Virtually
ID: 224/09-OP-V-d2C: 13
Oral Presentation (Virtual)
Topics: DERMATOLOGY
Keywords: Atopic Dermatitis, DFI, Family

Dupilumab improves family quality of life in infants and children with atopic dermatitis

Paller, Amy S[1,2]; Eichenfield, Lawrence F[3,4]; Simpson, Eric L[5]; Lynde, Charles W[6,7]; Chen, Zhen[8]; Chuang, Chien-Chia[9]; Prescilla, Randy[9]; Wang, Zhixiao[8]
[1]Departments of Dermatology and Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, IL, USA; [2]Ann and Robert H. Lurie Children's Hospital, Chicago, IL, USA; [3]University of California, San Diego, CA, USA; [4]Rady Children's Hospital, San Diego, CA, USA; [5]Oregon Health and Science University, Portland, OR, USA; [6]Department of Medicine, Division of Dermatology, University of Toronto, Toronto, ON, Canada; [7]The Lynde Institute for Dermatology & Lynderm Research Inc, Markham, ON, Canada; [8]Regeneron Pharmaceuticals Inc., Tarrytown, NY, USA; [9]Sanofi, Cambridge, MA, USA

Background: Atopic Dermatitis (AD) has a significant adverse impact on the quality of life (QoL) of pediatric patients and their caregiver(s) and family. Data quantifying the extent of this impact on the patient's family and the effect of treatments in alleviating family impact is limited. This abstract reports the impact of AD on the QoL of the pediatric patient's caregiver(s) and family and the effect of treatment with dupilumab evaluated by the Dermatitis Family Impact (DFI).

Methods: Patients aged six months to 11 years with AD were enrolled in either of two randomised, double-blind, placebo-controlled, 16-week, phase 3 studies. In LIBERTY AD PEDS (NCT03345914), 367 patients aged 6 to 11 years received dupilumab 100/200 mg every two weeks (q2w; 100 mg: weight <30kg, 200 mg: ≥30kg), 300 mg every four weeks (q4w) or placebo. In LIBERTY AD PRESCHOOL (NCT03346434 part B), 162 patients aged six months to 5 years received dupilumab 200/300 mg q4w (200 mg: weight 5 - < 15 kg; 300 mg: 15 - < 30 kg) or placebo. Patients received concomitant topical corticosteroids (TCS) in both studies. Mean changes in Dermatitis Family Impact (DFI; range 0-30; higher scores indicate more significant impact) were assessed from baseline to Week 16.

Results: At baseline, mean total DFI scores were in the range of 13.5-17.7 across both studies, corresponding to moderate alteration in family QoL. At Week 16, DFI scores were significantly improved in patients receiving dupilumab+TCS vs. patients receiving placebo+TCS in both studies. In children aged 6 to 11 years, there was an improvement of 73.4% (patients <30kg) and 75.4% (patients ≥30 kilograms) of DFI in patients receiving dupilumab vs. 38.7% and 40.6% in patients receiving TCS and placebo. In patients aged six months to 5 years, LS mean change (SE) in DFI scores were -10.5 (0.8)/ -2.7 (0.8) in the dupilumab/placebo groups respectively (P <0.0001). Most families of patients treated with dupilumab achieved a DFI score corresponding to no or low impact on QoL. Ocular surface disease was reported by 9.9% of children aged 6 to 11 years and

7.2% aged 6 months to 5 years. The safety profile was consistent with the known dupilumab safety profile in adults and adolescents.

Conclusion: Dupilumab treatment in children aged six months to 11 years with AD significantly improved the quality of life of the patient's caregiver(s) and family.

Will be presented as Oral Presentation Virtually
ID: 223/09-OP-V-d2C: 14
Oral Presentation (Virtual)
Topics: DERMATOLOGY
Keywords: Atopic dermatitis, pediatric, dupilumab

Dupilumab treatment improves clinical signs, symptoms, and quality of life in children aged 6 months to 11 years with severe atopic dermatitis

Halioua, Bruno[1,2]; Mahé, Emmanuel[3]; Cork, Michael J.[4,5]; Aschoff, Roland[6]; Schnopp, Christina[7]; Chen, Zhen[8]; Wang, Zhixiao[8]; Prescilla, Randy[9]
[1]Dermatology Private Practice, Paris, France; [2]French Society of Human Skin Sciences, Maison de la Dermatologie, Paris, France; [3]Hôpital Victor Dupouy, Argenteuil, France; [4]Sheffield Dermatology Research, University of Sheffield, Sheffield, UK; [5]Sheffield Children's Hospital, Sheffield, UK; [6]University Hospital, Carl Gustav Carus, Technical University Dresden, Dresden, Germany; [7]University Medical Center, Technical University of Munich, Munich, Germany; [8]Regeneron Pharmaceuticals Inc., Tarrytown, NY, USA; [9]Sanofi, Cambridge, MA, USA

Background: Severe atopic dermatitis (AD) is a multidimensional burden on the life of pediatric patients, characterised by intense itch and a significant impairment of quality of life (QoL). This analysis reports the impact of dupilumab treatment on signs, symptoms, and QoL of patients aged six months to 11 years with severe AD.

Methods: In LIBERTY AD PRESCHOOL (NCT03346434, part B) and LIBERTY AD PEDS (NCT03345914), children aged six months to 11 years with severe AD were randomised to either dupilumab (6 months to 5 years: 200 mg every four weeks [q4w] if baseline weight was 5 to <15 kg or 300 mg if 15 to <30 kg; 6–11 years: 300 mg q4w) or placebo for 16 weeks. All patients received concomitant topical corticosteroids (TCS). Only the patients with severe AD in the six months to 5-year group were included in the analysis. For patients aged 6– 11 years, only data for the EMA-approved dupilumab dosing regimen (300 mg q4w) + TCS, regardless of baseline body weight, are reported. Eczema Area and Severity Index (EASI), ≥3-point improvement in worst itch numerical rating scale score, and mean change in Children's Dermatology Life Quality Index (CDLQI; patients ≥4 years) and Infants' Dermatitis Quality of Life Index (IDQoL; patients <4 years) were assessed.

Results: 185 patients were randomised to placebo + TCS (6 months to 5 years: n=62; 6–11 years: n=123) and 185 to dupilumab + TCS (6 months to 5 years: n=63; 6–11 years: n=122). After 16 weeks, significantly more patients treated with dupilumab achieved a 75% improvement in EASI (EASI-75) than those treated with placebo (6 months to 5 years: 46% vs 7%; 6–11 years 70% vs 27%; P<0.0001 vs placebo for all groups). More dupilumab-treated patients achieved an improvement in their weekly average of daily worst itch score ≥3 points than placebo-treated patients, both in 6 months to 5 years patients (45% vs 10%) and in 6–11 years patients (60% vs 21%; P<0.0001 vs placebo). At Week 16, mean changes from baseline [SD] in CDLQI (6 months to 5 years: −9.1 [7.3] vs −2.7 [7.2]; 6–11 years: −11.1 [7.7] vs −4.6 [6.5]) and IDQOL (−9.4 [8.4] vs −0.3 [5.1]) were significantly greater in the dupilumab group (P<0.0001 vs placebo for all groups).

Conclusion: Dupilumab treatment improves clinical signs, symptoms, and QoL in patients aged six months to 11 years with severe AD.

Will be presented as Oral Presentation Virtually
ID: 222/09-OP-V-d2C: 15
Oral Presentation (Virtual)
Topics: DERMATOLOGY
Keywords: Atopic Dermatitis, Immunology, dupilumab, Phase 4

Effect of systemic treatments on patient-reported outcomes in patients aged less than 12 years with inadequately controlled moderate-to-severe atopic dermatitis in a real-world setting

Ramien, Michele[1,2]; Lynde, Charles W[3,4]; Wine-Lee, Lara[5]; Rubin, Cory[6]; Love, Porcia[7]; Bodemer, Christine[8]; Mallet, Stephanie[9]; Gupta, Rajan[10]; Prescilla, Randy[10]; Ardeleanu, Marius[11]; Zhang, Annie[10]
[1]Alberta Children's Hospital, Calgary, AB, Canada; [2]University of Calgary, Calgary, AB, Canada; [3]Division of Dermatology, Hospital for Sick Children, University of Toronto, Toronto, ON, Canada; [4]The Lynde Institute for Dermatology & Lynderm Research Inc, Markham, ON, Canada; [5]NorthShore University Health System, Skokie, IL, USA; [6]Michigan Dermatology Institute, Waterford, MI, USA; [7]School of Medicine, University of Alabama, AL, USA;; [8]Hôpital Necker - Enfants Malades, Paris, France; [9]Aix-Marseille Université, Assistance Publique des Hôpitaux de Marseille, CHU Timone, Marseille, France; [10]Sanofi, Cambridge, MA, USA; [11]Regeneron Pharmaceuticals Inc., Tarrytown, NY, USA

Background: Dupilumab has proven effective in improving patient-reported outcomes for atopic dermatitis (AD) in pediatric patients in clinical trials. However, few real-world daily practice studies are available to show the treatment effect on patient-reported disease symptoms and quality of life in children with moderate-to-severe AD.

Methods: PEDISTAD (NCT03687359) is an ongoing, international, observational study enrolling patients <12 years with moderate-to-severe AD, inadequately controlled by topical therapies and are candidates to receive systemic medications. This interim, descriptive analysis assessed the impact of dupilumab, methotrexate, and cyclosporine on patient-reported symptoms using Patient-Oriented Eczema Measure (POEM) and Quality of Life (QoL) using Dermatitis Family Impact questionnaire (DFI), Children's Dermatology Life Quality Index (CDLQI) and Infant's Dermatitis Quality of Life Index (IDQOL) from therapy start to ≤3 Years' follow-up. Treatment-emergent adverse events (AEs) were assessed.

Results: 211 patients received dupilumab (mean treatment observation period: 16.9 months), 130 received methotrexate (19.2 months), and 142 received cyclosporine (14.6 months). Mean POEM total scores significantly improved with dupilumab from treatment start to last observation (17.9, 9.1; $P < 0.0001$), methotrexate (17.7, 12.4; $P < 0.0001$) and cyclosporine (17.4, 14.5; $P < 0.01$). Mean DFI scores also significantly improved for dupilumab (12.6, 7.7; $P < 0.0001$) and methotrexate (12.4, 8.0; $P < 0.0001$), but not cyclosporine (12.5, 10.8, $P = 0.1799$). CDLQI scores significantly improved for dupilumab (12.9, 7.2; $P < 0.0001$) and methotrexate (11.9, 7.8; $P < 0.0001$), but not cyclosporine (11.6, 10.3; $P = 0.4511$). There was a numerical improvement in IDQOL scores for dupilumab (15.0, 8.4) and methotrexate (13.7, 7.5), but not for cyclosporine (10.2, 12.0). AE incidence rates were 24.2%, 30.3%, and 33.3% for dupilumab, methotrexate, and cyclosporine, respectively.

Conclusions: In this 3-year interim analysis, systemic therapy improved patient-reported outcomes and QoL, with the largest improvement observed with dupilumab, in children aged <12 years with inadequately controlled moderate-to-severe AD. The lowest AE incidence rate was reported with dupilumab. Safety was consistent with the known dupilumab safety profile.

cogent public health

Session

10-OP-V-d2A

Time:
Friday, 01/Dec/2023:
9:00am - 11:00am

Presentations

Will be presented as Oral Presentation Virtually
ID: 268/10-OP-V-d2A: 1
Oral Presentation (Virtual)
Topics: ENDOCRINOLOGY
Keywords: Autoimmune Thyroiditis; Pediatric Endocrinology

Autoimmune Thyroiditis in pediatric age: a 10-year retrospective study from a Portuguese tertiary-level hospital

Gomes Pereira, Patrícia[1]; Resende, Maria Miguel[1]; Mendes, Catarina[2]; Freitas, Joana[2]; Oliveira, Maria João[2]; Borges, Teresa[2]
[1]Department of Pediatrics, Centro Hospitalar do Baixo Vouga, Aveiro, Portugal; [2]Department of Pediatrics Endocrinology, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto, Portugal

Background: Autoimmune Thyroiditis is the most common cause of acquired hypothyroidism in pediatric age. Its prevalence is estimated at around 1-2%, with an increased risk in children with other autoimmune diseases or syndromes such as Turner Syndrome (TS) or Down Syndrome (DS).

Methods: This is a retrospective study that analyzed the clinical records of patients followed in the pediatric endocrinology department of a tertiary-level hospital between 31 December 2010 and 31 December 2020. The inclusion criteria used were age (equal to or younger than 18 years) and positive autoantibodies [anti-peroxidase (TPO) and/or anti-thyroglobulin (TG)]. The study examined demographic, clinical, analytical, and imaging variables.

Results: 318 children and adolescents were observed, with 17 excluded due to insufficient data. The final sample consisted of 301 patients, with an average age at diagnosis of 11.6 years, predominantly female (82.7%). Pubertal patients predominated at diagnosis (73.8%), with 78.8% of females and 46.1% of males. Regarding personal medical history, 7.3% had type 1 Diabetes Mellitus, 4% celiac disease, 2.3% alopecia areata, 1.7% vitiligo, 1% TS, and 2% DS. Family history of thyroid disease in first-degree and/or second-degree relatives was present in 43.2% of cases. The suspicion of this pathology arose from cervical abnormalities (35.2%), weight changes (17.6%), screening for autoimmune diseases (13.9%), routine examination (13.3%), and hypothyroidism symptoms (7%), among others. At diagnosis, the study cohort had positive anti-TG autoantibodies (76.5%) or anti-TPO autoantibodies (81.1%), with both present in 59.9% of cases. Regarding thyroid function, 45.9% were euthyroid, 23.9% had hypothyroidism, 18.9% had subclinical hypothyroidism 1 (TSH between 5-10 mUI/L), 10.6% had subclinical hypothyroidism 2 (TSH above 10 mUI/L), and 0.7% had transient hyperthyroidism. Thyroid ultrasound was performed in 97.3% of patients, showing a heterogeneous pattern (80.5%), hypoechoic pattern (34.6%), micronodular pattern (24.8%), hypervascularization (14.4%) or nodules (39.6%), seven of which underwent fine-needle aspiration biopsy, with one of them being diagnosed with follicular carcinoma. Patients with hypothyroidism or subclinical hypothyroidism 2 promptly initiated treatment with levothyroxine. As for subclinical hypothyroidism 1, 35.7% initiated treatment immediately, 32.2% never started treatment, and the remainder began treatment following analytical deterioration. Among euthyroid patients, 79% never initiated treatment during the follow-up.

Conclusion: Given the significant impact of thyroid function disorders on the growth and development of children, this study allowed us to understand our population with autoimmune thyroiditis better, enabling timely recognition and appropriate treatment and follow-up.

Will be presented as Oral Presentation Virtually
ID: 266/10-OP-V-d2A: 2
Oral Presentation (Virtual)
Topics: ENDOCRINOLOGY, HAEMATOLOGY/ONCOLOGY
Keywords: Addison's disease; Hematological manifestations; Pediatrics Endocrinology, Pediatrics Hematology

Hematological manifestations in Addison's disease

Gomes Pereira, Patrícia[1]; Lachado, Ana[2]; Costa, Emília[2]; Borges, Teresa[3]; Couto Guerra, Isabel[2]
[1]Department of Pediatrics, Centro Hospitalar do Baixo Vouga, Aveiro, Portugal; [2]Department of Pediatrics Hematology, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto, Portugal; [3]Department of Pediatrics Endocrinology, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto, Portugal

Background: Addison's disease is a primary adrenal disorder characterized by reduced production of cortisol and aldosterone and elevated levels of ACTH. Although rare, hematological manifestations are linked to this condition due to glucocorticoid deficiency.

Clinical case: A previously healthy 14-year-old female adolescent was transferred to a tertiary-level hospital following two days of hospitalization with intravenous fluid therapy. She presented with a one-month history of nausea and occasional vomiting, which became persistent in the week leading up to admission. Additionally, she presented epigastric pain, anorexia and a 12% weight loss. On physical examination, moderate to severe signs of dehydration were evident. On blood analysis, she exhibited non-regenerative normocytic normochromic anemia (Hb 9.4 g/dL), hyponatremia, and hypochloremia. Hydroelectrolyte corrections were performed, leading to improvement in her underlying symptoms. During her hospital stay, thoracic imaging (X-ray and tomography) was performed due to dyspnea episodes, revealing a small to medium-sized right pleural effusion, three subpleural micronodules and multiple lymph nodes. The largest lymph node measured 12 mm in diameter with central hypodensity, suggestive of necrosis. Infectious and immune causes were ruled out, and elevated ACE levels were detected. Because of persistent non-regenerative anemia and the development of mild neutropenia, a bone marrow examination was conducted in conjunction with her previous clinical symptoms, indicating a mildly hypocellular bone marrow and excluding hematologic oncological diseases. A lymph node biopsy was also performed, which did not reveal significant anatomopathological alterations. She was discharged asymptomatic, with a resolution of neutropenia and improved anemia after 17 days of hospitalization with suspicion of Sarcoidosis. Due to a recurrence of symptoms, after minimal physical effort, she returned to the emergency department three days after discharge. On analysis, she presented with metabolic acidosis, hyponatremia, hypochloremia, hyperkalemia and hypoglycemia, and worsening of the anemia. Given the clinical and laboratory manifestations, the possibility of an adrenal crisis was considered. Confirmation was obtained through hormonal assays and the presence of anti-adrenal antibodies, leading to the diagnosis of Addison's disease.

Conclusion: Although nonspecific, hematological manifestations can be present in Addison's disease, including normocytic normochromic anemia, neutropenia, lymphocytosis, and eosinophilia. In this case, the most common hematological alterations associated with this condition were observed. This case highlights the importance of a holistic approach to patients to avoid unnecessary tests and to ensure timely and appropriate treatment, thereby preventing potentially life-threatening complications.

Will be presented as Oral Presentation Virtually
ID: 260/10-OP-V-d2A: 3
Oral Presentation (Virtual)
Topics: ENDOCRINOLOGY
Keywords: Congenital adrenal hyperplasia, 17 hydroxy progesterone, bone age, growth, wrist xray

Monitoring of congenital adrenal hyperplasia patients in district general hospital in south wales

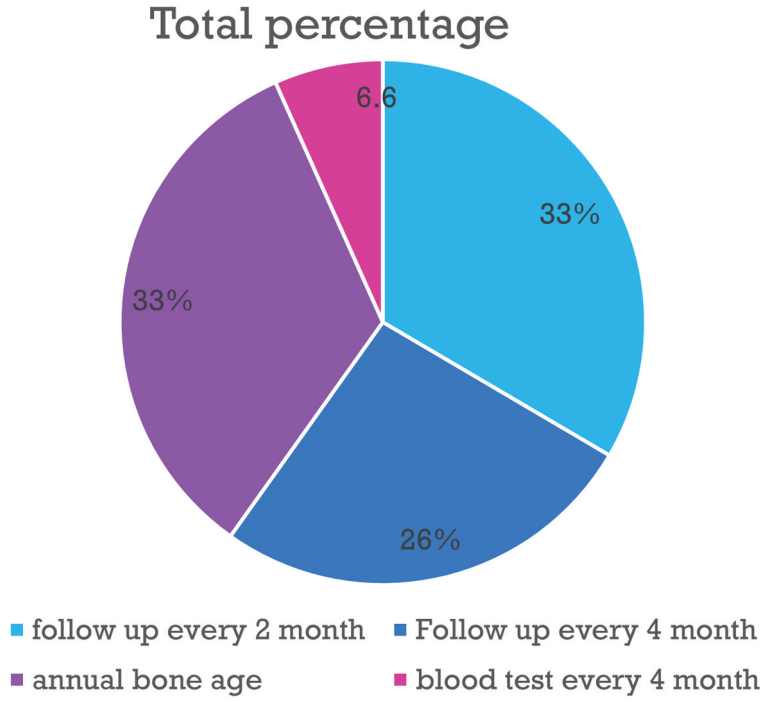
Idris, Azza Ibrahim Ali
Cardiff and vale university health board, United Kingdom

Background: Congenital adrenal hyperplasia is a group of autosomal recessive disorders characterized by impaired cortisol synthesis. The worldwide incidence in most studies ranges from □1:14,000 to 1:18,000. Birth is caused in □95% of cases by mutations in CYP21A2, the gene encoding adrenal steroid 21-hydroxylase.This enzyme converts 17OHP to 11-deoxycortisol and progesterone to deoxycorticosterone, which are precursors for cortisol and aldosterone. The blockage of cortisol synthesis leads to corticotropin stimulation of the adrenal cortex, accumulating cortisol precursors that are diverted to sex hormone biosynthesis. We aimed to assess our monitoring practice for Congenital Adrenal Hyperplasia patient's adherence to the standard measures.

Method: It is a retrospective observational study of all Congenital hyperplasia patients seen in the Grange University Hospital. We examined clinical records and investigations done during follow-up. We reviewed the frequency of follow-up in the first two years of life, the frequency of follow-up after two years of life, the frequency of blood tests and the frequency of bone age. Data was entered into an Excel sheet and analyzed

Result: 15 patients were included; 5 [33%] had follow-ups every two months in the first two years of life. 4 [26%]had follow-ups every four months after two years of age. 5 [33%] had annual bone age, and 1 [6.6%] had a blood test every four month. (figure 1)

Figure 1.



Conclusion: The audit showed that we do not match the standard in monitoring Congenital adrenal hyperplasia patients. Our recommendation is first to Raise more awareness of the importance of monitoring Congenital adrenal hyperplasia patients following the standard measures. Secondly, formulate an easy flow chart to guide the follow-up.

Will be presented as Oral Presentation Virtually
ID: 234/10-OP-V-d2A: 4
Oral Presentation (Virtual)
Topics: ENDOCRINOLOGY, NEONATOLOGY
Keywords: newborn, hyperthyroidism, thyrotoxicosis

Neonates Born to Mothers with Graves' Disease: 13 year experience of a Tertiary Centre

Monteiro, Sara[1]; Fraga, Carolina[1]; Mendes, Catarina[2]; Freitas, Joana[2]; Oliveira, Maria João[2]; Garrido, Susana[3]; Pereira, Teresa[3]; Vilaverde, Joana[3]; Proença, Elisa[4]; Borges, Teresa[2]; Dores, Jorge[3]
[1]Paediatric Department, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António; [2]Paediatric Endocrinology Unit, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António; [3]Endocrinology, Diabetes and Metabolism Department, Centro Hospitalar Universitário de Santo António; [4]Neonatal Intensive Care, Neonatology Department, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António

Background: Graves' disease (GD) is an autoimmune condition characterized by the presence of thyroid-stimulating hormone receptor antibodies (TRAb). Maternal GD is the most common cause of neonatal hyperthyroidism due to transplacental passage of TRAb. GD affects between 0.1-0.4% of pregnant women; neonatal GD occurs in less than 5% of these pregnancies. We aimed to characterize clinically and analytically the neonates born to mothers with GD in our centre.

Methods: A retrospective cohort study was conducted in a tertiary centre, including all newborns to mothers with GD from 2008 to 2021. Clinical and biochemical data were collected from mothers and newborns.

Results: Seventy-nine newborns from 52 women with GD were included. The median disease duration was six years. Before pregnancy, 22 women had undergone some form of definite treatment (10 radioactive iodine and 12 surgery). On average, 72,2% of mothers were euthyroid in all trimesters of pregnancy; 11,4% were hypothyroid and 12,7% were hyperthyroid in some trimesters. About 14% (n=11) received treatment with antithyroid drugs (ATD) and 40.5% (n=32) with levothyroxine. Considering all trimesters of pregnancy, TRAb were measured in 67 mothers, and 21 were positive (14 in the 2nd and/or 3rd trimesters; 6 mothers with TRAb >3x USL). Preterm deliveries occurred in 10 pregnancies, 5 from TRAb positive mothers (p=0.043). Analysing the newborns from TRAb-positive mothers, 4/21 (19%) presented low birth weight [two with intrauterine growth restriction (IUGR)], one very low birth weight (IUGR) and two macrosomia. TRAb cord blood screening was performed in three newborns and was negative. Eleven newborns had neonatal positive TRAb, and three of them developed subclinical hyperthyroidism (no hypothyroidism cases), corresponding to children of two mothers taking ATD and one under levothyroxine. Only the first two required treatment, using ATD for one to two months without recurrence. In the follow-up period (median of three years), they maintained adequate weight-for-height growth; one was diagnosed with autism spectrum disorder.

Conclusions: Neonatal GD is a rare, transient, potentially serious condition. Our incidence of neonatal hyperthyroidism (~3.8%) fits the described rate. Possible complications associated with thyroid dysfunction and/or GD were found in our case series, namely prematurity, IUGR, low birth weight and neonatal hyperthyroidism. Although it is recommended to evaluate TRAb in the umbilical cord in mothers with positive TRABs >20 weeks of pregnancy, only three patients of 14

had it measured. This highlights the importance of adequate pregnancy and postnatal surveillance and a multidisciplinary approach.

Will be presented as Oral Presentation Virtually
ID: 232/10-OP-V-d2A: 5
Oral Presentation (Virtual)
Topics: NUTRITION & DIETS
Keywords: partially hydrolyzed protein formula, growing-up formula, sensitivity, gastrointestinal comfort, skin

Consumption of a partially hydrolyzed protein formula and reduced parental concern of sensitivity conditions in healthy Chinese toddlers: a prospective comparative study

Liu, Lan[1]; Li, Haolin[2]; Yuan, Anan[2]; Wang, Ruichen[1]; Yang, Yantao[2]; Yu, Huanling[3]; Zhu, Haiyan[4]
[1]Beijing Dietetic Association, Beijing, China; [2]Nestlé (China) Ltd., Beijing, China; [3]Capital Medical University School of Public Health, Beijing, China; [4]Capital Medical University affiliated Fuxing Hospital, Beijing, China

Background: In China, "minor sensitivity" describes a series of parent-perceived symptoms related to gastrointestinal (GI) patterns, skin and sleep conditions. Partially hydrolyzed proteins in infant formulas have shown benefits in reducing the risk of developing atopic dermatitis and improving digestive comfort, but data are lacking in children aged 12 months onwards. This is the first study to investigate sensitivity-related outcomes of feeding a partially hydrolyzed protein formula (pHF) in this population (Registration: ChiCTR2200060846).

Methods: This was a prospective, open-label, real-world comparative feeding study conducted in Beijing, China. Healthy toddlers (n=256) aged 48-72 weeks were enrolled regardless of previous feeding regimen, and parents could self-select to receive either a pHF or an intact protein formula (CMF) to feed for 4 months together with complementary food. Sensitivity conditions were evaluated every 4 weeks using questionnaires and scored based on symptom frequency and severity. Scores could range from 0 to 42, and lower scores indicated lower parental concern of sensitivity.

Results: The two groups were comparable at baseline on age, sex, birth weight, family history of allergy, and timing of introduction of complementary feeding. Compared to CMF, the pHF group had more children with a previous history of physician-diagnosed food allergy (6% vs 20%, P<0.001) and parent-perceived food sensitization (16% vs 39%, P<0.0001), but in the study start, there was no significant difference in the overall sensitivity score between groups (P=0.48). Neither group reported adverse events associated with study formulas. After 2 months of formula feeding together with complementary food, scores on parent-perceived sensitivity condition, overall GI distress, abdominal pain and constipation were significantly lower in pHF vs CMF group, respectively (adjusted difference: -0.77 ± 0.37, P=0.04, -0.72 ± 0.30, P=0.02; -0.10 ± 0.05, P=0.03; -0.21 ± 0.10, P=0.045). Compared to the study start, GI scores decreased after 2 months of pHF feeding with complementary food, and the effect was maintained until the study's end (P<0.005). Skin condition scores decreased after 3 months of pHF feeding with complementary food compared to the study start (P<0.05). Parent-report frequency and duration of nocturnal wakefulness decreased after 3 months of pHF feeding with complementary food compared to the study start, and the effect was maintained until the study end (P<0.05).

Conclusions: In healthy toddlers, consumption of the pHF with complementary food was associated with reduced parental concern of sensitivity and GI distress after 2 months of feeding compared to CMF. Compared to the study start, feeding with the pHF improved digestive comfort and supported overall good skin condition and nighttime sleep pattern.

Will be presented as Oral Presentation Virtually
ID: 257/10-OP-V-d2A: 6
Oral Presentation (Virtual)
Topics: RARE DISEASES
Keywords: Leigh syndrome, subacute necrotizing encephalopathy

Expanding the clinical spectrum and disease burden of Leigh Syndrome Spectrum

Fraga, Carolina[1]; Correia, Claudia[1]; Paiva Coelho, Margarida[2]; Correia, Joana[2]; Bandeira, Anabela[2]; Martins, Esmeralda[2]
[1]Pediatrics Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António, Portugal; [2]Reference Centre of Inherited Metabolic Diseases, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto, Portugal

Introduction: Leigh Syndrome (LS) is the most frequent neurodegenerative mitochondrial disorder in the pediatric population (1:40.000). Leigh Syndrome Spectrum, a more recent concept, includes both Leigh syndrome with its diagnostic criteria (clinical, neuroradiological, biochemical and molecular) and the Leigh like-syndrome (incomplete criteria). LS has a wide clinical spectrum with a cumulative disease burden over time.

Methods: Retrospective review of pediatric patients diagnosed with LS (complete criteria) in a Tertiary Pediatric Center since 2000, evaluating clinical presentation and natural history.

Results: Seven patients were diagnosed with LS (four female), the median age at diagnosis was 3.5 years (5 months-9 years). The presentation included horizontal nystagmus (1), intermittent ataxic episodes triggered by infections (2), respiratory acidosis triggered by sedation to perform brain magnetic resonance imaging (MRI) (2) or by infection (1) and apneic episodes (1). Hypotonia and/or global developmental delay were previously described in all. There was no reported consanguinity. A positive family history of mitochondrial disorder was present in two. All MRIs had characteristic symmetrical multiple bilateral lesions (T2W hypersignal) predominantly in basal ganglia, suggesting Leigh Syndrome. All patients had molecular confirmation; three have the most frequently associated mutation (m.8993T>G). All patients received supplementation with thiamin, riboflavin and Q10 coenzyme. Neurological characterization included intellectual disability with a median 54 of global IQ (range 41-62), ataxia (5), dystonia (3), nystagmus (2), visual impairment (3), neurosensory deafness (2) and seizures (2). Regarding other affected systems, hypertrophic cardiomyopathy (2), Wolf-Parkison-White Syndrome (1), short stature (1) and subclinical hypothyroidism (1) were present. As for the natural history of LS, during the follow-up period of 8 years (median; range eight months-14 years), feeding difficulties led to the use of a nasogastric tube (2) or percutaneous gastrostomy (1); progressive motor limitations required support to walk or wheelchair (3); and non-invasive ventilation (1). The two patients who were diagnosed in the first year of life died shortly after, at the ages of 14 months (m.8993T>G mutation) and 20 months (NDUFS1 gene mutation).

Discussion: LS has a vast clinical and genetic heterogeneity, with characteristic cerebral lesions associated with cognitive and motor deterioration. Our sample, however, also highlights the systemic nature of LS, with cardiac and endocrine involvement beyond the neurological. Also, visual and hearing impairment should be systematically screened. Currently, there are no curative options for LS. Disease progression with feeding difficulties (subsequent aspiration risk) and multifactorial motor limitations will require specific support, apart from dietary management and cofactors administration.

Will be presented as Oral Presentation Virtually
ID: 254/10-OP-V-d2A: 7
Oral Presentation (Virtual)
Topics: HAEMATOLOGY/ONCOLOGY
Keywords: spherocytosis, splenectomy, hemolysis

Indications for Splenectomy in Hereditary Spherocytosis – time to redefine?

Fraga, Carolina[1]; Teixeira, Pedro[1]; Couto Guerra, Isabel[2]; Costa, Emília[2]; Cleto, Esmeralda[2]; Lachado, Ana[2]
[1]Pediatrics Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto, Portugal; [2]Department of Pediatrics Hematology, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto, Portugal

Introduction: Hereditary spherocytosis (HS) is the most frequent cause of nonimmune hemolytic anemia in individuals of northern European ancestry. Clinical severity varies from asymptomatic well-compensated hemolysis to severe hemolytic anemia requiring regular red blood cell transfusions (RBCT). Splenectomy is effective in reducing hemolysis and its complications. Classification of HS according to Bolton-Maggs et al., 2004 criteria, based on hemoglobin, reticulocyte and bilirubin, establishes the timing for splenectomy.

Methods: Retrospective review of pediatric patients with HS identified from one year of follow-up in a tertiary hospital (2022), evaluating indication for splenectomy and associated risks.

Results: Fifty-seven patients were on follow-up at this period (54,4% males, n=31); median age at follow-up: 13 years old (YO), range: 0-18. The median age at diagnosis was one year and four months old, range of 0-15. Positive family history was present in 56,1% (n=32). From 37 tested patients, the most commonly found protein defect was band 3 (n=32). Evaluating the severity of HS, 89.5% had at least one moderate or severe criterion (68.4% with at least one severe). Splenomegaly was present in 72% (n=41). Thirty patients (52.6%) had at least one RBCT; ten (17.5%) had ≥5 RBCT; 26 patients (45.6%) had at least one hospitalization related to HS. Gilbert syndrome was associated with 15.8% (n=9). Cholecystectomy was performed in 14 (24.6%), two concurrent to splenectomy, all but two with symptomatic gallstones. Above 6 YO, 70.5% (n=31) had severe Bolton-Maggs criteria, indicating splenectomy; however, total splenectomy, individually indicated, was performed in eight (13.7%), with a median age of 9 YO (range). Despite being on prophylactic antibiotics, half had non-fatal severe infections; no thrombotic events were reported. After splenectomy, hemoglobin (8.6 vs 14.8g/dL, $p<0.05$) and platelet value (317.375 vs 724.250/µL, $p=0.001$) increased significantly, while hyperbilirubinemia significantly decreased (65.5 vs 16.8µmol/L, $p=0.003$). Comparing patients with surgical asplenia to those without splenectomy, the first had lower hemoglobin (8.6 vs 11.3g/dL, $p<0,05$) and higher spleen diameter (161 vs 134.6mm, $p=0.001$). Reticulocyte percentage (13.1 vs. 11.4%, $p=0.401$) and hyperbilirubinemia (65.5 vs. 53µmol/L, $p=0.294$) were not statistically different. Patients with ≥5 RBCT were more frequently submitted to splenectomy ($p<0.05$).

Discussion: HS may significantly impact quality of life (QoL) in pediatric age, with frequent need for RBCT and hospitalization. Splenectomy effectively improves hemoglobin value but has a considerable risk for severe infections. Considering this, severity criteria might over-indicate patients to this procedure. Reviewing them is essential, potentially including the QoL impact.

Will be presented as Oral Presentation Virtually
ID: 226/10-OP-V-d2A: 8
Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS, INFECTIOUS DISEASES
Keywords: pharyngitis, syphilis, sexually transmitted infections

Persistent pharyngitis in an adolescent – a diagnosis not to forget

Monteiro, Sara[1]; Morais Ribeiro, Isabel[1]; Ferreira, Helena[1]; da Silva Cardoso, Juliana[2]; Guerra, Isabel[3]; Teixeira, Carla[4]

[1]Paediatric Department, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António; [2]Paediatric Neurology Unit, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António; [3]Paediatric Hematology Unit, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António; [4]Infectious Diseases and Immunodeficiencies Unit, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António

Background: In paediatric age, acute pharyngitis is typically caused by viral or group A Streptococcus infection, but other agents/complications should be considered in atypical courses.

Case presentation summary: A previously healthy 17-year-old girl with a history of bilateral total tonsillectomy presented several times to the emergency department with complaints of sore throat, headaches, nasal congestion, asthenia, anorexia, dysphonia and intermittent febrile episodes for 5 weeks. She was mouth breathing with nasal speech, had a gray-white exudate of the posterior pharyngeal wall with oedema and erythema of surrounding tissues and soft palate, and painful bilateral anterior cervical lymph nodes. Rapid antigen detection tests for group A streptococcus were all negative, and analytical workups revealed no leucocytosis or neutrophilia, transaminases were normal, C- reactive protein 41.5 mg/L and erythrocyte sedimentation rate 54 mm/1h. The heterophile antibody test was negative, and serologies for EBV and CMV were pending. Blood culture was negative. An abdominal and vesical ultrasound was performed and revealed homogeneous hepatosplenomegaly. Chest x-ray was normal. The symptoms persisted. She admitted the practice of unprotected sex and was screened for sexually transmitted infections (STI). Detection of Chlamydia trachomatis and Neisseria gonorrhoeae in the urine were negative, as well as bacteriological exam and PCR of Chlamydia trachomatis, Neisseria gonorrhoeae and Mycoplasma genitalium on the pharyngeal swab. HIV and Hepatitis B serologies were also negative. Syphilis serology demonstrated a Venereal Disease Research Laboratory (VDRL) test result of 1:128 and a positive Treponema pallidum hemagglutination assay. A lumbar puncture was performed, and central nervous system involvement was excluded (0 cells/mm3; negative VDRL). She was also evaluated by Otorhinolaryngology and Ophthalmology, showing no evidence of complications. The adolescent was initially treated with amoxicillin/clavulanic acid plus clindamycin due to suspicion of bacterial superinfection, which was replaced by a single dose of benzathine penicillin (2.4 million units intramuscular) after VDRL result. One month after treatment, at the Infectious Diseases follow-up appointment, she was completely asymptomatic, and VDRL test result was 1:64.

Learning Points Discussion: Syphilis can exhibit diverse multisystem manifestations, starting with a painless chancre that is often unnoticed, which may have happened in this case. Secondary syphilis may include fever, swollen lymph nodes, sore throat and headaches, as seen in our patient. Our patient had secondary syphilis manifested by persistent pharyngitis and cervical lymphadenopathy, initially misinterpreted as a viral infection. This highlights the importance of considering STI and assessing risk factors, as misdiagnosis and untreated cases can lead to disease progression and transmission to sexual contacts.

Will be presented as Oral Presentation Virtually
ID: 203/10-OP-V-d2A: 9
Oral Presentation (Virtual)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: Oxygen Prescribing Respiratory

An audit assessing oxygen prescription in children as per BNFC and local guidelines

Abi Osman, Valentina; Widanaralalage-Don, Venessa; Naguleswaran, Vanessa; Ominu Evbota, Kilali Basildon Hospital - Mid And South Essex NHS Trust, United Kingdom

Background: Oxygen therapy not only assumes a critical role in managing a spectrum of medical conditions by ensuring the optimal delivery of oxygen to vital tissues and organs, but it should also

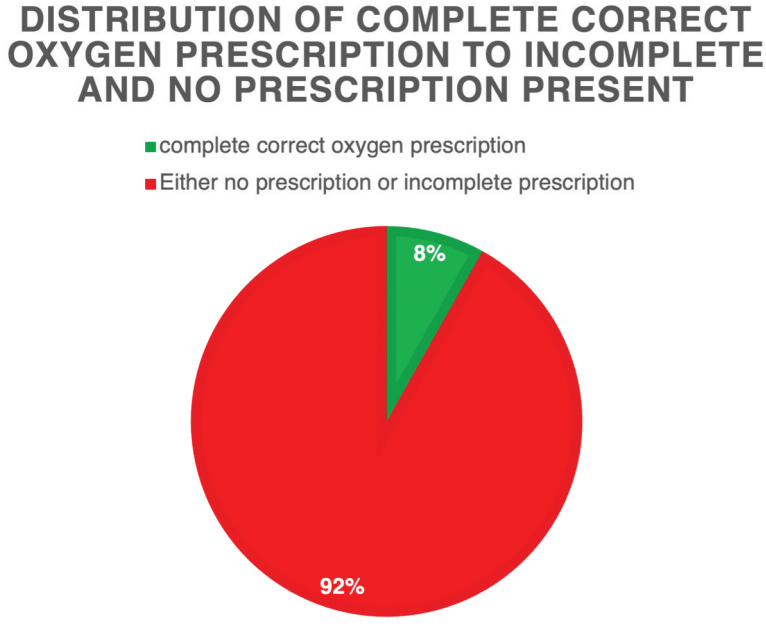
be acknowledged as a therapeutic agent requiring formal prescription as per the British National Formulary for Children. In the paediatric context, oxygen therapy is of paramount importance due to the unique physiological and developmental characteristics of children. Timely and appropriate prescription of oxygen is a fundamental aspect of paediatric care, influencing clinical outcomes and patient safety. This audit aims to review the state of oxygen prescription in the paediatric ward in a district general hospital, with a set standard that 100% of patients should have oxygen prescribed in line with the BNFC and local guidelines.

Methods: A patient list of children receiving oxygen therapy was collated retrospectively over a three-month period, April-June 2023. These patients' electronic records were analysed to identify whether oxygen was prescribed in line with the BNFC and local guidelines. Patients' demographics, diagnoses, mode of administration, appropriate target saturations, and date/signatures of doctors and nurses were analysed.

Results: A total of 59 patients were initially identified, and 10 were excluded based on the inclusion criteria, leaving a total of 49 patients for data analysis. Demographics highlighted that 94% of patients were referred by A&E, and the most common diagnoses included bronchiolitis or lower respiratory tract infections. We did not meet the set standard of 100% of patients having oxygen prescribed as per BNFC and local guidelines. Only 20% of patients had some attempt at an oxygen prescription, whilst only 8% of patients had an overall correct oxygen prescription. Amongst those who had oxygen prescribed, 100% had correct oxygen target saturations, mode of delivery, and doctor's signatures. Documentation was lacking for one patient (1%) who was transferred from another hospital. [Figure 1].

Conclusion: Compliance with oxygen prescription standards was significantly below our desired level. Despite correct prescriptions being of high quality, there was a lack of awareness or adherence to oxygen prescription guidelines. Recommendations include raising awareness among healthcare professionals by presenting the audit findings, displaying prescription guidelines, emailing reminders, pharmacist involvement, and introducing sticker reminders in patient notes. Ensuring timely and appropriate oxygen prescriptions is crucial for paediatric patient safety and care quality; therefore, a re-audit is planned for one year time to check for any improvement post-implementation of the action plans.

Figure 1.



Will be presented as Oral Presentation Virtually
ID: 159/10-OP-V-d2A: 10
Oral Presentation (Virtual)
Topics: NEUROLOGY, EMERGENCY PEDIATRICS
Keywords: DNET, unusual manifestations, dizziness, abnormal sensations, AbuDhabi

Dysembryoplastic neuroepithelial tumor (DNET) presenting in unusual manifestations of dizziness and abnormal sensations; a case report from Sheikh Khalifa Medical City, Abu Dhabi, UAE.

Al-Majmoai, Feras Mazin Abdulkareem[1]; Al Marar, Mariam Ali[2]; Arnaout, Mohamed Medhat[2]; Al-Jaberi, Fatima Salem[2]
[1]Sheikh shakhbout medical city, United Arab Emirates; [2]Sheikh Khalifa Medical City, United Arab Emirates

Introduction: Dysembryoplastic neuroepithelial tumor (DNET) is a benign brain tumor of the pediatric age group. The WHO 2021 classification of brain tumors is classified under neuronal and mixed neuronal-glial tumor. 80% of DNETs tend to occur in patients less than 30 years of age. It is a surgically curable, nonrecurring tumor with an excellent prognosis.

Objective: To highlight a rare brain tumor that may present with unusual manifestations of dizziness and abnormal sensations.

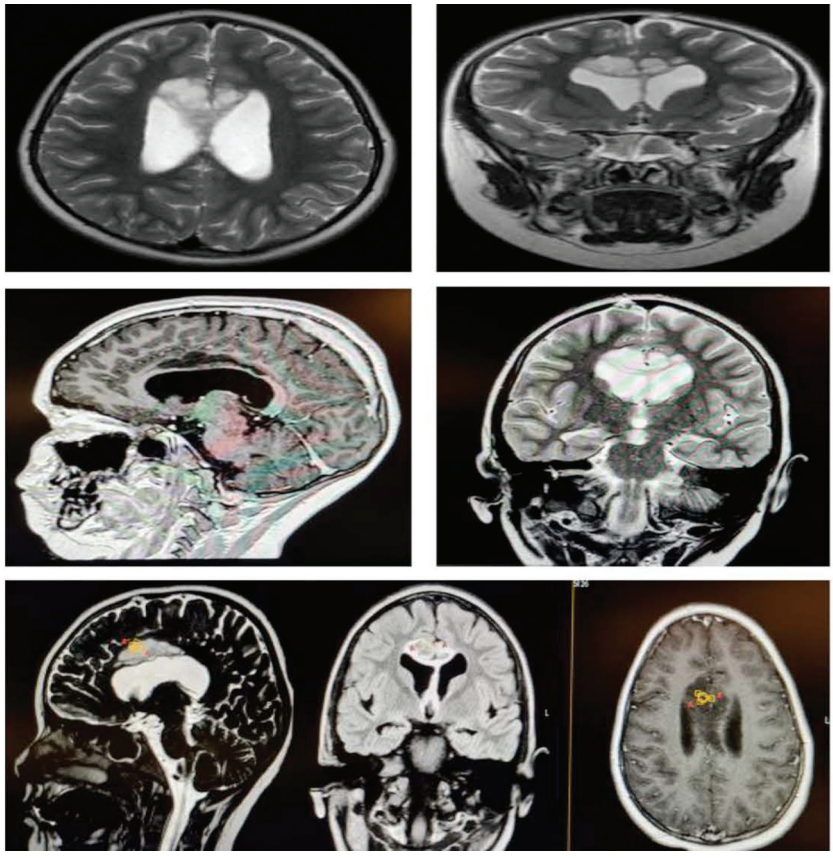
Methods: PubMed and a clinical case presented to Sheikh Khalifa Medical City Emergency Department as described below:

Clinical Case: A previously healthy, 6-year-old female was brought to the emergency complaining of dizziness for one month, which increased in the last few days. She feels unstable while standing and has episodes of falls after losing her balance. She was also complaining of abnormal sensations - suddenly feeling cold and having stomach aches (possible temporal lobe seizures). The patient was seen in another country, and EEG and MRI were done. EEG positive for seizures (no official report) and started on valproate. MRI suggested a cystic brain lesion and possibly dilated Virchow`s Robin space. The family declined surgery and came back to the UAE. The patient was stable in the ER, and the examination was normal, with no focal neurological deficits. MRI images were reviewed, which showed a lobulated midline fronto-parietal cortical lesion. The MRI signal characteristics were not typical for a cyst and were more suggestive of a tumor, particularly a dysembryoplastic neuroepithelial tumor (DNET). She was seen by neurosurgery, and no urgent intervention was needed as there was no hydrocephalus. Repeat MRI brain and observation is an option, especially when there is no papilledema on ophthalmological examination. Surgery is required for definitive tissue diagnosis. (figure 1)

Results/Discussion: DNET was first described by Daumas-Duport in 1988. The temporal lobe is the most common location. The usual manifestations include seizures, headache and diplopia. The principal differential diagnoses are oligodendrogliomas and gangliogliomas. The diagnosis of DNET can further be confirmed on immunohistochemistry. Only two cases have been reported to have become malignant.

Conclusion: DNETs are benign tumors of young adults, with a differential including oligodendrogliomas and gangliogliomas. Surgery forms the mainstay of treatment. Careful observation of the entire tissue sample is necessary before diagnosing its differentials. When DNET is diagnosed, the need for adjuvant radiotherapy and chemotherapy is avoided. Hence, the identification of this tumor has therapeutic and prognoses.

Figure 1.



Will be presented as Oral Presentation Virtually
ID: 322/10-OP-V-d2A: 11
Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS, RARE DISEASES
Keywords: Hypotonia, Psychomotor delay, Intellectual disability, Rahman Syndrome

Rahman Syndrome: a rare cause of severe Global Developmental Delay

Fraga, Carolina[1]; Gomes Pereira, Cecília[2]; S. Tormena, Lis[3]; Capela, Ana Miguel[4]; de Carvalho Vaz, Ana[5]; Vaz Matos, Inês[5]; Gonzaga, Diana[5]; Prior, Catarina[5]; Soares, Sara[5]
[1]Pediatrics Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António, Portugal; [2]Pediatrics Department, Hospital Senhora da Oliveira, Guimarães, Portugal; [3]Pediatrics Department, Hospital Santo António, Blumenau, Brasil; [4]Medical Genetics Department, Centro de Genética Médica Jacinto Magalhães, Centro Hospitalar Universitário de Santo António, Porto, Portugal; [5]Neurodevelopment Unit, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto, Portugal

Background: Rahman syndrome is also known as HIST1H1E gene-related disorder, standing for Hypotonia, Intellectual disability, Skeletal, Testicular (undescended), Thyroid, Heart abnormalities and Ectodermal issues (including thin hair and nails, and abnormal dentition). It is a recently recognized syndrome (<50 cases described) with autosomal dominant inheritance, and the majority of cases arise from de novo pathogenic variants on the H1-4 gene.

Case Presentation Summary: A three-year-old male was referred to Neurodevelopment Consultation due to a delay in acquiring psychomotor milestones. Additionally, a regression in language was noted at 24 months and later, restricted interests, motor stereotypies and poor social contact were apparent. On physical exam, macrocephaly was evident, with a high forehead and frontal bossing, full cheeks, dark and dysmorphic teeth and large ear lobules. He was the second child of a nonconsanguineous couple; apart from the macrocephaly of the father and recurrent spontaneous abortions of the mother, there was no other relevant family history. Formal psychometric evaluation (Griffith's II) revealed a global development quotient 37. Cerebral magnetic resonance with spectroscopy was normal. Cardiac and ophthalmologic screening were unremarkable; auditory evoked potentials raised the suspicion of left middle ear pathology. Fragile X testing was negative; SNP-array revealed loss of heterozygosity in 9p21.3p13, an area where no imprinting phenomena were described. A WES-based panel for intellectual disability detected a heterozygous pathogenic variant in the H1-4 gene, compatible with Rahman syndrome. During the two years of follow-up with continuous intervention, he improved his social, motor and communication skills; however, a greater improvement in language was seen after stomatology surgical intervention.

Learning points/discussion: Genetic research in patients with global developmental delay may establish a final diagnosis, including rare syndromes such as Rahman syndrome. Consequently, it can establish a surveillance protocol, allow early detection of other recognized comorbidities and provide genetic counselling for family members. A multidisciplinary approach and timely intervention can lead to improvements in the developmental and functional outcomes of affected individuals.

Will be presented as Oral Presentation Virtually
ID: 208/10-OP-V-d2A: 12
Oral Presentation (Virtual)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: asthma, children, dupilumab, lung function, 52 weeks

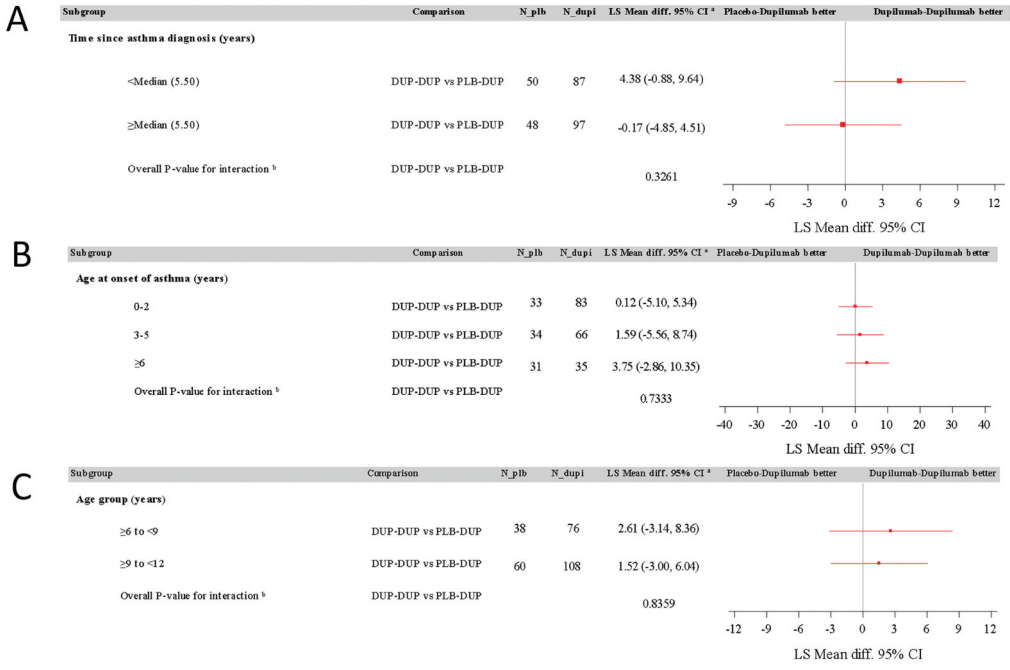
Long-term dupilumab effect on lung function in paediatric patients with uncontrolled asthma

Bacharier, Leonard B.[1]; Guilbert, Theresa W.[2]; Custovic, Adnan[3]; Altincatal, Arman[4]; Ledanois, Olivier[5]; Gall, Rebecca[6]; Sacks, Harry[6]; Jacob-Nara, Juby A.[7]; Deniz, Yamo[6]; Rowe, Paul J.[7]
[1]Monroe Carell Jr Children's Hospital, Vanderbilt University Medical Center, Nashville, TN, USA; [2]Cincinnati Children's Hospital and University of Cincinnati, Cincinnati, OH, USA; [3]Imperial College, London, UK; [4]Sanofi, Cambridge, MA, USA; [5]Sanofi, Paris, France; [6]Regeneron Pharmaceuticals Inc., Tarrytown, NY, USA; [7]Sanofi, Bridgewater, NJ, USA

Background: Minimizing lung function impairment is a goal in managing paediatric asthma. Dupilumab (DPL), a fully human monoclonal antibody, blocks the shared receptor component of IL 4/IL-13, key drivers of type 2 asthma. Long-term DPL use in EXCURSION (NCT03560466) sustained lung function improvement in 6–11-year-old patients (pts) with uncontrolled type 2 asthma who had completed VOYAGE (NCT02948959); rapid improvement in lung function was observed in patients who switched from placebo (PBO) to DPL. The objective of this analysis was to analyse numerically higher lung function improvements seen consistently in the DPL/DPL vs PBO/DPL arms in EXCURSION.

Methods: Pts received add-on DPL 100/200 mg or PBO every 2 weeks (q2w; Wks) for 52 Wks in VOYAGE and DPL 100/200 mg q2w/300 mg q4w for 52 Wks in EXCURSION. Endpoint: change from parent study (PS) baseline (BL) in percent predicted (pp) FEV1 by asthma duration and age at onset or DPL start at PSBL.

Figure 1.



Results: At Wk 0, 106 pts were included in the PBO/DPL arm and 209 in the DPL/DPL arm. At Wk 52, change from BL in ppFEV1 in DPL/DPL vs PBO/DPL was numerically greater (Figure) with shorter asthma duration (interaction p-value P=0.33), older age at onset (P=0.73) and younger age at DPL start (P=0.84); none of these reached statistical significance.

Conclusion: Improved lung function response to DPL over 1-2 years of treatment in 6–11-year-old pts with uncontrolled type 2 asthma did not differ by asthma duration or age at onset or DPL start. Post hoc subgroup analysis of the treatment effect on change from PSBL in ppFEV1 at Week 52 of EXCURSION in PBO/DPL vs DPL/DPL treatment arms, defined by (A) asthma duration, (B) age at asthma onset and (C) age when starting dupilumab treatment at PSBL. aDerived from MMRM model with change from baseline in ppFEV1 (%) values up to Week 52 as the response variable, with treatment groups, baseline weight group (≤30 kg, >30 kg), ethnicity, region, baseline eosinophil strata (<0.3 Giga/L, ≥0.3 Giga/L), baseline FeNO level (<20 ppb, ≥20 ppb), baseline ICS dose level, visit, treatment by-visit interaction, baseline ppFEV1 (%) value and baseline-by-visit interaction as covariates. bDerived from MMRM model with change from baseline in ppFEV1 (%) values up to Week 52 as the response variable, with treatment groups, baseline weight group (≤30 kg, >30 kg), ethnicity, region, baseline eosinophil strata (<0.3 Giga/L, ≥0.3 Giga/L), baseline FeNO level (<20 ppb, ≥20 ppb), baseline ICS dose level, visit, treatment by-visit interaction, baselineppFEV1 (%) value, baseline-by-visit interaction, subgroup (if different than the aforementioned covariates), subgroup-by-treatment interaction and subgroup-by-treatment-by-visit interaction as covariates.

Will be presented as Oral Presentation Virtually
ID: 337/10-OP-V-d2A: 13
Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS, INFECTIOUS DISEASES
Keywords: TB, children, Childhood TB, WHO TB guidelines

Implementation of WHO 2022 guidelines on the management of childhood TB: Preliminary findings from a cohort study from Pakistan.

Aurangzeb, Brekhna[1]; Sarwar, Huda[2]; Ambren, Atiqa[3]; Mustafa, Tehmina[1]
[1]University of Bergen, Norway; [2]Department of Public Health, Lahore, Pakistan; [3]Gulab Devi Hospital, Lahore, Pakistan

Background: Childhood TB is a public health problem with difficulty detecting and diagnosing cases. WHO has released 2022 guidelines for the management of childhood TB to improve the diagnosis and management of childhood TB. This study was undertaken to implement WHO 2022 guidelines on managing childhood TB at the time of diagnosis of TB and find the incidence of TB in vaccinated children with BCG.

Methods: Children up to 15 years of age with suspected TB were screened at two tertiary-care hospitals (Gulab Devi and Children Hospital) in Lahore, Pakistan. TB cases were confirmed and classified for site and severity based on WHO guidelines 2022 in this cohort study from Jan to Sep 2023. Height, weight and mid-upper arm circumference were measured to assess nutritional status. Anti-TB treatment was initiated, and these children were followed biweekly for clinical outcomes (death, deterioration, improvement).

Results: The children's mean age (SD) was 9.44 ± 4.1 years, and 53% were female. According to the algorithm of diagnosis of pulmonary TB and other types of classification of TB, Pulmonary TB (PTB) was in 100 (30.8%), Severe Pulmonary TB (SPTB) in 83 (25.5%), Extra Pulmonary TB (EPTB) 37 (11.4%), Severe extrapulmonary TB (SEPTB) 102 (31.4%). The classification of nutritional status revealed Severe Acute Malnutrition (SAM), Moderate Acute Malnutrition (MAM), and Normal nutrition in 146 (44.9%), 55 (16.9%), and 124 (38.2%), respectively. Mean (SD) Hb 9.94 ± 2.0 g/dl, MCV Mean (SD) 71.4 ± 12.32 femtolitres, WBC 10.2 x 103 ± 5.1x103, CRP Mean (SD) 10.5 ± 13.2. BCG scar was present in 168 (51.7%), absent in 143 (44%). Gastric aspirate for gene Xpert was positive in 33 children and negative in 76 children. The stool for gene Xpert was positive in 22 and negative in 33 children. Sputum for GeneXpert was positive in 15 and negative in 16 children. Twenty-one children died with CFR 6%

Conclusion: WHO 2022 guidelines on managing childhood TB have improved TB diagnosis by adding a user-friendly algorithm for diagnosis and stool as a respiratory specimen. However, the number of children with severe TB to identify children for short regimens of TB is limited at tertiary care hospitals in low-middle-income countries. Half of the children with TB had a BCG scar, indicating the need for improvement in the vaccination program. The prevalence of Undernutrition and anaemia is high in children with TB. Intensive measures to improve vaccination, diagnosis and management are needed to meet the End TB goals.

Will be presented as Oral Presentation Virtually
ID: 327/10-OP-V-d2A: 14
Oral Presentation (Virtual)
Topics: PUBLIC HEALTH
Keywords: vaccination, children, public health, vaccination coverage

Monitoring childhood vaccination coverage rates at national and sub-national levels

Stein-Zamir, Chen
district health office, Israel

Background and Aims: For over six decades, childhood vaccinations have considerably prevented morbidity and mortality of children from Vaccine-Preventable Diseases (VPD) globally. Despite a high overall national vaccination coverage in Israel and free access to government-funded

preventive health care services, there are population groups with inadequate vaccination coverage and recurrent VPD outbreaks (e.g. measles, mumps, pertussis). These groups mainly reside in the Jerusalem district. The COVID-19 pandemic has further affected vaccination acceptance patterns. The study's aim was to assess the vaccination coverage rates in Jerusalem district compared to the national rates in the years 2017-2022 and describe the challenge of addressing vaccine hesitancy.

Methods: Routine childhood vaccinations are included in Israel's National Health Insurance Law. Community-based health clinics provide free-of-charge service and vaccination to all children. Vaccinations are not mandatory. The vaccination coverage data for 2017-2022 were retrieved from the National Immunization Registry. The vaccines evaluated were Diphtheria, Tetanus, acellular Pertussis, polio, Haemophilus influenzae b (DTaP-IPV-Hib4: dose 4) and Measles-Mumps-Rubella/Measles-Mumps-Rubella-Varicella (MMR /MMRV1), both scheduled at the age 12 of months. The national population is 9.5 million, and children (0-17 years) comprise a third of the total population. The national birth cohort is 185,000, with 35,000 in the Jerusalem district.

Results: The overall national vaccination coverage rates (%) were adequate. The rates were lower in the Jerusalem district. The mean vaccination coverage rates for DTaP-IPV-Hib4 and MMR /MMRV1 were 95.1 ± 2.1 and 97.5 ± 1.6 in the country overall. The rates were considerably lower in the Jerusalem district, 88.4 ± 4.8 and 96.3 ± 2.6, respectively. A trend of rate decline has been observed during the COVID-19 pandemic years (2020-2022), nationally and prominently in the Jerusalem district. The decline was more noticeable in the DTaP-IPV-Hib4 (90.7% vaccination coverage nationally and 78.8% in Jerusalem district in 2022) than in MMR /MMRV1 (94.2% nationally and 91.5% in Jerusalem district in 2022). Vaccination campaigns and supplemental immunization activities are carried out constantly in Jerusalem district aimed at the hard-to-vaccinate communities. (figure 1)

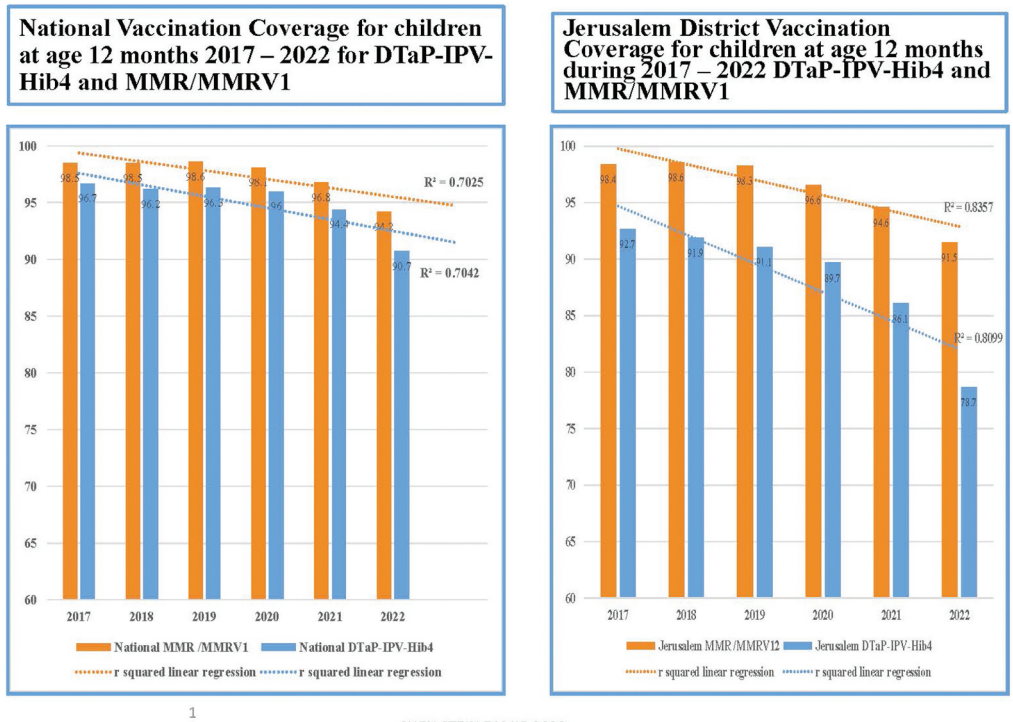


Figure 1. Bilateral bulbar conjunctival telangiectasia.

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CHEN STEIN ZAMIR 2023

Conclusion: While aggregated vaccination coverage rates are nationally high, disaggregated data reveal gaps among population groups. “Zero doses” children may exist even in developed countries, with free preventive health services. Vaccination gaps have been reported globally and deepened during the COVID-19 pandemic years. Aiming to reach the goal of “leaving no child behind” requires a comprehensive approach. Sustainable public health programs and community-based vaccination campaigns based on Tailoring Immunization Programmes are necessary.

Session

12-OP-V-d3A

Time:
Saturday, 02/Dec/2023:
9:00am - 11:00am

Presentations

Will be presented as Oral Presentation Virtually
ID: 308/12-OP-V-d3A: 1
Oral Presentation (Virtual)
Topics: PUBLIC HEALTH
Keywords: self-regulation, adolescents, mental well-being

The relationship between self-regulation skills and psychological well-being of adolescents. Data from the Polish 2022/2023 HBSC study

Gajda, Maja
University of Warsaw, Poland

Background: Self-regulation is the ability to control behavior, emotions, thoughts, and attention to achieve goals and respond to the demands of a changing environment (Murray et al., 2019). Previous studies have indicated that self-regulation is vital across various areas of functioning. It is positively linked with mental health (Hu et al., 2014), physical activity (Vasilopoulos & Ellefson, 2021), and learning outcomes (Choi et al., 2018). Also, self-regulation is a protective factor against risky behavior (Quinn & Fromme, 2010). The study aimed to analyze self-regulation skills in a nationally representative adolescent sample of boys and girls aged 11, 13, 15, and 17 and to analyze the relationship between self-regulation and mental well-being, life satisfaction, and stress.

Methods: The presented data are from the Health Behavior in School-aged Children cross-sectional study conducted in Poland’s 2022/2023 school year. The study received a positive opinion from the Bioethical Committee of the Institute of Mother and Child (number 51/2021, date: 24.06.2021). More than 6400 adolescents aged 11-17 who participated in the study filled in questionnaires on physical, emotional, and psychological aspects of health. To examine the relationships between self-regulation, mental health, life satisfaction, and stress, the data from the Self-Regulation Scale, the World Health Organisation-Five Well-Being Index, Cantril Ladder, and Cohen Perceived Stress Scale were analyzed with descriptive statistics, the independent samples t Test, and the Pearson correlation coefficient in the statistical software, IBM SPSS Statistics.

Results: The mean self-regulation score for girls and boys was 32,38 (SD = 5,53). A higher self-regulation mean was observed among boys (M = 33,79; SD = 5,11) than girls (M = 31,21; SD = 5,60). The data shows that the level of self-regulation skills changes with age ($F(3,6406) = 49,10$; $p < 0,001$); however, these changes are not consistent across the self-regulation dimensions. For example, 11-year-old students scored statistically significantly higher in emotional regulation yet lower in cognitive regulation than older adolescents. Additionally, the study shows that self-

Table 1. Mean and standard deviation of the overall level of self-regulation and its three dimensions for the subgroups divided by sex variable

	Mean		SD	
	Boys	Girls	Boys	Girls
EMO	12.12	10.31	2.72	3.06
COG	10.39	10.72	2.77	2.41
BEH	11.28	10.18	2.72	2.78
SR	33.79	31.21	5.11	5.60

Table 2. The values of the Pearson r correlation coefficients between the dimensions of the Self-Regulation Scale and its overall score and selected variables in the total sample

	STR	LS	WELL
EMO	-0.50**	0.38**	0.22**
COG	-0.14**	0.12**	0.08**
BEH	-0.39**	0.29**	0.14*
SR	-0.53**	0.41**	0.23**

Note: EMO—Emotional dimension; COG—Cognitive dimension; BEH—Behavioral dimension; SR—Selfregulation; STR—Stress; LS—Life satisfaction; WELL—Well-being;
**p < 0.01; *p < 0.05.

regulation is important for adolescents' mental state as it is negatively correlated with perceived stress level (r = -0,53; p < 0.001) and positively with life satisfaction (r = 0,41; p < 0.001) and mental well-being (r = 0,23; p < 0.001). (table)

Conclusion: Analyses indicate that self-regulation skills are important for adolescents' mental health, life satisfaction, and perceived stress levels. Additional research is needed to understand how adolescents' well-being can be supported by developing better self-regulation skills in girls and boys.

Will be presented as Oral Presentation Virtually
ID: 312/12-OP-V-d3A: 2
Oral Presentation (Virtual)
Topics: ADOLESCENT MEDICINE, PUBLIC HEALTH
Keywords: disabilities, surveillance, survey, methodology

Self-report version of child functioning module among Kazakhstan adolescents

Ng, Kwok[1]; Abdrakhmanova, Shynar[2]; Adayeva, Assel[2]
[1]HBSC, Finland, University of Turku, University of Limerick, University of Eastern Finland; [2]National Centre of Public Health, The Ministry of Healthcare of the Republic of Kazakhstan, Kazakhstan

Background: The Washington Group on Disability Statistics produced a set of questions to help national systems produce comparable statistics on the disability population. The child version includes a set of items called the child functioning module (CFM) and has been tested among adults for proxy reports. Collecting data from adolescents themselves can be useful for understanding associations between functional difficulties, behaviours, and health. Yet, less is known about the reliability of the self-report instrument. Therefore, this study aimed to conduct a novel test on the items in a national representative study in Kazakhstan.

Method: Data were collected according to the Health Behaviours in School-age Children study (HBSC) in Kazakhstan in 2022. Items were translated via a systematic back-translation system, and surveys were completed during school time in a classroom. The 8-item self-report CFM was at the beginning of the survey with other demographic questions, and a modified short version (3 items) was at the end. Students who completed the whole survey were included in the data set. Items were grouped between the 8-item- and 3-item versions, and various cut-offs were created. Intra-rater reliability statistics were performed for each pairing.

Results: After applying sample weights, a total of 7481 (male = 51.3%, female = 48.7%) participants completed the survey. Adolescents with disabling functioning difficulties decreased as age increased ($p < .001$), and up to 30% of adolescents reported difficulties in remembering as the most commonly reported functional difficulties. The level of agreement between the 8-item and the 3-item was between slight (kappa = 19) and fair (kappa = .22), depending on the functional items.

Conclusion: The self-report version of the child functioning module allows researchers and policy-makers to assess the prevalence and associations between disabilities and several outcomes in the HBSC survey. Combining items to reduce the number of items in the self-report survey does not seem reliable for collecting disability-related data. Using the self-report version of the CFM requires more validation and reliability testing work.

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Oral Presentation (Virtual)
Topics: INFECTIOUS DISEASES, NEONATOLOGY
Keywords: Neonatal Infection, E.Coli, Sepsis, NICU

Neonatal Escherichia coli Infection in a Level III NICU: An Eight-Year Study

Menezes, Catarina; Cardoso, Juliana; Mendes, Isabel; Almeida, Alexandra; Pinho, Liliana
Neonatology Department, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António

Introduction: E. coli is one of the most common causes of severe neonatal infection. While the impact of maternal GBS colonization is well understood, attributing a maternal origin to late-onset E. coli infections in hospitalized newborns remains challenging.

Aim: The aim of this study was to characterize neonatal E.coli infections, with a focus on the age of onset, traditional risk factors associated with neonatal infections caused by maternal colonizing agents, patterns of antibiotic resistance, and associated lethality.

Method: Single-centre retrospective descriptive study involving newborns with E.coli infection (positive blood culture and compatible clinical presentation – sepsis or sepsis associated with meningitis, pneumonia or necrotizing enterocolitis) admitted to a level III NICU between January 2015 and December 2022. Infections were classified as early-onset (EOI) if they occurred within the first three days of life and as late-onset (LOI) after this period.

Results: Twenty-six E.coli infections were identified, 3 outborn (0.87:1000 live births): 12 EOI (median/Q1/Q3: 0/0/0days), 14 LOI (median/Q1/Q3: 9/8/11.75days), 58% females, 81% preterm, gestational age(GA) median/Q1/Q3: 30.5/26.25/33.75wk; birthweight median/Q1/Q3: 1495/860/1950g). Nineteen sepsis, 1 meningitis, 1 sepsis with necrotizing enterocolitis and 5 sepsis with pneumonia were diagnosed. At least one perinatal infectious risk factor (spontaneous prematurity, rupture of membranes (RM) >18 hours, preterm premature RM, maternal fever, maternal leukocytosis, fetal tachycardia) was identified in 100% of EOI and in 71% of LOI. Maternal E.coli urinary

tract infection (UTI) was identified in 4 cases, all in the 1st trimester (2 EOI, 2 LOI). Prophylactic intrapartum antibiotic was performed in 58% EOI and 29% LOI, predominantly using ampicillin (EOI 71% EOI; LOI 100%); 85% of the E.coli strains were resistant to ampicillin, 27% to gentamicin and 27% to both, with no documented resistance to cefotaxime or ESBL-producing strains. Lethality rates were 50% for EOI and 14% for LOI cases (GA: median/Q1/Q3: 27/25.5/27.75wk; birthweight: median/Q1/Q3: 905/752.5/1138.75g), with all strains being resistant to ampicillin and 25% also to gentamicin. Very-low-birthweight and very-preterm newborns predominate in this series. The majority of newborns had risk factors typically associated with infections originating from the mother, even those who developed LOI. Lethality was high, especially among the most immature newborns. Only 15% of the mothers had E.coli-UTI, all of them in the 1st trimester, making it difficult to establish the origin of the neonatal infection. The vast majority of strains were ampicillin-resistant, which continues to be the primary antibiotic for intrapartum prophylaxis and empiric EOI treatment, creating a window of vulnerability that is difficult to resolve.

Will be presented as Oral Presentation Virtually
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Oral Presentation (Virtual)
Topics: RARE DISEASES, NEONATOLOGY
Keywords: Prader-Willi Syndrome, Perinatal presentation, Neonatal hypotonia, Genetic study

Perinatal clinical presentation on Prader-Willi Syndrome: a case review from the last 5 years in a Level III Hospital

Menezes, Catarina[1]; Curto, Carolina[1]; Nunes, Isabel[1]; Marques, Isabel[2]; Soares, Ana Rita[3]; Proença, Elisa[4]; Carvalho, Carmen[4]; Mota, Céu[4]
[1]Department of Pediatrics, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António; [2]Laboratório de Genética Molecular, Centro de Genética Médica Jacinto Magalhães, Clínica de Patologia e Genética, Centro Hospitalar Universitário de Santo António; [3]Department of Genetics, Centro Hospitalar Universitário de Santo António; [4]Department of Neonatology, Centro Materno-Infantil do Norte, Centro Hospitalar Universitário de Santo António

Introduction: Prader-Willi Syndrome (PWS, OMIM#176270) is a rare genetic syndrome that results from the absence of paternal expression of chromosome 15q11.2-q13. Clinical features in the perinatal period are subtle; therefore, early diagnosis is still rarely missed.

Aim: The aim of this paper was to review PWS cases diagnosed in the perinatal period in the last 5 years to review clinical and genetic characteristics.

Case Study: We present a case review for whom PWS was diagnosed in the perinatal period, from 2018 and 2023, in a tertiary hospital centre. Clinical data (demographic, clinical, laboratory and radiological) were collected by consulting electronic clinical files. The diagnoses were suspected through clinical anomalies and confirmed by genetic testing, including chromosomal microarray and DNA methylation studies. Total of 6 cases. All pregnancies with regular surveillance. Four mothers were older than 35 years old, and 2 had gestational diabetes. In prenatal ultrasounds, 2 presented with hydramnios, 1 fetal growth restriction, and 1 fetus had a bilateral clubfoot and umbilical cord cyst (at 20 weeks). Two mothers reported decreased fetal movements during pregnancy. It was lost the follow-up of 1 fetus after 20 weeks of GA. At childbirth, only 1 fetus was in the breech position. 2 required labour induction and cesarean delivery were performed in 2. A total of 2 girls and 3 boys were born (2 outborns, 3 inborns), 4 term and 1 late preterm. The majority with Apgar score ≥7 at 5 minutes. Three were small for gestational age. All 5 newborns were admitted/transferred to the Neonatology Unit for hypotonia with axial predominance, feeding difficulties and respiratory distress. Physical examination revealed craniofacial dysmorphisms in 3 of them, including 1 with dolichocephaly. Two had bilateral cryptorchidism. All laboratory studies revealed CK elevation, neuroimaging exams (transfontanellar ultrasound and/or cerebral MRI) were normal, metabolic and endocrine studies were unremarkable, and karyotype and

neuromuscular diseases gene panel were normal. The diagnosis was postnatal in five patients and prenatal in one. Among postnatal diagnoses, all inborns were diagnosed during their hospitalization (within the first month of life), and the outborns had the diagnostic result later. Two have mUPD, 2 imprinting defects and 2 paternal d15q11.2 deletions. A parental genetic study was carried out. Despite only one newborn having diagnostic clinical criteria for PWS (Consensus diagnostic criteria - Cassidy SB et al. 2012), a study suggested testing all newborns with otherwise unexplained hypotonia with poor suck, so the diagnosis must be suspected in all of them. All of them required during hospitalization respiratory support and gavage feeding and started speech and physical therapies. At the time of discharge, only two required nasogastric tubes for feeding, and one kept respiratory support (home-care ventilator). Multidisciplinary orientation was carried out (Neonatology, Genetics, Pediatric Neurology, Endocrinology and Surgery and Physical Medicine and Rehabilitation). (table 1)

Discussion: Neonatal hypotonia is a PWS hallmark, and when associated with poor sucking, craniofacial dysmorphisms and genital hypoplasia should raise this clinical suspicion and motivate genetic testing whose results can be obtained in a few days, avoiding other studies. Some prenatal findings as decreased fetal movement, polyhydramnios and unusual positioning of the fetal hands and feet, support postnatal diagnosis or even allow prenatal diagnosis. Early diagnosis is essential for genetic counselling and to initiate multidisciplinary care that improves the prognosis.

Table 1.

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Patient 6
Maternal Age (years)	43	40	28	34	43	45
Paternal Age (years)	35	40	29	35	48	47
Maternal BMC >20-25Kg/m2	No	No	No	No	No	Yes
History of spontaneous abortions	No	No	Yes	Yes	No	No
Medically Assisted Reproduction	No	No	No	No	No	No
Gestational Pathology	Gestational Diabetes	No	No	No	Gestational Diabetes	No
Twin Pregnancy	No	No	No	No	No	No
Hydramnios	No	Yes	No	No	Yes	No
Fetal Growth Restriction	No	Yes	No	No	No	
Other abnormal ultrasound findings	No	No	No	No	No	Bilateral Clubfoot, Umbilical Cord Cyst
Decreased fetal activity	Yes	No	No	No	Yes	
Breech Position	Yes	No	No	No	No	
Need of labor induction	No	No	Yes	No	Yes	

(*Continued*)

Table 1. (*Continued*)

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Patient 6
Delivery	Cesarean	Cesarean	Eutocic	Vacuum Extraction	Eutocic	
Neonatal Findigs	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Patient 6
APGAR score (1'/5'/10')	8/9/10	9/10/10	6/8/9	7/8/8	8/7/9	
Gender	Femenine	Feminine	Masculine	Masculine	Masculine	Feminine
Gestational Age (GA)	39 2/7	37 2/7	41 1/7	39 0/7	35 4/7	
Weight at birth, g (Percentile)	2630 (8)	2225 (1)	2900 (17)	2630 (6)	2280 (21)	
Small for GA	Yes	Yes	No	Yes	No	
Length at birth (Percentile)	47 (12)	46 (5)	50.5 (63)	49 (32)	45 (25)	
Cephalic Perimeter (Percentil)	34.5 (70)	32.5 (12)	33 (12)	36 (89)	32.5 (54)	
Facial Dysmorphism	No	Yes	Yes	Yes	Yes	
Respiratory Distress	Yes	Yes	Yes	Yes	Yes	
Hypotonia	Yes	Yes	Yes	Yes	Yes	
Feeding dificulties	Yes	Yes	Yes	Yes	Yes	
Genital anomalies	No	No	Bilateral			
Cryptorchidism	No	Bilateral				
Cryptorchidism						
Genetic Anomalies	Maternal UPD15	Maternal UPD15	Imprinting defect	*Del15q11.2*	Imprinting defect	*Del15q11.2*

Will be presented as Oral Presentation Virtually
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Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS, PUBLIC HEALTH
Keywords: social networks; dependence; Wellbeing; Adolescents; Ecological Approach

Healthy Social Network Use and Wellbeing during adolescence: a biopsychosocial approach

Gaspar, Tania[1,3]; Carvalho, Marina[2,3]; Botelho-Guedes, Fábio[3]; Cerqueira, Ana[3]; Gaspar-Matos, Margarida[3]
[1]Lusofona University/HEI-LAB, Portugal; ISAMB/Lisbon University; [2]University Hospital Center of Algarve; Manuel Teixeira Gomes Higher Institute; [3]Institute of Environmental Health (ISAMB), Faculty of Medicine, University of Lisbon (FMUL)

Background: Screen time and the use of social networks is the most frequent form of leisure time occupation and socializing for adolescents. The present study aimed at understanding and characterizing, from an ecological perspective, what distinguishes healthy and less healthy, even dependent, use of social media in young people and its influence on adolescents' well-being. This paper is based on the

Health Behaviour in School-aged Children (HBSC) 2022 (Gaspar et al., 2022; Inchley et al., 2016; 2020; Matos et al., 2018), a survey carried out every 4 years, in collaboration with the World Health Organization (WHO), following an international protocol (Roberts et al., 2009).

Methods: 7643 students from the 6th, 8th, 10th, and 12th grades responded, of which 53.9% were female, with an average age of 15.05 (SD=2.36). The sample is representative of the school grades under study.

Results: The results allow us to study and identify similarities and differences between 3 groups related to the level of healthiness in using social networks and its relation to well-being from an ecological perspective. What distinguishes adolescents with less healthy use of social networks is that they are more often female, older, have more self-injurious behaviour, more alcohol consumption, and a worse relationship with teachers. The adolescents with the highest level of dependence on social networks are those who have a higher perception of a lack of safety at school and in their area of residence, as well as a higher use of screen time as a leisure activity. The well-being of adolescents using social media in a healthy way is explained by fewer psychological symptoms, better stress management strategies, better body awareness, more physical activity, less time online with friends, and better relationships with family and teachers. (table 3)

Conclusions: Technologies and social networks are important for the well-being of adolescents; it is essential to promote a healthy, critical and balanced use with other "screen-free" activities and to promote socio-emotional skills that seem to be one of the biggest risk factors associated with healthy use of technologies.

Table 3. Linear regression of variables for the study of dependence on social networks in relation to the well-being of adolescents

	Constant	*B*	Error	*Beta*	*t*
Model	No dependence on social networks	15.85	2.41	-	6.59***
	Level of dependency (percentile 25% - 75%)	17.90	1.75	-	10.20***
	Percentile 25% high dependency	18.20	1.83	-	9.95***
Gender	No dependence on social networks	0.01	0.26	0.00	0.02 (n.s.)
	Level of dependency (percentile 25% - 75%)	-0.43	0.19	-0.03	-2.28*
	Percentile 25% high dependency	-0.78	0.22	-0.06	-3.64***

(*Continued*)

Table 3. (*Continued*)

	Constant	*B*	Error	*Beta*	*t*
Age	No dependence on social networks	-0.19	0.71	-0.06	-2.71**
	Level of dependency (percentile 25% - 75%)	-0.16	0.05	-0.04	-3.06**
	Percentile 25% high dependency	-0.15	0.06	-0.04	-2.58**
SES	No dependence on social networks	0.75	0.06	0.03	1.29 (n.s.)
	Level of dependency (percentile 25% - 75%)	0.10	0.04	0.03	2.50*
	Percentile 25% high dependency	0.02	0.04	0.01	0.47 (n.s.)
Psychophysical Symptoms	No dependence on social networks	0.23	0.02	0.32	13.32***
	Level of dependency (percentile 25% - 75%)	0.17	0.01	0.26	14.92***
	Percentile 25% high dependency	0.18	0.01	0.28	15.46***
Stress management	No dependence on social networks	0.66	0.05	0.31	13.63***
	Level of dependency (percentile 25% - 75%)	0.71	0.04	0.32	20.14***
	Percentile 25% high dependency	0.70	0.04	0.29	17.10***
Body perception	No dependence on social networks	-0.74	0.25	-0.06	-3.03**
	Level of dependency (percentile 25% - 75%)	-0.78	0.17	-0.06	-4.62***
	Percentile 25% high dependency	-0.65	0.19	-0.05	-3.36***

(*Continued*)

	Constant	*B*	Error	*Beta*	*t*
Self harm	No dependence on social networks	0.02	0.16	0.00	0.10 (n.s.)
	Level of dependency (percentile 25% - 75%)	-0.23	0.08	-0.04	-2.86**
	Percentile 25% high dependency	-0.18	0.08	-0.03	-2.13*
Physical activity	No dependence on social networks	0.39	0.06	0.13	6.42***
	Level of dependency (percentile 25% - 75%)	0.35	0.05	0.10	7.77***
	Percentile 25% high dependency	0.40	0.05	0.11	7.89***
Online with friends	No dependence on social networks	0.10	0.03	0.07	3.41***
	Level of dependency (percentile 25% - 75%)	0.10	0.02	0.06	4.45***
	Percentile 25% high dependency	0.13	0.02	0.08	5.95***
Screen time during leisure time	No dependence on social networks	0.10	0.07	0.03	1.44 (n.s.)
	Level of dependency (percentile 25% - 75%)	0.08	0.05	0.02	1.53 (n.s.)
	Percentile 25% high dependency	0.20	0.05	0.05	3.65***
Healthy eating	No dependence on social networks	0.02	0.03	0.02	0.80 (n.s.)
	Level of dependency (percentile 25% - 75%)	0.03	0.02	0.02	1.48 (n.s.)
	Percentile 25% high dependency	0.03	0.02	0.02	1.32 (n.s.)

(*Continued*)

Table 3. (*Continued*)

	Constant	*B*	Error	*Beta*	*t*
Sleep problems	No dependence on social networks	-0.01	0.04	-0.01	-0.27 (n.s.)
	Level of dependency (percentile 25% - 75%)	-0.10	0.03	-0.04	-2.95**
	Percentile 25% high dependency	-0.02	0.03	-0.01	-0.70 (n.s.)
Alcohol use	No dependence on social networks	-0.39	0.26	-0.03	-1.49 (n.s.)
	Level of dependency (percentile 25% - 75%)	-0.43	0.18	-0.03	-2.42*
	Percentile 25% high dependency	-0.90	0.20	-0.06	-4.45***
Difficulties Relationship with Colleagues	No dependence on social networks	-0.05	0.06	-0.02	-0.81 (n.s.)
	Level of dependency (percentile 25% - 75%)	-0.07	0.04	-0.03	-1.96*
	Percentile 25% high dependency	-0.15	0.04	-0.05	-3.63***
Difficulties Relationship with teachers	No dependence on social networks	-0.28	0.06	-0.11	-5.04***
	Level of dependency (percentile 25% - 75%)	-0.25	0.04	-0.09	-6.43***
	Percentile 25% high dependency	-0.16	0.04	-0.06	-3.85***
Family support	No dependence on social networks	0.15	0.02	0.13	6.11***
	Level of dependency (percentile 25% - 75%)	0.17	0.01	0.17	11.67***
	Percentile 25% high dependency	0.18	0.02	0.18	11.60***

(*Continued*)

	Constant	***B***	**Error**	***Beta***	***t***
Like school	No dependence on social networks	0.13	0.06	0.05	2.30*
	Level of dependency (percentile 25% - 75%)	0.16	0.04	0.05	3.78***
	Percentile 25% high dependency	0.05	0.05	0.02	1.06 (n.s.)
Discussions with parents and friends	No dependence on social networks	0.02	0.01	0.02	1.22 (n.s.)
	Level of dependency (percentile 25% - 75%)	0.03	0.01	0.03	2.55**
	Percentile 25% high dependency	0.01	0.01	0.01	0.75 (n.s.)
Violence	No dependence on social networks	-0.00	0.06	0.00	-0.02 (n.s.)
	Level of dependency (percentile 25% - 75%)	-0.06	0.06	-0.02	-1.15 (n.s.)
	Percentile 25% high dependency	-0.04	0.04	-0.01	-0.89 (n.s.)
Feel safe at school	No dependence on social networks	-0.42	0.38	-0.02	-1.11 (n.s.)
	Level of dependency (percentile 25% - 75%)	-0.29	0.21	-0.02	-1.37 (n.s.)
	Percentile 25% high dependency	-0.76	0.23	-0.05	-3.25***
Feel safe place where live	No dependence on social networks	-0.53	0.44	-0.02	-1.20 (n.s.)
	Level of dependency (percentile 25% - 75%)	-0.33	0.25	-0.02	-1.32 (n.s.)
	Percentile 25% high dependency	-0.61	0.25	-0.03	-2.41*

Note: ***p<0.001; **p<0.01; *p<0.05; n.s. (not significative) p>0,05.

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Oral Presentation (Virtual)
Topics: ADOLESCENT MEDICINE, PUBLIC HEALTH
Keywords: Adolescents; Life satisfaction; parents; psychological symptoms; cross-cultural.

The effect of parental communication on life satisfaction and psychological symptoms: a cross-country analysis in mediterranean countries

Gaspar, Tania[1,2]; Maldonado, Conception[3]; Moreno-Rodriguez, Carmen[3]; Fotiou, Anatasios[4]; Vassallo, Charlene[5]; Nicolaou, Christiana[6]; Ivanoska, Kalina[7]; Tesler, Riki[8]; Gaspar Matos, Margarida[2]
[1]Lusofona University, HEI-Lab: Digital Human-Environment Interaction Labs, Portugal; [2]University of Lisbon/ISAMB, Portugal; [3]University Seville, Spain; [4]University Mental Health, Neurosciences, & Precision Medicine Research Institute (UMHRI), Greece; [5]Health Promotion and Disease Prevention Department for Health Regulation, Health Ministry, Malta; [6]Center of Educational Research and Evaluation Pedagogical Institute Ministry of Education, Sports and Youth Cyprus; [7]Faculty of Philosophy, The Republic of North Macedonia 8 Ariel University, Israel; [8]Ariel University, Israel

Background and Objective: During adolescence, relations with family are possible to have a major influence on adolescents' life satisfaction and their expression of psychological symptoms. These relationships can be influenced by individual and cultural factors. We aim to study life satisfaction, communication with mother and father, and psychological symptoms among adolescents in different Mediterranean countries, comparing 5 waves from 2002 to 2018, identifying similarities and differences between countries over the years.

Methods: The Health Behaviour in School-aged Children (HBSC) is a World Health Organization collaborative cross-national study conducted every 4 years in 52 countries and regions across Europe, North America and Central Asia (http://www.hbsc.org). The sample consists of 184,492 students from the Mediterranean countries (Greece, Israel, Italy, Malta, North Macedonia, Portugal, and Spain) with a mean age of 13.7 years (SD 1.6), 51.4% of which were girls. Indicators of health and well-being –life satisfaction and psychological symptoms (sadness, irritability, and nervousness)– and communication with parents (mother and father) were selected from the HBSC questionnaire, collected in five waves between 2002 and 2018. Statistically significant differences were found for all the variables under study, and for each variable, we grouped the countries with approximate average values and countries that differ. Furthermore, when looking into the data of the different waves (2002, 2006, 2010, 2014 and 2018) in relation to life satisfaction, we verified a decrease between 2002 and 2010 and a progressive increase for 2014 and 2018. Adolescents in Macedonia showed a higher life satisfaction than their counterparts in other Mediterranean countries. Adolescents in Italy, Portugal, and Turkey reported lower life satisfaction compared to the rest of the Mediterranean countries. (table 1)

Learning Points Discussion: Regarding psychological symptoms expressed by adolescents, there was a decrease in symptoms between 2002 and 2014 and a worsening in 2018. Portugal was the country that reported the least psychological symptoms over the years; in 2018, Spain had the least symptoms, and Italy and Turkey were the countries that revealed the most psychological symptoms over the years. Regarding communication with the father and the mother, in all countries and waves, communication with the mother is easier than with the father. Over the years, there has been stability in the ease of communication between the mother and the father and in 2018, an improvement was identified for both cases. Adolescents from Macedonia and Israel showed greater ease of communication with their parents. Interestingly, boys and girls in Malta, Portugal and Spain showed more difficulty in communicating with their fathers and adolescents in Italy, Portugal, and Spain showed more difficulty in communicating with their mothers. The results are discussed over the years of the study from the perspective of cultural and geographical differences and the level of public health strategies. Policy-making suggestions are also provided based on this discussion.

Table 1. Phychological Symptoms im adolescentes across Mediterranean countries

Survey year/round		N	Mean	SD
2002	Greece	3652	9.8289	3.57668
	Israel	5482	9.7505	3.43195
	Italy	4348	9.6550	3.25705
	Malta	1852	10.2149	3.41988
	Portugal	2838	11.5402	3.11788
	Spain	5713	10.9958	3.30578
	Macedonia	4008	11.4251	3.34840
	Total	27893	10.4545	3.43852
2006	Greece	3665	10.1195	3.60546
	Israel	5078	9.4321	3.74319
	Italy	3907	9.7837	3.33680
	Malta	1339	10.4317	3.33488
	Portugal	3869	12.4027	2.87784
	Spain	8666	11.7377	3.20895
	Turkey	5330	8.8874	3.65239
	Macedonia	5163	11.3649	3.31056
	Total	37017	10.6148	3.59693
2010	Greece	4845	10.4072	3.61280
	Israel	3825	10.0162	3.77862
	Italy	4771	10.0572	3.36019
	Portugal	4001	12.3362	2.93645
	Spain	4930	11.5306	3.28981
	Turkey	5517	8.4160	3.81897
	Macedonia	3651	11.8022	3.22445
	Total	31540	10.5403	3.68646
2014	Greece	4076	10.8162	3.52232
	Israel	5213	9.9651	3.60820
	Italy	4036	9.7839	3.53021
	Malta	2175	10.5444	3.48314
	Portugal	4771	12.4569	3.11714
	Spain	9914	11.8379	3.24755
	Macedonia	3918	11.0687	3.57489
	Total	34103	11.1022	3.52991

(*Continued*)

Table 1. (*Continued*)

Survey year/round		N	Mean	SD
2018	Greece	3797	10.0016	3.57952
	Italy	4108	9.3362	3.47914
	Malta	2504	10.0096	3.56918
	Portugal	6040	11.2290	3.41141
	Spain	4298	11.9502	3.06228
	Macedonia	4154	11.5070	3.41884
	Total	24901	10.7778	3.53413

Table 2. Adolescents Life Satisfaction across Mediterranean countries

Survey year/round		N	Mean	SD
2002	Israel	5458	8.04	1.880
	Italy	4342	7.43	1.941
	Portugal	2862	7.40	1.897
	Spain	5707	7.68	1.811
	Macedonia	4130	8.45	1.885
	Total	22499	7.83	1.915
2006	Greece	3656	8.02	1.781
	Israel	4618	8.09	2.077
	Italy	3922	7.52	2.013
	Portugal	3881	7.39	1.876
	Spain	8608	8.05	1.736
	Turkey	5478	6.75	2.269
	Macedonia	5225	8.20	2.046
	Total	35388	7.74	2.031
2010	Greece	4890	7.85	1.764
	Israel	3704	7.97	2.158
	Italy	4794	7.53	1.943
	Portugal	3947	7.49	1.816
	Spain	4883	7.96	1.903
	Turkey	5383	6.65	2.397
	Macedonia	3732	8.13	2.125
	Total	31333	7.61	2.087

(*Continued*)

Survey year/round		N	Mean	SD
2014	Greece	4059	7.72	1.782
	Israel	4639	7.98	1.952
	Italy	4014	7.36	1.952
	Malta	2131	7.61	1.917
	Portugal	4772	7.49	1.932
	Spain	10042	7.85	1.988
	Macedonia	4011	7.66	2.547
	Total	33668	7.70	2.028
2018	Greece	3821	7.54	1.934
	Italy	4107	7.58	1.812
	Malta	2490	7.33	2.076
	Portugal	6048	7.73	1.794
	Spain	4313	8.09	1.742
	Macedonia	4511	8.43	2.080
	Total	25290	7.82	1.925

Table 3. Communication with parents across Mediterranean countries

Survey year/round		N	Mean	SD
	Greece	4261	4.2760	1.67482
	Israel	8836	4.0650	1.84322
	Portugal	3612	4.4715	1.68727
	Spain	4415	4.0978	1.70381
	Total	21124	4.1839	1.76164
2002	Greece	3588	4.2595	1.79842
	Israel	5317	3.9791	1.86048
	Italy	4260	4.3319	1.60963
	Malta	1842	4.4012	1.61580
	Portugal	2806	4.3396	1.83910
	Spain	5737	4.1412	1.70770
	Macedonia	3908	3.4603	1.70793
	Total	27458	4.0957	1.76763

(*Continued*)

Table 3. (*Continued*)

Survey year/round		N	Mean	SD
2006	Greece	3632	4.0328	1.67515
	Israel	5251	3.5951	1.58404
	Italy	3773	4.3602	1.68704
	Malta	1290	4.5450	1.75406
	Portugal	3686	4.5068	1.85172
	Spain	8639	4.0293	1.63437
	Turkey	4743	4.3924	1.84962
	Macedonia	5096	3.6442	1.77298
	Total	36110	4.0616	1.74491
2010	Greece	4772	4.0918	1.64827
	Israel	4112	3.4494	1.54724
	Italy	4661	4.3283	1.67215
	Portugal	3786	4.4593	1.87017
	Spain	4878	3.9926	1.63640
	Turkey	5120	4.2941	1.92246
	Macedonia	3440	3.5706	1.76315
	Total	30769	4.0467	1.76030
2014	Greece	3993	4.0035	1.70435
	Israel	5862	3.5897	1.71698
	Italy	3937	4.1412	1.75605
	Malta	2182	4.0069	1.69592
	Portugal	4436	4.1213	1.85572
	Spain	9957	4.6535	1.82931
	Macedonia	3914	3.4635	1.77074
	Total	34281	4.0912	1.82655
2018	Greece	3764	3.9110	1.69312
	Italy	4045	4.1713	1.77731
	Malta	1371	4.0226	1.57496
	Portugal	5651	3.7758	1.83529
	Spain	4180	4.6761	1.75200
	Macedonia	4360	3.3686	1.63431
	Total	23371	3.9656	1.78564

Will be presented as Oral Presentation Virtually
ID: 287/12-OP-V-d3A: 7
Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS, ADOLESCENT MEDICINE
Keywords: Hallux valgus

Hallux valgus as a cause of painful foot in pediatric age

Ferreira Mendes, Joana[1]; Araújo Oliveira, Inês[2]; Azevedo, Inês[1]; Almeida, Eduardo[3]
[1]Department of Pediatrics, Centro Hospitalar de Entre Douro e Vouga, Portugal; [2]Department of Pediatrics, Centro Materno-Infantil do Porto; [3]Department of Orthopaedics, Centro Hospitalar do Porto

Background: Juvenile hallux valgus is characterized by varus deviation of the 1st metatarsal and its proximal phalanx in children with immature bone development, more commonly seen in females. Although rare in children, it is estimated that up to half of adult cases originate in childhood. Aesthetic concerns are frequent, but pain can be the predominant and limiting symptom. Radiological evaluation is essential for severity assessment and therapeutic planning. Surgery is reserved for severe and symptomatic cases and should be performed whenever possible after skeletal maturity to prevent recurrence.

Case Presentation Summary: A 10-year-old girl was referred to the Pediatric Orthopedics clinic for bilateral hallux valgus associated with pain. Radiographs confirmed an intermetatarsal angle of 29° on the right and 26° on the left, indicating moderate bilateral severity. Due to the severity and associated pain, surgical treatment was proposed. Right hallux valgus correction was performed in the first stage, followed by the left side nine months later. During follow-up, one year later, there was a recurrence of bilateral hallux valgus, more pronounced on the left, associated with bilateral calcaneal valgus, prompting a referral for calcaneal stop surgery. Ten months later, with ongoing complaints, it was necessary to revisit the left hallux valgus correction. Approximately four years later, after four interventions, the adolescent is clinically improved and pain-free.

Learning Points Discussion: Although rare in pediatric age, hallux valgus is a cause of painful feet. Determining the optimal therapeutic strategy is challenging and should consider severity, symptoms, and the risk of recurrence. Follow-up of these patients is essential for evaluating and detecting complications and recurrence early on.

Will be presented as Oral Presentation Virtually
ID: 288/12-OP-V-d3A: 8
Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS, EMERGENCY PEDIATRICS
Keywords: Nutcracker Syndrome; Hematuria

Nutcracker Syndrome - an underdiagnosed cause of hematuria

Ferreira Mendes, Joana; Alexandra Azevedo, Inês; Alves Araújo, Sara; Araújo, Ricardo
Department of Pediatrics, Centro Hospitalar de Entre Douro e Vouga, Portugal

Background: Nutcracker Syndrome (NCS) is a set of signs and symptoms caused by the compression of the left renal vein due to a reduction in the angle between the abdominal aorta and the superior mesenteric artery (SMA), resulting in intra- and extrarenal venous hypertension. It manifests as gross hematuria with or without clots, persistent microscopic hematuria, orthostatic/constant proteinuria, and abdominal pelvic/lumbar pain.

Case Presentation Summary: A 7-year-old male child with a left duplex kidney had a history of acute pyelonephritis in the lower pole at three months, with no other underlying conditions. At 7, he presented with gross hematuria following lumbar trauma. Physical examination and blood pressure were normal. The abdominopelvic CT scan showed no abnormalities. Three months later, another episode of trauma was followed by gross hematuria, leading to hospitalization for further evaluation. Urine sediment revealed hematuria and proteinuria, while renal function and blood pressure were normal. Immunological studies and renal-pelvic ultrasound were also normal. Given the two episodes of gross hematuria following trauma during physical activity, the diagnosis of NCS was considered, and a Doppler ultrasound was performed, confirming the diagnosis by showing a reduced angle between the aorta and SMA and abrupt compression of the left renal vein. The patient has remained clinically well for the past three months.

Learning Points Discussion: NCS should be considered in hematuria, proteinuria, and left abdominal pelvic/lumbar pain. The preferred imaging modality for evaluating hematuria is renal ultrasound, with Doppler ultrasound considered in cases of clinical recurrence and after ruling out other diagnoses. An abdominopelvic CT scan does not contribute to this diagnosis and carries the risk of radiation exposure. Treatment is primarily conservative and may even resolve spontaneously with growth. In extreme cases, vascular surgery is an alternative option.

Will be presented as Oral Presentation Virtually
ID: 195/12-OP-V-d3A: 9
Oral Presentation (Virtual)
Topics: GENERAL PEDIATRICS, INFECTIOUS DISEASES
Keywords: Aciclovir, Nephrotoxicity

Mind the site and weight while using intravenous aciclovir in paediatric wards!

Kenway, Sophie; Javali, Spurthi; Adavappa Parvathamma, Prasad
The Royal Wolverhampton NHS Trust WT, United Kingdom

Background: Aciclovir is commonly used in children for the empirical treatment of meningoencephalitis and for treatment of suspected or proven Herpes Simplex Virus (HSV) and Varicella Zoster Virus (VZV) infections. Recommended dosing regimens vary depending on the age and weight or body surface area of the child, baseline renal function, and the clinical indication for the drug. Numerous reports describe renal dysfunction in adults receiving high-dose intravenous (IV) aciclovir, but this wealth of data is lacking in paediatric populations. The objective of this study was to: 1. Record the complications and side effects of IV aciclovir therapy in children; 2. Assess the quality of IV aciclovir prescriptions according to guidelines laid out by the British National Formulary for Children (BNFc).

Methods: This was a retrospective cohort study in a district general paediatrics department. Using scanned clinical notes, we identified 58 episodes between October 2022 and June 2023 where a child had received IV aciclovir. Data were collected on patient demographics, the quality of each prescription and complications noted during treatment.

Results: IV aciclovir was prescribed most commonly for suspected meningoencephalitis (53%) and eczema herpeticum (26%) (Figure 1). Three dosages were prescribed, which did not align with BNFc recommendations. Creatinine levels were checked prior to the first dose of aciclovir in 53% of cases and following completion of treatment in 26% of cases. Five patients (8.6%) developed Acute Kidney Injury (AKI) during or after treatment. Including two patients with isolated raised creatinine levels prior to treatment, there were six cases where the aciclovir dose should have been adjusted to their renal function, but only one case where such adjustment was made. 28% of patients experienced extravasation during treatment. Two patients treated for suspected meningoencephalitis had positive cerebrospinal fluid PCR (one case of HSV1 disease and one of pneumococcal disease)

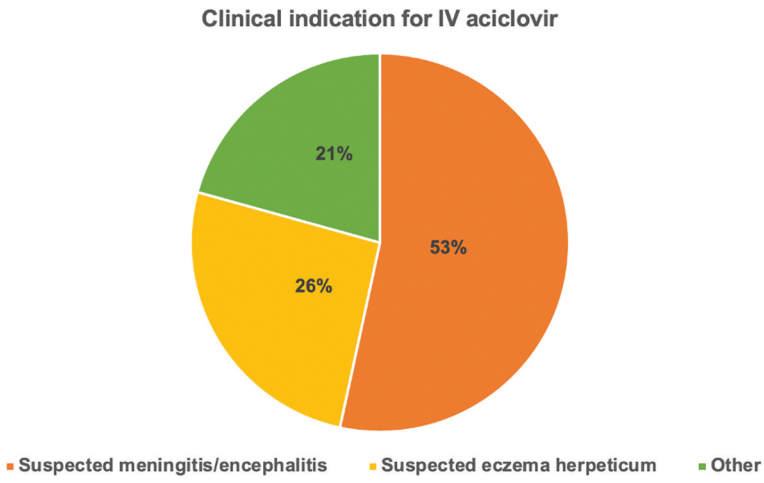


Figure 2. Illustrates the proportion of patients prescribed IV aciclovir for suspected meningitis/encephalitis, suspected eczema herpeticum, and other indications.

Conclusions: Aciclovir was commonly prescribed as empirical therapy for suspected meningoencephalitis, though there were relatively few cases of confirmed HSV and VZV disease. Extra care must be taken when prescribing IV aciclovir, with the patient's height, weight or body surface area, clinical indication and renal function considered. As nephrotoxicity was common in this audit, we recommend daily creatinine measurements during treatment for the early detection of AKI. Monitoring the cannulation site for extravasation injury is also essential.

Will be presented as Oral Presentation Virtually
ID: 318/12-OP-V-d3A: 10
Oral Presentation (Virtual)
Topics: PUBLIC HEALTH, ORAL HEALTH
Keywords: CBCT, children, dentistry, radiology, research

CBCT use in UK orthodontics: a survey analysis

Alawsi, Fahad
Kettering Generla Hospital, United Kingdom

Introduction: Cone beam computed tomography (CBCT) in orthodontics has gained popularity recently, but its use and accessibility in the United Kingdom (UK) have remained largely unexplored. This study aimed to investigate CBCT usage, accessibility, justifications, challenges, and training in the UK orthodontic community.

Methods: A cross-sectional questionnaire study was conducted, utilising an online survey distributed via the British Orthodontic Society. The questionnaire, focusing on CBCT accessibility, utilisation, challenges, and training, was administered from November 2022 to January 2023.

Results: Out of 1185 potential participants, 82 completed and 22 partially completed responses were received, yielding a response rate of approximately 6.92%. Most respondents (68%) reported that the nearest CBCT machine was in an NHS secondary care/hospital setting. Of the 65 practitioners using CBCT in clinical practice, all employed it for assessing unerupted/impacted teeth. Notably, 80% of these practitioners reported increased CBCT referrals over the past five years for orthodontic reasons. Approximately 37% of respondents lacked access to reporting by a dental and maxillofacial radiologist—few utilised patient information leaflets, but most expressed willingness to use a nationally endorsed leaflet.

Conclusions: This study revealed a growing trend in CBCT utilisation for orthodontic purposes, particularly in managing impacted/unerupted teeth. Concerns about access to scanning and reporting facilities were noted, often attributed to geographical challenges and cost. These findings provide valuable insights into the current landscape of CBCT usage in UK orthodontics and warrant further research with a larger respondent pool to gain a comprehensive understanding of CBCT practices in the field.

Will be presented as Oral Presentation Virtually
ID: 177/12-OP-V-d3A: 11
Oral Presentation (Virtual)
Topics: INFECTIOUS DISEASES, COVID-19
Keywords: cardiogenic shock, heart failure, intensive care, covid-19, paediatric inflammatory multisystem syndrome

Acute severe heart failure in paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2

Chan, May Lynn; Sajid, Muhammad Maaz; Ali, Manal; Ahmed, Nauman
Southport and Formby District General Hospital

Background: Clusters of children presenting with paediatric inflammatory, multisystem syndrome temporally associated with COVID-19 (PIMS-TS) emerged during the first wave of the global pandemic. The presentation of PIMS-TS is multisystemic and may overlap with other well-known acute inflammatory syndromes such as Kawasaki disease and toxic shock syndrome. Cardiovascular involvement is the most common finding in PIMS-TS and causes a significant disease burden. The most commonly observed complications are cardiogenic shock, cardiac arrhythmias, pericardial effusion, and coronary artery dilatation.

Case Presentation Summary: We describe a case of a 17-year-old patient who presented a diagnostic challenge with multisystemic features, including mucocutaneous, neuropsychiatric, gastrointestinal, and cardiovascular involvement. The patient subsequently developed cardiogenic shock due to severe myocardial dysfunction concomitant with myocarditis associated with PIMS-TS. He required inotrope and vasopressor support in the intensive therapy unit (ITU) and specialist management of heart failure in the coronary care unit. This case stands out chiefly because it demonstrates the severity of cardiovascular involvement of PIMS-TS in an otherwise fit and healthy adolescent. Initial admission echocardiogram showed severe left ventricular systolic dysfunction with an estimated left ventricular ejection fraction (LVEF) of 27%. NT-proBNP was severely elevated at 31546 pg/ml, and troponin T at 157 ng/L. Following multidisciplinary team discussions involving local and regional paediatricians, intravenous immunoglobulins and corticosteroids were commenced, and there was a substantial improvement in the patient's LVEF to >55% four days later. The patient subsequently had a complete resolution of symptoms and fully restored functional status by four months. (table 1)

Learning Points Discussion: This case highlights the importance of diagnostic awareness of PIMS-TS and its spectrum of disease and recognition of the potential for rapid deterioration in these patients. Prompt resuscitation and early escalation to ITU in the context of haemodynamic instability are essential. Though PIMS-TS remains a rare COVID-19-associated syndrome, it can cause life-threatening cardiovascular complications if a timely diagnosis is not made. Due clinical diligence is required in identifying the degree of cardiovascular involvement with clinical findings, electrocardiogram (ECG), laboratory cardiac indices, and echocardiography. Early multidisciplinary team involvement will facilitate diagnosis and improve patient outcomes. Despite its critical nature, the prognosis of PIMS-TS is excellent if treated promptly with immunoglobulins and corticosteroids, in addition to supportive treatment.

Table 1. Laboratory test Results: biochemistry

Investigation	8-Oc	t 10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oc	t 18-Oct
Creatinine (µmol/L)	74	78	71	60	62	63	61	64	
eGFR (ml/min/1.73 m^2)	N/A	N/A	>90	>90	>90	>90	>90	>90	
Sodium (mmol/L)	133	134	135	138	134	139	138	139	
Potassium (mEq/L)	4.2	5.1	4.2	3.7	4.2	4.4	4.6	5.1	
Urea (mmol/L)	3.9	5	5.8	5.8	9.6	11.7	8.1	8.2	
Amylase (U/L)			38						
Vitamin B12 (pg/ml)						825			
Calcium (mmol/L)			1.86	2.06	1.98	1.96		2	
Adjusted calcium (mmol/L)			2.14	2.23	2.2	2.13		2.18	
CRP (mg/dL)	170	314	253	222	125	68		32	17
ESR (mm/hr)			17						
Ferritin (ng/mL)			1010	2860					
Folate (ng/ml)						3.3			
Free T4 (pmol/L)						15.2			
TSH (mU/L)						1.54			
LDH (U/L)					180				
ALT (IU/L)	21	66	47	163	102	79		98	
Alkaline phosphatase (IU/L)	92	102	82	75	59	58		61	
Total bilirubin (mg/dL)	13	15	11	17	10	10		11	
Albumin (g/L)	45	38	28	39	32	36		35	
Magnesium (mmol/L)			0.73	0.7	1.02	0.94		0.85	
NT-proBNP (pg/mL)			25891	31546	14508	11990		4532	
Phosphate (mmol/L)			0.81	0.99	0.71	1.42		1.16	
Procalcitonin (ng/mL)			31.39	14.22					
Total vitamin D (ng/ml)						27			
Trop T (ng/L)			157	79	58				

Will be presented as Oral Presentation Virtually
ID: 184/12-OP-V-d3A: 12
Oral Presentation (Virtual)
Topics: ORAL HEALTH
Keywords: Paediatric, Dental, Consent, General Anaesthetic

Quality Improvement Project of risks mentioned in Paediatric Dental Chair GA consent forms

Helmy, Dr Safa; Sharma, Dr Ash
NHFT, United Kingdom

Aims: This project aimed to develop and roll out a consistent approach in informing parents and individuals with parental responsibility of the risks of the GA as part of the consent process before dental chair General anaesthetic surgery.

Methodology: The Methodology of the Audit was to audit the consent forms at Northampton General Hospital (NGH) and Kettering General Hospital (KGH) between March and May 2023 to assess if the GA risks were mentioned as per Royal College of Anaesthetists Guidelines (RCoA). The inclusion criteria included all paediatric patients under the age of 16 who were classified as ASAI and II on the Chair GA lists at NGH and KGH within this timeframe. A local audit presentation was carried out at the Trust level, and an RCoA leaflet was implemented in each surgery and handed out to each patient as part of the GA consent form, as well as a laminated copy stuck in each of the 12 surgeries.

Results: In the first cycle, 96% of consent forms included the risk of death. However, less than 10% had other more common risks such as sore throat, change in behaviour, irritability, damage to teeth, minor injury to lip and tongue and agitation on waking from GA. After the second cycle, more than 100% of consent forms included this risk of death, and 89% of patients were given a copy of the RCoA leaflet to explain these risks.

Conclusion: There are multiple General Anaesthetic risks in Paediatric Dental Chair GA lists. As part of the GDC Standards, we should give thorough and detailed information so patients can consent to their treatment options and modalities.

Session

11-PT-V-d2A

Time:
Friday, 01/Dec/2023:
9:00am - 11:00am

Presentations

ID: 212/11-PT-V-d2A: 1
Poster Presentation (Virtual)
Topics: INFECTIOUS DISEASES, EMERGENCY PEDIATRICS
Keywords: Hemophagocytic lymphohistiocytosis, Varicella zoster, Immunosuppression

Disseminated Varicella in immunosuppressed infant

Ribeiro, Daniela Ester[1]; Pinto, Joana[2]; Carvalho, Vasco[3]; Ribeiro, Augusto[3]
[1]Centro Hospitalar Baixo Vouga, Portugal; [2]Centro Hospitalar Trás-Os-Montes e Alto Douro; [3]Centro Hospitalar e Universitário de São João

Background: Varicella zoster virus is a human pathogen of the Herpesviridae family. Primary infection is usually self-limited; however, it can lead to severe disease, most often seen in adolescents, adults and immunocompromised patients. The main complications are skin/soft tissue infections, Reye's syndrome and visceral dissemination (pneumonia, hepatitis and encephalitis). Visceral organ involvement is a life-threatening emergency. When cutaneous lesions are present, they may be delayed or atypical with hemorrhage.

Case Presentation Summary: A 9-month-old boy with Down's Syndrome, recurrent urinary tract infections and infantile spasm syndrome under high dose prednisolone and vigabatrin was admitted to the Pediatric Intensive Care Unit (PICU) due to multiorgan dysfunction secondary to Varicella infection. Physical examination and vital signs at admission to the PICU showed fever, high blood pressure, tachypnea, irritability, oedema, and a vesicular and petechial rash. Analytic findings exhibited acute liver injury with hepatocellular damage, biliary dysfunction, coagulopathy, thrombocytopenia, hyperferritinemia, and hypofibrinogenemia. Then, the secondary

hemophagocytic syndrome was suspected and confirmed. Treatment was made with intravenous (iv) significant spectrum antibiotic, iv acyclovir, two cycles of iv immunoglobulin fifteen days apart (first one 1g/kg/day during two days and the second 0.5g/kg/day for four days), high dose iv corticosteroid therapy in the first fifteen days (4 mg/kg/day) followed by weaning and antihypertensive drugs. The patient was discharged from PICU after twenty-three days and did not need a liver transplant.

Learning Points Discussion: Hemophagocytic lymphohistiocytosis (HLH) is a familial or sporadic disorder due to excessive immune activation. The primary triggers are infections (usually viral), neoplasms and rheumatologic disorders. Clinical findings on secondary HLH can vary between mild and fulminant diseases. A high degree of suspicion of HLH is required and should be suspected in the presence of unexplained cytopenias, hepatitis or inflammatory central nervous system findings. The diagnosis is based on fulfilling the diagnostic criteria of the HLH-2004 trial. Although, sometimes, a diagnosis of HLH is made in patients who only partly meet the most stringent criteria. Clinically stable patients who have a condition responsible for triggering HLH may respond to treatment of the disease alone. Patients with organ dysfunction should be treated immediately with HLH-specific treatment.

ID: 235/11-PT-V-d2A: 2
Poster Presentation (Virtual)
Topics: ADOLESCENT MEDICINE
Keywords: Eating habits, Adolescents, Georgia

Eating habits of late adolescents in Georgia

Pagava, Karaman; Phagava, Helen
Tbilisi State Medical University, Tbilisi, Georgia

Introduction: The impact of eating habits on health is well established. Eating habits frequently originate from the early childhood but might change over the life.

Objective: To study the eating habits of late adolescents in Georgia.

Methods: We have performed a cross-sectional survey of 2 groups of the Tbilisi State Medical University students using random cluster sampling: Group A, late adolescents – first-year students (<20y, n=137), Group B young adults – fourth-year students (≥20y, n=140). Total number of respondents was 277 (191 female (69%), 86 male (31%)). The questionnaire was prepared in Georgian.

Results: Frequency of meals per day was similar in both groups: respectively 57% and 58.6% had 3-4 meals per day. 57.7% (Group A) and 47.8% (Group B) watched TV while eating. In both groups, the majority took 1-2 cups of coffee daily (55.5% vs. 58.6%). A statistically significant difference was in preference for hot beverages (Group A preferred tea vs coffee (43.8%, 29.9%), Group B – coffee vs tea (35%, 28.6%)) (p=0.033). Older young people seem to be more watchful over healthy nutrition: 49.9% (Group B) vs. 35.0% (Group A) (p=0.018). Both groups are mindful of their sensation of hunger (66.4% vs 75.7%) and of satiety (67.1% vs 75%). There was no statistically significant difference between groups in emotional eating (22.1% and 28.6%). The majority in both groups do not consume meals at regular times (67.2% and 61.4%). No difference was seen in the frequency of snacking between meals. The majority in both groups add sugar to hot beverages (62.8% and 51.4%), but 41.6% and 54.3% do not add salt to the already cooked food. There was a statistically significant difference in the habit of eating breakfast: 27% vs. 15.7% (p=0.029).

Conclusion: Several aspects of eating habits have been studied. It is interesting that only a few of them there were seen statistically significant differences between the groups. Young adults prefer coffee over tea, most probably due to a more hectic life than the younger students. Late

adolescents seem to be more nonchalant regarding healthy nutrition. However, this might be explained not only by the beneficial impact of ageing and maturity but also by the compilation of medical knowledge. Hectic life can also explain the diminution of eating breakfast habits seen in the elderly group. Obtained results give us an idea of changes happening in late adolescence, and this information might be helpful in planning relevant public health initiatives.

ID: 230/11-PT-V-d2A: 3
Poster Presentation (Virtual)
Topics: NEUROLOGY
Keywords: Hypotonia, Kyphoscoliosis, Ehlers-Danlos syndrome

Hypotonia and kyphoscoliosis: an infant case

Ribeiro, Daniela Ester[1]; Real, Marta Vila[2]; Santos, Fátima[2]
[1]Centro Hospitalar Baixo Vouga, Portugal; [2]Centro Hospitalar Vila Nova Gaia-Espinho

Background: The differential diagnosis of hypotonia in infants is extensive since it can be due to genetic syndromes, inborn errors of metabolism, endocrine abnormalities, primary neuromuscular disorders and cerebral palsy. If a specific disorder is suspected, a focused evaluation should be performed. Despite that, there are patients on whom a diagnosis can't be made, and next-generation sequencing methods may have some utility.

Case Presentation Summary: A 3-month-old girl was sent to the Neuropediatric appointment due to axial hypotonia and little spontaneous movements since birth. From the prenatal/perinatal history, young parents struggle to conceive without consanguinity, oligohydramnios, pelvic position and low weight at birth. There wasn't a history of seizures, failing to thrive or eating difficulties. Physical examination at three months showed a social smile, retrognathia, axial hypotonia, shallow breathing movements, hyperlaxity of the hips, osteotendinous reflexes symmetrical, and no tongue fasciculations. At five months, it was noticed a dorsal hump that worsened over time (at 20 months dorsal cobbs' angle of 89° and lumbar cobbs' angle of 43°). Echocardiogram was normal. During the etiological investigation, spinal muscular atrophy and metabolic diseases were ruled out. Whole genome sequencing showed a variant in probable homozygosity in exon 3 (of 4) of the FKBP14 gene that has been described in patients with kyphoscoliotic Ehlers-Danlos syndrome (EDS). At the moment, at 22 months, she has good cognitive development with a significant motor delay despite intensive therapies, feeds without percutaneous gastrostomy and needs non-invasive ventilation at night. In the otolaryngology evaluation, the patient had brainstem evoked response audiometry (BERA) with bilateral thresholds of 30 dB hearing level and will need a behavioral audiogram at three years.

Learning Points Discussion: EDS is a group of 13 relatively rare genetic disorders of connective tissue that are characterised by joint hypermobility, skin hyperextensibility and tissue fragility. The kyphoscoliotic EDS (kEDS) is divided into two types. The kEDS type 2 is inherited as an autosomal recessive disease due to biallelic variants in FKBP14, and the clinical manifestations are progressive kyphoscoliosis, hypotonia, joint hypermobility, myopathic features, hyperelastic skin, hearing loss and hernias. Some patients may present systemic connective tissue involvement that manifests as aortic rupture and arterial dissection, subdural hygroma, cardiac valve insufficiency, bluish sclerae, bladder diverticula and premature membrane rupture during pregnancy. The diagnosis of FKBP14-kEDS is established by molecular genetic testing. The treatment is symptomatic.

ID: 215/11-PT-V-d2A: 4
Poster Presentation (Virtual)
Topics: RARE DISEASES, RHEUMATOLOGY
Keywords: FMF, MEFV mutational spectrum, Children, Georgia

MEFV mutational spectrum in Georgian children suffering from FMF

Pagava, Karaman[1]; Oberkanins, Christian[2]; Khvedelidze, Mamuka[3]; Kriegshäuser, Gernot[4]; Tatoshvili, Davit[1]; Zhvania, Otar[1]
[1]Tbilisi State Medical University, Tbilisi, Georgia; [2]ViennaLab Diagnostics, Vienna, Austria; [3]Molecular Medicine Research Center - Primax, Tbilisi, Georgia; [4]IHR LABOR, Medical Diagnostic Laboratories, Vienna, Austria

Introduction: Familial Mediterranean fever (FMF) is the most frequent hereditary autoinflammatory disorder caused by mutations in the Mediterranean fever (MEFV) gene. FMF is mainly present in Sephardic Jewish, Armenian, Arab, and Turkish populations but occurs at lower frequencies in many Mediterranean and Middle Eastern countries, including Georgia. Despite a known considerably high MEFV carrier rate of 15.3% in neonates (K. Pagava et al. 2014), the data concerning FMF in Georgia, particularly in the pediatric population, are scanty.

Objective: This ongoing study aims to investigate the problem of FMF (clinical manifestations, MEFV mutations) in Georgia, a country with a unique genetic heritage, with a significantly high rate (approximately 15%) of Armenian diaspora located at the intersection of Eastern Europe and Western Asia. The presented work gives data on the MEFV mutational spectrum in children suffering from FMF.

Methods: The patients have been genotyped for 12 MEFV mutations plus three SAA1 isoforms (1.1/1.3/1.5) by PCR and reverse-hybridization (FMF-SAA1 StripAssay, ViennaLab Diagnostics). Complete medical records on Tel-Hashomer symptoms (fever, abdominal pain, chest pain, arthralgia) were also recorded.

Results: Our preliminary study cohort consisted of 42 FMF patients: 19 (45.24%) females, 23 (54.76%) males, and a mean age of 7.90 ± 5.29 years. We distinguished 19 different homozygous, heterozygous, and compound heterozygous MEFV genotypes. Five MEFV mutations, known to be prevalent in the region, were most common in our cohort: M694V, V726A, M680I, E148Q and R761H. Three more mutations (P369S, M694I, K695R) were found at frequencies below 5%. Among the most striking observations so far was a relatively long period between the onset of symptoms suggestive of the disease and appropriate diagnostic investigations and the start of treatment.

Conclusion: The MEFV mutational spectrum in Georgian children is heterogenous, similar to neighbouring Armenia and Turkey. Awareness, as well as accessible diagnostic and therapeutic options for FMF, seem insufficient and unavailable to a certain extent. This is important as the early diagnosis and treatment show a favourable course over the years.

ID: 101/11-PT-V-d2A: 5
Poster Presentation (Virtual)
Topics: GENERAL PEDIATRICS, HEALTH ECONOMICS & MANAGEMENT
Keywords: Virtual ward outreach bronchiolitis technology

Paediatric Virtual Ward: A technological innovation in patient care

Page, Amy; Dunn, Louise; Evans, Jean; Harris, Ruth
Dudley Group of Hospitals NHS Trust, United Kingdom

Objectives: We aimed to set up a paediatric virtual ward to allow early, safe discharge of patients from the children's ward at DGH with home monitoring. This was the country's first paediatric service of its kind and has since been adopted by multiple other trusts following networking and sharing of experiences. This was initially planned to respond to the expected

Winter 2021 RSV surge but is planned to expand to cover additional conditions. The original starting plan was a 6-bed ward, but rapidly expanded to 12 beds within 4 months of commencement.

Method: Children were seen in the paediatric ward/assessment unit, and a decision was made by the senior medic regarding suitability for early discharge with home monitoring, including SATS and heart rate. The children's ward outreach team observes patients in the community with twice daily phone assessments and monitoring of observations submitted via the DOCOBO system via tablet by parents at home. Patients can be admitted with respiratory illness, Henoch-Schönlein purpura, or nephrotic syndrome. Patients are discharged home with monitoring equipment, including sats, pulse, respiratory rate and temperature monitoring, and a separate blood pressure cuff.

Results: As of January 2023, 312 patients have been admitted to the virtual ward for monitoring. This has so far saved 896 hospital bed days, 1066 ED and PAU visits have been avoided, 1185 clinical hours have been created, and an estimated 67,050kg of CO2 have been saved. Feedback comments from parents have been extremely positive, including quotes such as "Virtual ward is an amazing idea, we were over the moon with equipment provided and checking in from staff."

Conclusions: A paediatric virtual ward has demonstrated that it can increase capacity and flow for busy inpatient areas. It has improved patient experience and reduced returns to the hospital due to anxiety alone. It has given children and families autonomy to manage illness in their homes and brought care closer to the patient. This patient-centric approach has reduced A&E and PAU visits, increased clinic hours and has aligned with the NHSE/I system and trust priorities by providing a new way of working and moving towards digitising patient care. Virtual ward can be summarised as "Achieving a lot more with just a little more resource." The ward has also been a finalist in the RCN and Nursing Times awards and won the Local Trust Committed to Excellence award.

ID: 250/11-PT-V-d2A: 6
Poster Presentation (Virtual)
Topics: NEONATOLOGY
Keywords: Breast feeding, preterm, BFI, mothers, NICU

Retrospective analysis of breast milk feeding pattern in preterm infants born before 34 weeks: A two month study in a neonatal unit, England

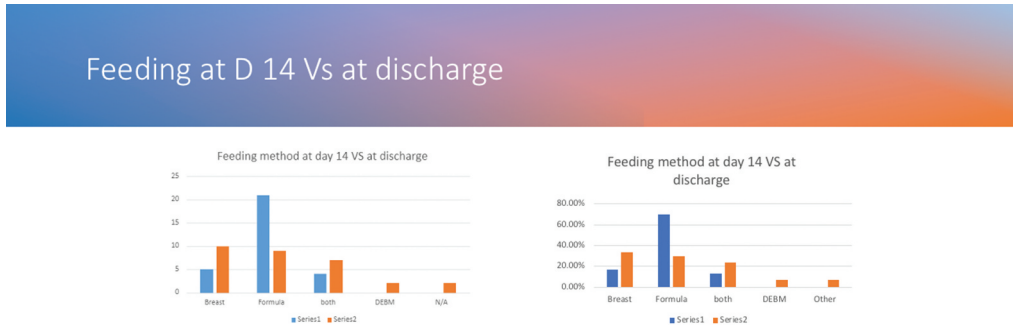
Gurafi, Nuha; Das, Dr Ambalika
Barking havering and redbridge university hospitals, United Kingdom

Background: Breastfeeding is crucial for all infants, especially those born prematurely. This retrospective study aims to monitor specific metrics as part of the National Neonatal Audit Program in 2023. It focuses on determining whether babies born before 34 weeks gestation received any of their mother's breast milk at both day 14 and upon discharge.

Methods: Out of 35 preterm infants initially considered, five were excluded from the study. Data from the remaining 30 infants were collected and analyzed to determine compliance with these two key measures.

Results: The results of this study are noteworthy. Among the 30 infants included in the analysis at day 14, 56.6% received some amount of their mother's breast milk. However, it's important to highlight that this percentage decreased significantly to 30% by discharge. The reasons identified for the decrease in breastfeeding rates among preterm infants are pretty common and highlight some of the challenges mothers face in NICU settings. These reasons include: 1- Difficulty in Expressing Milk: Mothers often struggle to continue expressing breast milk regularly, especially

Table 1.



when their babies are in the Neonatal Intensive Care Unit (NICU). The stress and emotional strain of having a preterm infant in the NICU can impact their ability to maintain a consistent pumping schedule. 2- Insufficient Milk Production Concerns: Some mothers may worry that their breast milk production is inadequate to meet their baby's needs. This concern can lead to uncertainty about whether breast milk alone is sufficient for preterm infants. 3- Lack of Available Milk: In some instances, mothers may face difficulties in producing enough breast milk, leading to concerns about the availability of milk for their babies.(Table)

Conclusion: Based on our findings, we propose the following recommendations to improve compliance with these measures in preterm infants: 1. Increase awareness regarding the significance of breastfeeding through the distribution of brochures, posters, and educational materials to both parents and healthcare providers. 2. Implement an exclusive breast milk (EBM) package for mothers during consultation, providing the necessary resources and support for successful breastfeeding. 3. Incorporate the Baby-Friendly Hospital Initiative (BFHI) into the induction process for all healthcare professionals, including doctors, nurses, and midwives, to promote a breastfeeding-friendly environment within the neonatal unit. These recommendations aim to enhance the early and sustained provision of breast milk to preterm infants, aligning with the National Neonatal Audit Program 2023 goals. Further research and continuous monitoring are essential to evaluate the impact of these interventions on compliance with the specified measures.

ID: 129/11-PT-V-d2A: 7
Poster Presentation (Virtual)
Topics: PUBLIC HEALTH
Keywords: physical disability, adolescents, support, bullying, inclusion

Social and supportive relationships of adolescents living with and without physical disabilities in France and Canada.

Li, Angela[1]; Sentenac, Mariane[2,3]; Tun, Hein Minn[4]; Shu, Yukiko[4]; Ehlinger, Virginie[5]; Davison, Colleen[1]; Godeau, Emmanuelle[4,5]
[1]Queen's University, Canada; [2]Université Paris Cité, Inserm, INRAE, Centre for Research in Epidemiology and Statistics (CRESS); [3]Obstetrical Perinatal and Pediatric Epidemiology Research Team, EPOPé; [4]École des hautes études en santé publique, France; [5]Center for Epidemiology and Research in Population Health (CERPOP), Inserm, University of Toulouse

Background: Insights on adolescents' perceptions of their support networks and peer relationships are needed and valuable to inform the development and implementation of interventions to enhance the social well-being and development of youth with physical disabilities. This study

aimed to assess the social and supportive relationships of adolescents with physical disabilities (i.e., functional limitations in vision, hearing, mobility, and communication) characterized by peer support, family support, teacher support, bullying victimization, and bullying perpetration. These items were investigated in Canada and France as two culturally contrasting environments whose social contexts and inclusivity policies may impact support and bullying experiences.

Methods: The study used French (n=2338) and Canadian (n=6967) data on 15-year-old students from the 2017/2018 iteration of the Health Behaviour in School-aged Children (HBSC) study. Self-reported information was collected on socio-demographic characteristics, disability, support, and bullying experiences using standard HBSC instruments (e.g., FDQ, MSPSS, FAS). Pearson's chi-square tests were performed to evaluate differences between adolescents reporting physical disability (defined according to the ICF as dysfunction in vision, hearing, speech, and mobility) and adolescents without physical disability. Bivariate and adjusted logistic regression models were produced to analyze associations between physical disability, support, and bullying.

Results: In France, adolescents with physical disabilities were significantly less likely to report high levels of support from peers, family, and teachers (58.5%, 44.4%, and 32.9%, respectively) than adolescents without physical disabilities (69.8%, 69.3%, 45.1% respectively). The same pattern emerged in the rates of high peer, family, and teacher support from the Canadian data (34.5%, 37.0%, 48.5% vs. 44.8%, 46.2%, and 55.0% respectively). Across both countries, adolescents with physical disabilities were more likely to self-report bullying victimization (France: 8.6% vs. 3.3%, Canada: 25.3% vs. 15.1%). No significant differences were found for bullying perpetration. These trends persisted even after adjusting for family affluence and gender (Table 1). Particularly strong relationships were observed for low family support with physical disability in France (OR 2.728 [2.055-3.620]) and bullying victimization with physical disability in France (OR 2.575 [1.572-4.218]) and Canada (OR 2.368 [1.838-3.052]).

Table 1. Support and Bullying Experiences by Country and Physical Disability Status

Factor		France			Canada		
		No Physical Disability (n = 2097)	Physical Disability (n = 241)	P-value	No Physical Disability (n = 6684)	Physical Disability (n = 283)	P-value
		n (%)	n (%)		n (%)	n (%)	
Peer Support	High	1377 (69.8%)	129 (58.5%)	< 0.001	2813 (44.8%)	104 (34.5%)	< 0.001
	Low	616 (30.2%)	99 (41.5%)		3653 (55.2%)	154 (65.5%)	
Family Support	High	1334 (69.3%)	100 (44.4%)	< 0.001	2841 (46.2%)	104 (37.0%)	< 0.05
	Low	582 (30.7%)	119 (55.6%)		3613 (53.8%)	154 (63.0%)	
Teacher Support	High	985 (45.1%)	85 (32.9%)	< 0.001	3861 (55.0%)	149 (48.5%)	< 0.05
	Low	1100 (54.9%)	156 (67.1%)		2903 (45.0%)	128 (51.5%)	
Been Bullied	Yes	79 (3.3%)	22 (8.6%)	< 0.001	968 (13.4%)	62 (26.6%)	< 0.001
	No	1942 (96.7%)	210 (91.4%)		5438 (86.6%)	183 (73.4%)	
Bullied Others	Yes	60 (3.1%)	11 (7.3%)	<0.001	340 (4.2%)	16 (6.0%)	0.162
	No	1966 (96.9%)	219 (92.7%)		6071 (95.8%)	232 (94.0%)	

Conclusion: Adolescents with physical disabilities are at a significantly higher risk of experiencing low peer, family, and teacher support. They are also more likely to be bullied than their typically developing counterparts, even with adjustments for sex and family affluence. Our findings aid in understanding the peer and supportive relationships perceived by physically disabled adolescents in their primary social and learning environments, suggesting that further efforts are required to promote full inclusivity and participation.

ID: 228/11-PT-V-d2A: 8
Poster Presentation (Virtual)
Topics: INFECTIOUS DISEASES
Keywords: Bacteriophage therapy, Respiratory infections, Children

The effect of bacteriophage therapy on improvement of clinical and paraclinical outcomes in respiratory system infections in children

Pagava, Karaman; Korinteli, Irine A; Korinteli, Irma G
Tbilisi State Medical University, Georgia

Background: Antibiotics are considered a primary treatment of bacterial infections. Their inappropriate use has increased the risk of microbial multi-drug resistance. Bacteriophages are one of the most promising alternatives to antibiotics. Thus, the interest in bacteriophages as a feasible alternative to antibiotics or adjuvant to antibiotic therapy has been increased.

Objectives: Our study aimed to evaluate the effect of bacteriophage therapy on improving clinical and para-clinical outcomes in bacterial infections of the respiratory system in children.

Methods: This open clinical trial was conducted from March 2020 to December 2020 in Tbilisi State Medical University G. Zhvania Pediatric Academic Clinic. One hundred sixty-two outpatients (3-7 years old, females 76/46.9 %, males 86/53.1%) with bacterial respiratory diseases were surveyed, among them – 108 with URTI, incl. pharyngitis, otitis media, sinusitis, 54 – with pneumonia of moderate severity. Patients were randomised into two equal groups: primary and control (54 URTI and 27 pneumonia). The primary group was treated with an antibiotic and symptomatic treatment plus commercial, state-registered bacteriophage administered per os. Children in the control group were treated only with antibiotics and symptomatic remedies. Clinical and para-clinical features were compared in both groups after three days of treatment.

Results: URTI - fever in primary group improved in 25/46.3% patients, in control group in 21/38.9%; respectively - sore throat – 30/55.6% and 26/48.1%; cough - 24/44.4% and 19/35.2%; leukocytosis - 23/42.6% and 20/37.0%; ESR - 19/35.2% and 16/29.6%; CRP - 30/55.6% in both groups. Practically the same tendency was seen in patients with pneumonia; tachypnea - 22/81.5% and 20/74.1%/; cough - 20/74.1% and 18/66.7%; fever - 22/81.5% in both groups; X-ray consolidation/ infiltration - 17/63.0% and 15/55.6%; leukocytosis -18/66.7% and 15/55.6%/; ESR - 19/70.4% and 16/59.3%; CRP -23/85.2% and 22/81.5%.

Conclusions: Our study revealed that adding bacteriophages to conventional treatment leads to unidirectional positive shifts in all clinical and para-clinical parameters, indicating some improvement in the clinical course of the disease. Further research in this direction is recommended using a double-blind design.

ID: 302/11-PT-V-d2A: 9
Poster Presentation (Virtual)
Topics: RARE DISEASES, RHEUMATOLOGY
Keywords: Children, juvenile arthritis with systemic onset, vascular endothelial growth factor

cogent public health

Table 1. Vascular endothelial growth factor indicator in children with juvenile arthritis with systemic onset

Indicator	JAwSO	Valid values	p
VEGF, pg/ml	236.13 ± 20.7	0 - 211.65	≤0.001

Note: p - reliability of the difference relative to the permissible values.

Indicators of vascular endothelium growth factor in children with juvenile arthritis with systemic onset

Akhmedova, Nilufar; Saydalieva, Farangiz
Tashkent Pediatric Medical Institute, Uzbekistan

Background and Objective: The most crucial role in the pathogenesis of juvenile arthritis with systemic onset (JAwSO) is given to the primary mediators of inflammation, including immunological markers and cytokines. They cause a spectrum of various multiorgan extra-articular clinical manifestations. In many cases, immunoinflammatory damage to internal organs is fatal and difficult to treat. One of them is vascular endothelial growth factor(VEGF), a heterodimeric glycoprotein growth factor induced by various growth factors and cytokines, including tumor necrosis factor and IL-1β. VEGF is part of the system responsible for restoring oxygen supply to tissues when blood circulation is insufficient. The study aimed to study the level of VEGF in children with JAwSO.

Methods: The study included 30 children with JAwSO who were hospitalized in the cardiorheumatology department of the Republican Specialized Scientific and Practical Medical Center of Pediatrics. The children's ages ranged from 2 to 18 years, with the average age being 8.5 ± 7.1 years. The immunological marker VEGF was determined in the laboratory of the Institute of Human Immunology and Genomics of the Academy of Sciences of the Republic of Uzbekistan. The results were processed using the software package for IBM PC "Statistica 7.0".

Results: General clinical and biochemical studies showed that in the examined children with JAwSO, the systemic inflammatory process occurred with an extremely high degree of laboratory activity in the form of leukocytosis, thrombocytosis, increased transaminase levels, progressive anemia, significantly accelerated ESR and high levels of CRP. A study of the VEGF level in children with JAwSO showed that its average value was 236.13 ± 20.7 pg/ml, which exceeds the permissible normal values (normal up to 211.65 pg/ml) by 1.1 times. [Table 1]. High levels of VEGF were detected in 33.3% of children with JAwSO. In 13.3% of patients, VEGF values exceeded its reference value by 3.7-6 times (p≤0.001). In 20% of patients, VEGF levels were 1.1-1.3 times higher than usual (p≤0.05). Overexpression of VEGF can cause vascular diseases in certain parts of the body. Increased vascular formation (angiogenesis), resulting from the action of cytokines on tissue, also increases cartilage destruction. Some drugs (genetically engineered biological drugs) created in recent years can control or slow down the course of such diseases by inhibiting VEGF.

Conclusion: In children with JAwSO, there is an increase in VEGF, which indicates immunoinflammatory damage to the organs of the cardiovascular system.

ID: 303/11-PT-V-d2A: 10
Poster Presentation (Virtual)
Topics: NUTRITION & DIETS, GASTROENTEROLOGY
Keywords: Children, celiac disease, clinical course, nutrition

The influence of the type of feeding on the clinical features of the course of celiac disease in children

Akhmedova, Nilufar; Gafurova, Zilola
Tashkent Pediatric Medical Institute, Uzbekistan

Background: Celiac disease is an immune-mediated systemic disease characterized by a wide combination of gluten-dependent clinical manifestations. The risk of developing celiac disease is often due to the interaction of hereditary predisposition with various environmental factors, including nutrition and breastfeeding. Therefore, the study of the manifestation and features of celiac disease in children, depending on the type of feeding, is of great interest.

Objective: to study the features of the manifestation and course of celiac disease in children, depending on the type of feeding.

Methods: We examined 29 young children with celiac disease who were hospitalized in the gastroenterology department of the Republican Specialized Scientific and Practical Medical Center of Pediatrics. Depending on the type of feeding, the examined were divided into 2 groups: group 1 consisted of 15 (51.7%) breastfed children, and group 2 - 14 (48.3%) mixed-fed children. All the examined were performed with general clinical, laboratory and instrumental research methods. Statistical processing of the results was done using the software package for IBM PC "Statistica 7.0", "BIOSTAT".

Results: Analysis of the results of the study showed that, regardless of the type of feeding, the clinical manifestations of the disease were classic in all examined children, but the differences concerned the timing of the manifestation of the disease. Thus, in children of group 1, signs of the disease began at the age of 8-9 months when gluten–containing complementary foods in the form of wheat porridge were introduced into the child's diet, whereas in children of group 2, the disease manifested when gluten-containing products were included at an earlier time (3-4 months). The risk of developing gluten disease was high in children who were on mixed feeding. The first signs of digestive disorders in group 1 children appeared after 8-12 weeks in the form of decreased appetite, bloating, and flatulence. In 86.7% of group 1 patients, the disease was accompanied by periodic diarrhea and fetid profuse fatty stools. Predisposition to constipation was detected in 13.3% of the examined. Among the children of group 2, diarrhea was characteristic of 71.4% of patients, while normal stools were characteristic of 28.5%. [Table 1] Nutritional disorders in the form of body weight deficiency were in 86.7% of children of group 1, while in group 2, their percentage was 71.4%. Children of group 1 were characterized by anemia of moderate and severe degrees (20% and 40%, respectively). Mild anaemia was more common in the 2nd group of patients (42.8%). The number of patients with moderate and severe anemia in group 2 was the same and amounted to 21.4% each. The number of patients with normal hemoglobin levels was 1.9 times higher in the 1st group compared with the 2nd group (26.6% and 14.4%, respectively).

Conclusion: In children with celiac disease, the timing of the clinical manifestation of the disease depends on the type of feeding: in breastfed children, clinical symptoms of the disease appear later.

Table 1. Number of patients with anemia and malnutrition depending on the type of feeding (%)

Indicators	1 group n=15	2 group n=14	P
Mild anemia	13.4 ± 8.8	42.8 ± 13.2	<0.001
Moderate anemia	20 ± 10.3	21.4 ± 10.9	>0.05
Severe anemia	40 ± 12.7	21.4 ± 10.9	<0.01
Malnutrition	86.7 ± 8.8	71.4 ± 12.1	<0.001

ID: 151/11-PT-V-d2A: 11
Poster Presentation (Virtual)
Topics: INFECTIOUS DISEASES, DERMATOLOGY
Keywords: Eczema Coxsackium

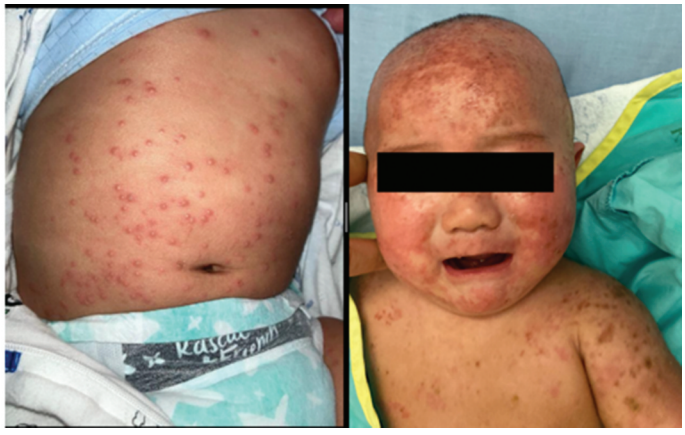
Case Report - A Severe Case of Eczema Coxsackium in a 4-month-old Boy

Subramanian, Akila; Thoon, Koh Cheng; Ang, Yi Shan; Ng, Pamela Si Min; Chong, Chia Yin; Huang, Junjie; Tan, Natalie Woon Hui
KK Women's and Children's Hospital, Singapore

Case Presentation Summary: We present a well-thrived term four-month-old boy with no maternal setup for infection and postnatal issues. He has a background of infantile eczema over his cheeks, neck, chest, axillae and generalised dry skin, which started three weeks before admission, is associated with a mild cough and runny nose. Paternal history was significant for eczema, allergic rhinitis and childhood asthma. He presented to our institution with a fever for three days (highest temperature of 39oC), oral ulcers, and a new monomorphic vesicular rash over the trunk, which spread to the limbs, cheek and groin (Figures 1a,b). His childcare centre recently had 8 cases of Hand, Foot and Mouth Disease. A private dermatologist prescribed oral Aciclovir and Amoxicillin-clavulanate. His vesicles worsened and became weepy and crusted. Our Dermatology team reviewed him and suspected eczema coxsackium, given his significant contact history. This was proven by the detection of enterovirus from his vesicle swab. The lesions were tested negative for herpes simplex virus and varicella zoster virus nucleic acids. Mildly elevated C-reactive protein and leucocytosis/neutrophilia were noted. His blood culture and skin swab culture showed no bacterial growth. Per the Infectious Diseases team's recommendation, he received three days of intravenous acyclovir until the herpes simplex virus was ruled out. Additionally, he had seven days of intravenous cefazolin for possible secondary bacterial infection. His eczema was treated with emollients, Betamethasone valerate 0.025%/Clioquinol 3% cream over his limbs and trunk and Desonide 0.05% lotion over his scalp and face. Referral to Immunology was made due to concerns for possible immunodeficiency due to severe eczema coxsackium in infancy. A basic immunological screen showed no hypogammaglobulinemia. There was pan-lymphocytosis with an increased proportion of CD45RO+ activated T cells, likely a reactive process due to active viral infection. The patient experienced clinical and biochemical improvement and was discharged with follow-up with Dermatology, Immunology and Infectious disease teams.

Learning Points Discussion: Eczema coxsackium in children can often mimic other diseases such as eczema herpeticum, primary varicella infection, disseminated herpes simplex infection, Gianotti-Crosti syndrome and other vesiculobullous exanthema. Recognizing these mimicking

Figure 1.



conditions and obtaining a significant contact history is vital for the timely diagnosis and management of eczema coxsackium. Eczema coxsackium is self-limiting and generally resolves with topical treatments. In severe cases with systemically unwell children, admission is required to provide supportive care and rule out mimicking conditions mentioned above. Underlying immunodeficiency should be considered/excluded in cases of unusual severity or clinical course.

ID: 317/11-PT-V-d2A: 12
Poster Presentation (Virtual)
Topics: PUBLIC HEALTH
Keywords: Social support, adolescence, early adulthood, depression, anxiety, mental health

Perceived social support in late adolescence and symptoms of depression and anxiety in emerging adulthood: a Swedish prospective cohort study

Låftman, Sara Brolin[1]; Lundin, Andreas[1,2,3]; Östberg, Viveca[1]
[1]Department of Public Health Sciences, Stockholm University, Sweden; [2]Centre for Epidemiology and Community Medicine, Region Stockholm; [3]Department of Global Public Health, Karolinska Institutet, Sweden

Aims: The transition from adolescence to young adulthood, often called 'emerging adulthood', is a challenging period in life, and mental health problems are common. While many studies have shown that social support is linked with fewer mental health problems, few longitudinal studies have examined these associations during this life phase. The current study examined the associations between perceived social support from different sources – family, friends, and significant other – at age 17-18 and depression and anxiety symptoms at age 20-21.

Methods: Data was obtained from the cohort study Futura01, based on a Swedish national sample of adolescents attending grade 9 in 2016/17. We used survey information from 2019 (age 17-18) and 2022 (age 20-21) and linked registry information (n=2,722). Depression and anxiety symptoms were measured by the Patient Health Questionnaire-4 (PHQ-4) at age 20-21. Perceived social support was measured by the Multidimensional Scale of Perceived Social Support (MSPSS) at age 17-18. Control variables included sociodemographic characteristics and indicators of mental health problems at age 17-18. Binary logistic regressions were performed.

Results: When mutually adjusting for all sources of perceived social support, family support at age 17-18 had inverse associations with depression and anxiety symptoms at age 20-21. Perceived support from friends was associated with subsequent anxiety symptoms only.

Conclusions: Perceived social support can protect against mental health problems in emerging adulthood. The family serves as a significant source of social support.

ID: 314/11-PT-V-d2A: 13
Poster Presentation (Virtual)
Topics: RHEUMATOLOGY
Keywords: Secondary Hemophagocytic Lymphohistiocytosis; Gives disease; Systemic juvenile idiopathic arthritis

Secondary hemophagocytic lymphohistiocytosis: a diagnostic challenge

Silva, Regina Pinto[1]; Rodrigues, Mariana[1,3]; Castro-Correia, Cintia[2,3]; Brito, Iva[3]
[1]Serviço de Pediatria, UAG da Mulher e da Criança, Centro Hospitalar Universitário de São João, Porto; [2]Unidade de Endocrinologia Pediátrica, Serviço de pediatria, UAG da Mulher e da Criança, Centro Hospitalar Universitário de São João, Porto; [3]Unidade de Reumatologia Pediátrica e Jovem Adulto, UAG da Mulher e da Criança, Centro Hospitalar Universitário de São João, Porto

Background: Hemophagocytic Lymphohistiocytosis (HLH) is a severe multisystem hyperinflammatory reaction that can be potentially fatal. It can be primary or secondary to infections, neoplasms, or rheumatic diseases.

Case Presentation Summary: We present the case of a 10-year-old female child, previously healthy, who sought medical attention due to a six-day history of fever, myalgias, asthenia, anorexia, and non-pruritic macropapular rash affecting the trunk and limbs. Clinical examination revealed cutaneous pallor, tachycardia, maculopapular rash, generalized abdominal pain, cheilitis, and an erythematous oropharynx. Laboratory investigations demonstrated anaemia, elevated C-reactive protein, procalcitonin, ferritin, ESR, and D-dimers. Microbiological assessments yielded negative results, including a respiratory virus panel, urine culture, blood culture, and cerebrospinal fluid analysis. Thoraco-abdomino-pelvic CT showed no abnormalities. Due to suspected Pediatric Inflammatory Multisystem Syndrome Temporally Associated with SARS-CoV-2 (PIMS-TS), the patient received IVIG, steroids and antibiotics. Also, an enlarged thyroid gland prompted an assessment of thyroid function and the quantification of anti-thyroid stimulating hormone receptor antibodies, which led to the diagnosis of Graves' disease (GD). Thiamazole therapy was initiated. Persistent fever, cytopenias, markedly high ferritin and liver enzymes led to HLH suspicion, possibly secondary to GD. Bone marrow studies excluded malignancy and showed hemophagocytosis. There was a favourable response to pulse steroids and cyclosporine. Despite thyroid stability, while weaning corticosteroids, the patient experienced a recurrence of fevers and an evanescent pink rash without arthritis. Systemic juvenile idiopathic arthritis (sJIA) was suspected, and anakinra was started with an outstanding response, with quick de-escalation to monotherapy. NGS autoinflammatory syndrome panel was negative.

Learning Points Discussion: This case exemplifies the diagnostic challenges of previously healthy patients presenting with secondary HLH requiring urgent treatment. Multidisciplinary collaboration is, therefore, fundamental to ensure timely and effective interventions, ultimately improving outcomes. HLH was secondary to sJIA and not GD (an unlikely combination), as supported by the recurrence of rash and fever upon reduced corticosteroid therapy despite stable thyroid function.

ID: 315/11-PT-V-d2A: 14
Poster Presentation (Virtual)
Topics: EMERGENCY PEDIATRICS
Keywords: cerebral aneurysm; dissecting; middle cerebral artery

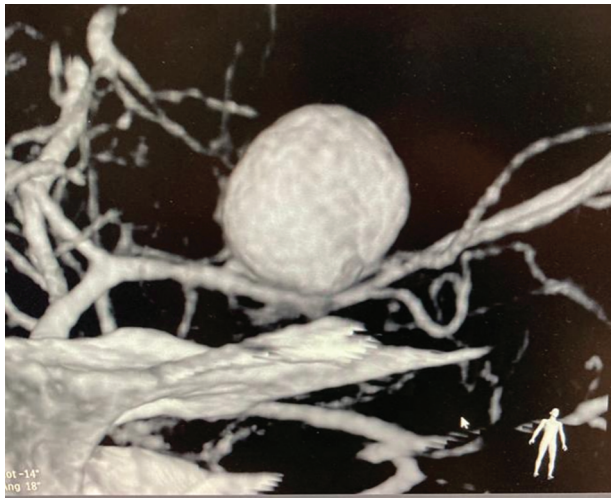
Ruptured intracranial aneurysm in a 60-day old infant: an extreme case

Silva, Regina Pinto[1]; Silva, Marta João[2,4]; Silva, Cláudia Teles[2,4]; Silva, Pedro Alberto[3]; Ribeiro, Augusto[2]
[1]Serviço de Pediatria, UAG da Mulher e da Criança, Centro Hospitalar Universitário de São João, Porto; [2]Serviço de Medicina Intensiva Pediátrica, UAG da Mulher e da Criança, Centro Hospitalar Universitário de São João, Porto; [3]Serviço de Neurocirurgia, Centro Hospitalar Universitário de São João, Porto; [4]Departamento de Ginecologia-Obstetricia e Pediatria, Faculdade de Medicina da Universidade do Porto.

Background: The prevalence of aneurysms in the pediatric age group is low compared to adults. It is even rarer in the first year of life. They can be secondary to infections, cranial traumas, autoimmune diseases, or connective tissue diseases. Dissecting etiology is rare.

Case Presentation Summary: A 60-day-old female infant, previously healthy, presented to the Emergency Department (ED) exhibiting irritability and less appetite since the preceding day, fever

Figure 1.



of 1-hour duration and vomiting. Laboratory analysis revealed a hemoglobin level of 6.5 g/dL without elevation of inflammatory markers. In the ED, she experienced two episodes, with a one-hour interval, of clonic movements of the upper eyelid and right upper limb, along with conjugate gaze deviation to the same side, which resolved after intravenous diazepam. Levetiracetam was initiated after the second episode. The anterior fontanelle became progressively tense. Brain computed tomography (CT) showed a voluminous intraparenchymal and subarachnoid hemorrhage with underlying areas of ischemia. It was also identified as an aneurysm. Initially, an endovascular approach was tried. However, this procedure was halted due to evidence of extraluminal hemorrhage and a non-patent introducer catheter. Consequently, a Vaso-CT scan confirmed a dissecting aneurysm/pseudoaneurysm (8mm x 10mm x 10mm) of the left middle cerebral artery, originating from the upper wall of the M1 segment (figure 1). Next, she underwent microsurgical exclusion of the aneurysm using microclips. Post-surgery brain CT showed recent ischemia in a large part of the middle cerebral artery region. Follow-up angiography showed complete exclusion of the aneurysm. She evolved to grade 3 mono paresis of the upper limb at the 6-month interval, which has been gradually improving with physical rehabilitation. The next-generation sequencing (NGS) panel for aneurysms and arterial dissections did not detect any pathogenic variants.

Learning Points Discussion: Cerebral aneurysms are rare during the first year of life, especially those with a dissecting etiology. In infants, clinical presentation can be subtle, and a high index of suspicion is required in cases of irritability, altered consciousness, seizures, bulging fontanelle, and motor deficits. Early detection is of utmost importance as it is associated with moderate mortality —surgical treatment with clips proved effective in this case.

ID: 255/11-PT-V-d2A: 15
Poster Presentation (Virtual)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY.
Keywords: urticaria, aquagenic urticaria, water

A very (un)common Allergen

Ferro, Inês[1]; Silva, Diana[2]; Castro, Carolina[1]; Mota, Marina[3]; Martins, Rosa[3]; Fermeiro, Joana[3]
[1]Serviço de Pediatria, Centro Hospitalar Universitário Lisboa Norte – Hospital de Santa Maria; [2]Serviço de Pediatria, Centro Hospitalar de Setúbal; [3]Unidade de Alergologia Pediátrica, Serviço de Pediatria, Centro Hospitalar Universitário Lisboa Norte

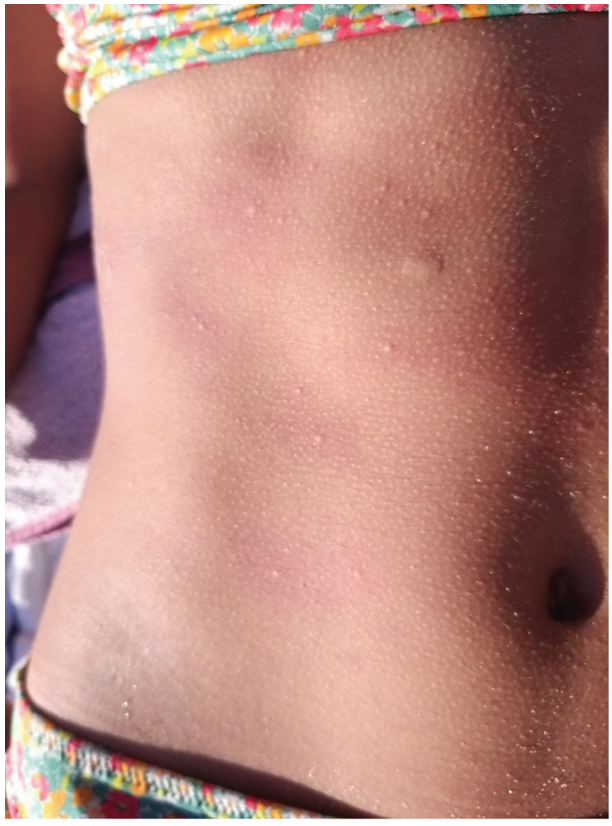
Background: Aquagenic urticaria, a rare form of inducible urticaria triggered by water exposure, poses diagnostic challenges in pediatric patients. This case report aims to bring to light this condition's clinical presentation, diagnosis, and management.

Case Presentation Summary: A 12-year-old girl presented with recurrent erythematous wheals and pruritus, localized mainly on her face, neck, and chest, within 10 minutes of water contact. These episodes lasted approximately 30 minutes. Symptoms initially emerged during exposure to hot water at age nine and subsequently extended to both hot and cold water. Interestingly, similar symptoms were triggered when in contact with seawater, swimming pool water, and even her sweat. Symptoms were absent during hand washing, exercise, cold exposure, or consumption of cold foods or beverages. When treated daily with H1-antihistamines, all symptoms disappeared. A cold-provocation test yielded negative results, while a water-provocation test was able to reproduce urticaria symptoms.

Learning Points Discussion: Aquagenic urticaria, characterized by 1–3 mm folliculocentric wheals surrounded by 1–3 cm erythema within 20–30 minutes of water contact, is postulated to result from water's solvent properties. It interacts with sebum, solubilizing an antigen that permeates the skin, activating dermal mast cells and causing histamine release. Often manifesting during puberty, this condition requires heightened clinical suspicion for accurate diagnosis, which hinges on a clinical history of urticaria post-water exposure and a positive water-provocation test. (Figure 1)

Management and Treatment: Standard antihistaminic treatment forms the foundation of management. Omalizumab has shown promise in anecdotal cases, eliciting clinical improvement. Additionally, topical barriers such as oil-in-water emulsions and petrolatum-containing creams, applied before water exposure, have effectively alleviated or prevented urticaria symptoms in certain patients.

Figure 1.



Conclusion: Aquagenic urticaria exemplifies the complex interplay of dermatological and immunological reactions in response to water exposure. This case report emphasizes the importance of thorough clinical evaluation and judicious therapeutic approaches to manage this intriguing condition in pediatric patients. Further research is crucial to refine diagnostic criteria and optimize treatment strategies for aquagenic urticaria.

ID: 300/11-PT-V-d2A: 16
Poster Presentation (Virtual)
Topics: GENERAL PEDIATRICS
Keywords: Kawasaki disease, stroke, myocarditis, prevention, CNS vasculites

Kawasaki disease complicated by cerebral stroke: case report

Andreasyan, Lia; Hakobyan, Astghik; Papyan, Sinam; Sarkissyan, Ashot
Arabkir JMC, Armenia

Introduction: Kawasaki disease is an acute febrile illness characterized by vasculitis of medium-sized arteries. Though coronary artery aneurysm is the major complication of KD, other extracardial vasculopathy is also common.

Case report: A 4-year-old boy was admitted to the hospital with complaints of fever, macular rash, swelling of hands and feet, cervical lymphadenitis, bilateral conjunctivitis, changes in the mucosa of the oral cavity, and strawberry tongue. Laboratory findings: WBC 13.85*109, ESR 55mm/h, CRP 335 mg/dl. Echocardiography showed normal myocardial contractility. The diagnosis was Kawasaki disease, and treatment was started with intravenous immunoglobulin 2g/kg and aspirin 30mg/kg. The next day, he had no fever but developed hypotension (60/30mmHg), and myocardial contractility decreased (EF 27%). Cardiac glycosides and diuretics were added. Afterwards, he developed severe headaches with left-side hemiparesis. MRI revealed pathologic changes in both hemispheres, especially from the right side, more likely of ischemic origin. The neurologist assessed the condition as CNS vasculitis, ischemic stroke of watershed areas. We started hormonal pulse therapy (methylprednisolone 30mg/kg→ oral prednisolone 2g/kg) rehabilitation treatment. After two weeks, the general condition improved, recovery of left upper and lower extremities was observed, and he could walk himself. By echocardiography, myocardial contractility was normal, and no coronary artery changes were detected.

Conclusions: Stroke is a rare neurological complication of Kawasaki disease. Intravenous immunoglobulins reduce the rate of cerebrovascular complications, including CNS vasculitis, but also myocardial function and cerebral perfusion are essential. In conclusion, such potentially dangerous complications as stroke can be prevented in case of early detection and treatment.

ID: 319/11-PT-V-d2A: 17
Poster Presentation (Virtual)
Topics: ORAL HEALTH
Keywords: intervention, protraction headgear, dentofacial, growth

Early Treatment with Protraction Headgear in an 8-Year-Old Boy with Class III Malocclusion

Alawsi, Fahad
Kettering Generla Hospital, United Kingdom

Introduction: Class III malocclusion, characterised by an anterior crossbite or an underdeveloped maxilla, poses a significant orthodontic challenge. Early intervention in growing patients can yield favourable results. This abstract presents a case study of an 8-year-old boy diagnosed with a Class III relationship and outlines the treatment approach utilising protraction headgear.

Methods: A comprehensive orthodontic evaluation was performed on the 8-year-old male patient who presented with a Class III malocclusion. Clinical examination, dental casts, cephalometric analysis, and panoramic radiographs were used to assess the severity of the malocclusion and plan the treatment strategy. The patient's skeletal age, dental age, and growth potential were considered in initiating early intervention.

Treatment: Protraction headgear was chosen as the primary treatment modality due to its effectiveness in promoting forward maxillary growth. The headgear was custom-fitted, and patient compliance was emphasised. The treatment plan involved wearing the protraction headgear for a specified number of hours daily and periodic adjustments to ensure proper force application.

Results: After an initial phase of treatment with protraction headgear spanning 12 months, significant improvements in the patient's Class III relationship were observed. Dental overjet and overbite were also significantly improved.

Patient Comfort and Compliance: The young patient adapted well to the protraction headgear and consistently complied with the prescribed wearing schedule. Routine check-ups and adjustments ensured that the appliance remained comfortable and effective. The boy and his parents were educated on proper hygiene practices to maintain oral health during treatment.

Discussion: This case study demonstrates the successful management of a Class III malocclusion in an 8-year-old boy using protraction headgear—early intervention allowed for harnessing the patient's growth potential to correct the underlying skeletal discrepancy. The favourable changes observed in skeletal and dental parameters underscore the effectiveness of protraction headgear in guiding maxillary growth.

Conclusion: Early treatment with protraction headgear in an 8-year-old boy with a Class III malocclusion yielded significant improvements in skeletal and dental relationships. This case highlights the importance of timely orthodontic intervention in growing patients with Class III malocclusions. Protraction headgear remains valuable in promoting favourable maxillary growth and achieving a more harmonious occlusion. Further research and long-term follow-up are necessary to validate the stability of these results and assess the impact on the patient's overall oral health and quality of life. Early orthodontic intervention can provide lasting benefits for patients with Class III malocclusions, improving aesthetics and function.

ID: 293/11-PT-V-d2A: 18
Poster Presentation (Virtual)
Topics: GENERAL PEDIATRICS
Keywords: prostration; deep cervical abcess;

Prostration in an ill-appearing child - a diagnostic challenge

Mouro, Ana Filipa[1]; Barroso, Carolina[1]; Cunha, Otília[1,2]; Rodrigues, Joana[1]; Maia, Ana Catarina[1]; Reis, Joana Soares dos[1]
[1]Centro Hospitalar Vila Nova de Gaia/Espinho, Portugal; [2]Sociedade de Urgência e Emergência Pediátrica

Background: Prostration in an ill-appearing child represents a challenging diagnosis due to the diversity of possible pathologies and their eventual severity. They are most often associated with post-critical status, fever, ingestion of drugs, metabolic alterations and infections of the central nervous system. However, other less frequent causes or atypical presentations of common diseases raise doubts about the differential diagnosis.

Case Presentation Summary: The authors present a case of an 11-month-old male child who was brought to the emergency department (ED) due to prostration that morning. On physical examination, he was drowsy, although alternating with periods of irritability, feverish (38°C axillary temperature),

tachypneic, and had an erythematous micropapular rash on the trunk and signs of acute otitis media on otoscopy. Given marked prostration, septic screening was performed. Blood tests showed leukocytosis and increased systemic inflammatory parameters (CPR 4,52 mg/dL). Chest X-ray and summary urine test were unremarkable and negative for drug testing. The panel for respiratory viruses and group A streptococcus antigen were negative. As he remained prostrated throughout his stay in the ED, he underwent a lumbar puncture; the direct cerebrospinal fluid analysis showed no changes. It was decided to perform a head CT scan to exclude complications of acute otitis media. The CT scan revealed a retropharyngeal liquid collection on the right, approximately 23 mm in the longest axis, compatible with a retropharyngeal abscess. It should be noted that on objective examination, there were no changes in the oropharynx or torticollis. For this reason, he was started on parenteral antibiotic therapy, which he complied with for 21 days, and underwent surgical drainage. During hospital admission, there was a progressive improvement in the child's general condition, and he was discharged on day 14.

Learning Points Discussion: Despite being uncommon in pediatrics, deep neck abscesses are potentially serious. Although the clinical picture may be nonspecific, they are generally preceded by an upper respiratory infection and present with odynophagia, torticollis/limited cervical mobility, neck swelling/pain, and systemic involvement. In this clinical case, the patient did not present these specific changes, only drowsiness and discomfort, which made the diagnosis more challenging.

ID: 120/11-PT-V-d2A: 19
Poster Presentation (Virtual)
Topics: GENERAL PEDIATRICS, COVID-19
Keywords: education, mentorship, mentor

Developing an undergraduate paediatric mentorship scheme: a long-term sustainability evaluation

Kerdegari, Nikki[1]; Sakatsume, Risako[1]; Broughton, Simon[2]
[1]King's College London, United Kingdom; [2]King's College Hospital, United Kingdom

Objective: King's College London Paediatric Society (KCLPS) launched an annual mentorship scheme to create formalised opportunities for clinical and academic paediatric exposure (1). In the second iteration of this scheme, we aimed to discern the changes in confidence across prespecified domains between the start and midpoint of the scheme. Additionally, we aimed to explore whether the results from cohort one were replicable, suggesting the programme's sustainability and potential for upscaling.

Method: Paediatricians from Guy's and St Thomas' Hospitals, King's College Hospital Trust, Lewisham and Greenwich Hospital Trust were recruited and matched with KCL medical students in years 2-4. A Google Form was created for mentor registration. KCLPS advertised the opportunity to students online. Involvement was incentivised by certificate provision. The evaluation was done with pre- and mid-scheme questionnaires. Students rated confidence across exposure, training pathway knowledge, portfolio development, research knowledge and contacts using a 5-point Likert scale and engagement with the scheme was explored.

Results: 22 students and 16 mentors were recruited in October 2022, compared to 25 students and 19 mentors in October 2021, a 15.8% decrease in mentor recruitment. At mid-scheme analysis of cohort two, 2 students were lost to follow-up. Of the 20 students who responded to the mid-scheme survey, 90% experienced no issues contacting their mentor. Presenting a poster or publishing was most frequently selected as a main goal by students (85%), followed by clinical exposure (75%) and career advice (65%). 60% of students have not taken part in any of the activities offered at the scheme's midpoint, compared to 8.3% in the previous iteration. Pre- vs mid-scheme analysis revealed the greatest increase in confidence ratings in the understanding of audits (2.04 vs 2.71), undergraduate exposure to paediatrics (2.20 vs 2.70) and portfolio development (3.25 vs 2.76) for

cohort one. The greatest increases were seen in having adequate contacts in paediatrics for academic support (1.52 vs. 2.40), understanding of the paediatric training application process (1.81 vs 2.60) and portfolio development (1.62 vs 2.40) for cohort two. Compared with cohort two, cohort one confidence rankings were higher across all domains at baseline.

Conclusion: The number of mentors signing up for the second iteration of the scheme was lower despite having a pre-established contact list from the previous year and contacting additional clinicians. This could reflect the burden faced by NHS staff and an increase in other career-enhancing opportunities for trainees following the removal of COVID restrictions and return to normality. Additionally, it is important to explore the reasons behind the lack of engagement within this year's cohort to identify possible interventions for increasing engagement. It is important that these factors are addressed before upscaling to ensure the longevity of the scheme and that participation is a beneficial experience for both mentors as well as mentees, incentivising return mentors.

ID: 146/11-PT-V-d2A: 20
Poster Presentation (Virtual)
Topics: ENDOCRINOLOGY
Keywords: calcium-sensing receptor (CaSR), neonatal severe hyperparathyroidism (NSHPT), hypercalcemia, Cinacalcet

Severe Neonatal Hyperparathyroidism Due to a Novel Homozygous Mutation of the Calcium-Sensing Receptor (CaSR)

Hacohen Solovitz, Amir[1]; Tenenbaum-Rakover, Yardena[2,3]; Spiegel, Ronen[1,3]; Weinberger, Jeffrey[4]; Gillis, David[5]; Zamir, Gershon Goor[6]; Levine, Michael A.[7]; Almagor, Tal[1,2]
[1]Pediatric Department, Ha'Emek Medical Center, Afula, Israel; [2]Pediatric Endocrine Institute, Ha'Emek Medical Center, Afula, Israel; [3]Rappaport Faculty of Medicine, Technion, Haifa, Israel; [4]Department of Otolaryngology and Neck Surgery, Hadassah – Hebrew University Medical Center, Jerusalem, Israel; [5]Department of Pediatrics, Hadassah – Hebrew University Medical Center, Jerusalem, Israel; [6]Pediatric Intensive Care Unit, Ha'Emek Medical Center, Afula, Israel; [7]Center for Bone Health, Division of Endocrinology and Diabetes, Children's Hospital of Philadelphia, PA, USA

Background: Homozygous loss-of-function mutations of the calcium-sensing receptor gene (CaSR) are associated with neonatal severe hyperparathyroidism (NSHPT), a life-threatening condition with a challenging treatment approach.

Case Presentation Summary: We report a 7-day-old female infant who was admitted to our Pediatric Department due to poor sucking. On examination, she was lethargic and hypotonic. Laboratory evaluation revealed extreme hypercalcemia of 23.54 mg/dL (N: 7.6–10.4) with normal albumin levels, low phosphorus concentration of 2.16 mg/dL (N: 4.0–6.5), and extremely high PTH of 568 pg/mL (N: 18.4–80.1). The biochemical findings indicated NSHPT. Treatment was initiated with hyperhydration and IV bisphosphonate and calcitonin for the first 24 hours, which reduced calcium levels to the normal range within days. Cinacalcet was thereafter initiated at a dose of 0.35 mg/kg per day, with an increase up to 7.5 mg/kg per day. A skeletal survey revealed bone deformities of the femur with evidence of growth-plate injury and severe osteopenia. Molecular analysis of CaSR identified a novel homozygous mutation: c.281G>A (p. Gly94Glu). The parents are first cousins and were heterozygous; the mother had elevated PTH levels in the past that normalized with vitamin D therapy, and the paternal grandmother had undergone parathyroidectomy (PTX). Despite normal calcium levels, our patient's PTH remained elevated, and there was progressive bone disease. Therefore, at 9 weeks of age, a total PTX with auto-transplantation of one gland in the thigh was performed. After PTX, the PTH levels

decreased, and hypocalcemia gradually evolved, necessitating the initiation of oral calcium and alfacalcidol.

Learning Points Discussion: This case report demonstrates the challenges of treating NSHPT and indicates that the therapeutic goal must be to reduce serum levels of both calcium and PTH, as elevated PTH by itself can cause severe bone deformities. Finally, because CaSR has specialized roles in the brain and bone cells, even with the correction of serum calcium and PTH levels, these patients remain at risk for neurocognitive and skeletal defects.

ID: 157/11-PT-V-d2A: 21
Poster Presentation (Virtual)
Topics: INFECTIOUS DISEASES, PUBLIC HEALTH
Keywords: Human papilloma virus; Male children; Mothers; Vaccine uptake

Parents perceptions of vaccinating their sons against human papillomavirus (HPV) in Israel

Grinberg, Keren
Ruppin Academic Center, Israel

Background: Human papillomavirus (HPV) infection can have severe consequences for both girls and boys. HPV vaccination of both can protect against infection and eliminate the risk of HPV-associated cancer. In Israel, the prophylactic vaccine is recognized as preventing cervical cancer, with little attention given to male HPV vaccination. The study aimed to explore perceptions of male HPV vaccination and underlying factors for vaccine hesitancy among parents of teenage boys in Israel.

Methods: A national, cross-sectional online survey was conducted among 150 parents (of boys aged 7-18) in Israel to investigate their HPV-related information, knowledge, attitudes, and vaccine recommendation intentions.

Results: Information exposure was a positive predictor of HPV-related knowledge. Knowledge subsequently had a positive impact on trust in HPV vaccines, and sufficient knowledge and a positive attitude increased the intention to recommend HPV vaccination ($p < .001$). Among the demographic characteristics, age and marital status were positively associated with the information score ($p < .05$). Generally, parents showed a moderate level of intention to vaccinate their sons.

Conclusions: All parents should be informed about HPV to make informed decisions about HPV vaccination for their children. There is a need for joint efforts from public health authorities and HCPs to provide parents with such information. Future studies should focus on addressing vaccine hesitancy and developing interventions to promote pan-gender HPV vaccination. Additionally, uptake may be facilitated by encouraging healthcare provider endorsement, particularly in countries without government-funded immunization programs.

ID: 324/11-PT-V-d2A: 22
Poster Presentation (Virtual)
Topics: GENERAL PEDIATRICS, ENDOCRINOLOGY
Keywords: Hypertension, Glucocorticoid Remedial Aldosteronism, Adrenalectomy

Hypertension in an Adolescent with Family History of Multiple Adrenalectomies

Cavallari, Sarah Caitlin; Neylon, Orla
University Hospital Limerick, Limerick, Ireland, Ireland

Background: Glucocorticoid Remediable Aldosteronism (GRA) is a rare cause of hypertension, which can present in childhood. It is an autosomal dominant condition caused by a chimeric gene re-arrangement in which the adrenocorticotrophic hormone (ACTH) responsive promoter region of 11 β-hydroxylase is fused to coding sequences of the aldosterone synthase gene. (1) This results in hypertension responsive to ACTH suppression using exogenous glucocorticoid. GRA is associated with severe hypertension, a strong family history of hypertensive cardiovascular sequelae, and, in some cases, hypokalaemia. We aim to report a case of GRA in an adolescent with hypertension, end-organ sequelae and a family history of adrenalectomies and sudden cardiovascular death.

Case Presentation Summary: The patient is a now fourteen-year-old girl who presented aged thirteen with a three-month history of headaches, blurred vision, dyspnoea on exertion, palpitations and chest pain. She was found to be hypertensive to 170/120mmHg, albeit with retained diurnal variation. A significant family history of bilateral adrenalectomies in multiple family members was uncovered, suggesting dominant inheritance. The patient's renin was 2.4 pg/mL, aldosterone was 459 pg/mL and the renin: aldosterone ratio was 191, the latter of which did not suppress the post-saline infusion test. Hypokalaemia was intermittent. Adrenal imaging was unremarkable. Cardiac imaging revealed a dilated left atrium, main pulmonary artery and ascending aorta. Genetic testing for GRA was positive. Hypertension control was achieved with Spironolactone, acting as a mineralocorticoid-receptor antagonist. Genetic screening is being arranged for family members.

Learning Points Discussion: True adolescent hypertension is rare. Detection of GRA presents an opportunity to identify and potentially manage hypertension in childhood and potentially detect affected family members. We highlight the importance of including renin and aldosterone screening in investigating hypertension in children, particularly those with a suspicious family history.

ID: 338/11-PT-V-d2A: 23
Poster Presentation (Virtual)
Topics: GENERAL PEDIATRICS
Keywords: Patella, Elevation, Subluxation

Juvenile Patella Alta

Handelsman, John
Hassenfeld Children's Hospital at NYU Langone, New York, USA, United States of America

Background: Patella Alta in otherwise physically normal children is not uncommon but is frequently not the primary diagnosis. When the patella is elevated, a fat pad between the distal patella and the tibial tuberosity is usually present, suggesting the diagnosis. The patella is 3.5 to 4.0 cm long in an adolescent, as is the infrapatellar ligament. When the patella is high, the ligament is much longer. The diagnosis can thus be established by simple measurement without an X-ray. An elevated patella moves upwards from the intertrochlear sulcus to a rounded portion of the distal femur, which becomes unstable and frequently painful.

Methods: Patella Alta in otherwise normal knees was observed in 89 patients over eight years. Patients with Down or Larsen Syndromes, Cerebral Palsy, or had sustained a traumatic patellar dislocation were excluded.

Results: A high patella was usually an incidental finding in patients seen for other problems. Specific knee pathology was the primary diagnosis in only 18 instances. Examination of the knees with Patella Alta, however, consistently revealed some lower pole and para-patellar tenderness. All except five patients confirmed knee discomfort with vigorous activity. Persistent lateral patellar

subluxation was present in one patient with considerable genu valgum. This has completely resolved following a simple distal medial femoral hemi-epiphysiodes procedure that corrected the knock knee deformity. All patients responded well to quadriceps strengthening exercises performed daily.

Conclusions: Patella Alta, a common finding in children approaching adolescence, should be specifically observed and recorded when performing a lower limb examination. Quadriceps strengthening is an effective management. The early treatment of subtle lateral patellar subluxation may prevent significant anterior knee problems later in adulthood.

ID: 173/11-PT-V-d2A: 24
Poster Presentation (Virtual)
Topics: GENERAL PEDIATRICS, NEUROLOGY
Keywords: Hereditary neuropathy with liability to pressure palsies (HNPP); PMP22; the limping child.

Hereditary neuropathy with liability to pressure palsy (HNPP): Intrafamilial phenotypic variability and early childhood refusal to walk as the presenting symptom

Karklinsky, Shani[1,5]; Kugler, Shir[1,5]; Bar yosef, Omer[2,3,5]; Nissenkorn, Andreea[2,5,6]; Grossman Jonish, Anat[5,7]; Tirosh, Irit[1,5,8]; Vivante, Asaf[1,3,4,5]; Pode-Shakked, Ben[1,3,5]
[1]Department of Pediatrics B, Edmond and Lily Safra Children's Hospital, Sheba Medical Center, Tel-Hashomer, Israel; [2]Pediatric Neurology Unit, Edmond and Lily Safra Children's Hospital, Sheba Medical Center, Tel-Hashomer, Israel; [3]Talpiot Medical Leadership Program, Sheba Medical Center, Tel-Hashomer, Israel; [4]Pediatric Nephrology Unit, Edmond and Lily Safra Children's Hospital, Sheba Medical Center, Tel-Hashomer, Israel; [5]Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel; [6]Center for Rare Disorders-Magen, Wolfson Medical Center, Holon, Israel; [7]The Danek Gertner Institute of Human Genetics, Sheba Medical Center, Tel-Hashomer, Israel; [8]Pediatric Rheumatology Unit, Edmond and Lily Safra Children's Hospital, Sheba Medical Center, Tel-Hashomer, Israel

Background: Limping and/or refusal to walk is a common complaint in the setting of the pediatric department, with a widely diverse differential diagnosis. An unusual etiology is that of hereditary neuropathy. Hereditary neuropathy with liability to pressure palsies (HNPP) is a recurrent, episodic demyelinating neuropathy, most commonly caused by a 17p11.2 chromosomal deletion encompassing the PMP22 gene.

Methods: We pursued chromosomal microarray analysis (CMA) in multiple affected individuals of a single extended family, manifesting a range of phenotypic features consistent with HNPP.

Results: A 4.5-year-old boy presented for in-patient evaluation due to refusal to walk. Initial investigations, including spine MRI and bone scan, failed to yield a conclusive diagnosis. Following family history, which implied an autosomal dominant mode of inheritance, CMA was pursued and confirmed a 17p11.2 deletion in the proband consistent with HNPP. Notably, following this diagnosis, four additional affected family members were demonstrated to harbour the deletion. Their variable phenotypic features, ranging from a prenatal diagnosis of a six-month-old sibling to recurrent paresthesias manifesting in the fourth decade of life, are discussed.

Conclusion: Our experience with the family reported herein demonstrates how a thorough anamnesis can lead to a rare genetic etiology with a favourable prognosis and prevent unnecessary investigations, and underscores HNPP as an uncommon diagnostic possibility in the limping child.

Session

06-PT-L-d2D

Time:
Friday, 01/Dec/2023:
5:00pm - 7:00pm

Presentations

ID: 149/06-PT-L-d2D: 1
Poster Presentation (Onsite)
Topics: GENERAL PEDIATRICS
Keywords: remote photoplethysmography, vital signs

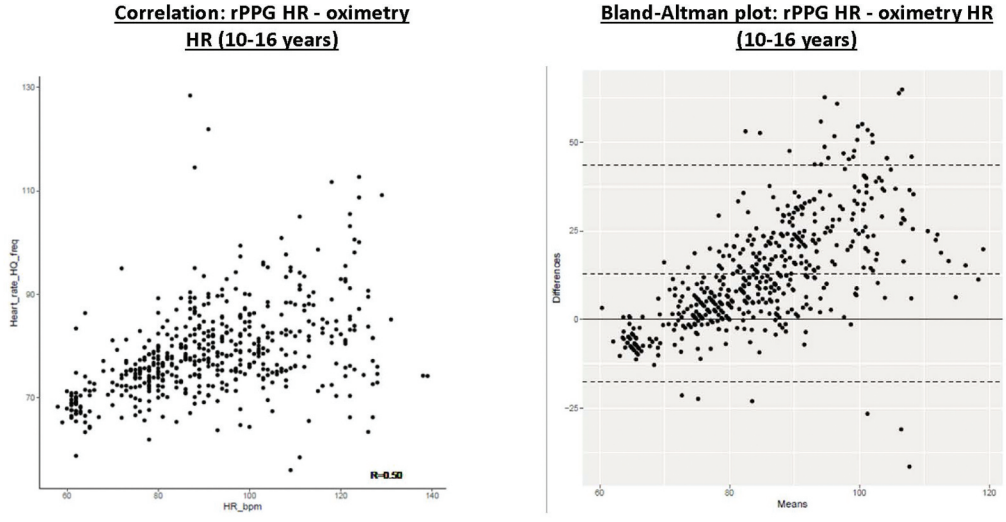
A pilot study on the use of remote photoplethysmography (rPPG) in paediatric patients

Hatib, Nur Adila Ahmad[1]; Chong, Shu-Ling[1]; Lee, Jan Hau[1]; Ong, Gene YK[1]; Tan, Victoria SR[1]; Lim, Alicia May[1]; Quek, Bin Huey[1]; Chan, Meng Fai[1]; Sng, Qian Wen[1]; How, Mee See[1]; Saffari, Seyed Ehsan[2]; Ng, Kee Chong[3]
[1]KK Women's and Children's Hospital, Singapore; [2]Duke-NUS Medical School, Singapore; [3]SingHealth, Singapore

Background and Objective: Significant advancements in medical technologies have resulted in contact-free methods of haemodynamic monitoring, such as remote photoplethysmography (RPG). PGP uses video cameras to interpret variations in skin colour related to blood flow, which, when analysed using complex algorithms, generates vital signs readings. While rPPG has been validated in adults, no validation studies have been done in children, which is the aim of this study.

Methods: A prospective pilot study was conducted from December 2022 to February 2023 to evaluate the feasibility, acceptability and accuracy of obtaining heart rate (HR), respiratory rate (RR) and oxygen saturation (SpO2) using rPPG in children, compared to the current standard of care. We recruited (1) neonates (gestational age 35 weeks and > 24 hours old) and (2) paediatric patients ≤ 16 years. The rPPG webcam was positioned 30 centimetres from the subject's face. After 1-minute of facial scanning, vital signs readings were generated. Corresponding vital signs obtained at the end of 1 minute (pulse oximetry for HR and SpO2, manual counting for RR), were recorded. We performed correlation and Bland-Altman analyses.

Figure 1.



Results: Ten neonates and 28 children aged 6 to 16 years were recruited, with 765 data points recorded. Patients and caregivers were accepting of this technology. RPG readings were significantly discrepant for neonates and children below 10 years. For patients 10 years and above (524 data points), the correlation between rPPG and pulse oximetry readings was R=0.50, which improved to 0.56 when HR values were <100. There was a poor correlation between RR and SpO2. (Figure 1)

Conclusion: Promising results are observed for obtaining HR via rPPG in older children. A validation study will be performed for children aged 12 to 16 years, using sample size calculation from this pilot. The rPPG algorithms will be further refined for younger children. If proven successful, rPPG will provide a contact-free alternative for assessing paediatric vital signs, with vast potential uses in remote monitoring and telemedicine.

ID: 206/06-PT-L-d2D: 2
Poster Presentation (Onsite)
Topics: PSYCHIATRY, PUBLIC HEALTH
Keywords: adolescent, psychological well-being, WHO-5, perceived social support

Adolescent mental well-being: how does it relate to social support? Comparison before and during the COVID-19 pandemic

Lukoseviciute-Barauskiene, Juste; Žemaitaitytė, Monika; Šmigelskas, Kastytis
Lithuanian University of Health Sciences, Lithuania

Background: Many studies have been conducted to analyse adolescents' mental health during the COVID-19 pandemic. Most research confirms that it deteriorated, but it is still unclear what caused it. This study explores how social support could be related to adolescent psychological well-being. The data for this study were from Health Behaviour in School-aged Children (HBSC) surveys.

Methods: Data for this study was collected during the April–June 2018 HBSC regular survey (Study 1) and the December 2021 HBSC pilot stage (Study 2). Study 1 involved 4141 participants (49.9% boys, 50.1% girls; mean age 13.9 ± 1.68 years), and Study 2 involved 351 participants (50.0% boys, 50.0% girls; mean age 13.5 ± 1.67 years). The overall sample consisted of 5th, 7th, and 9th-grade school-aged children in Lithuania. This study data focuses on psychological well-being (assessed using the WHO-5 index) and perceived social support from family, friends, classmates, and teachers. The items were dichotomised based on the cut-offs used in the international HBSC study report. Bivariate (independent samples t-test and chi-squared test) and multivariate (logistic regression) analyses were used. The results are presented adjusted for gender and age.

Results: The analysis showed that participants with poor psychological well-being significantly increased from 31.6% in 2018 to 37.2% in 2021 (p=0.029). A bivariate assessment of relationships between psychological well-being and perceived social supports revealed that schoolchildren with lower psychological well-being tend to report lower support from family, friends, classmates, and teachers (p<0.05). These significant associations were consistent in Study 1 and Study 2. Multivariate logistic regression analysis in Study 1 showed that the highest protective factors for psychological well-being were family support (OR=3.18; p<0.001) and teacher support (OR=2.62, p<0.001). Sufficient perceived support from classmates and friends was also significant but weaker factor for better psychological well-being (OR=1.74 and 1.58, respectively, p<0.001). Meanwhile, in Study 2, teacher support was the most critical factor (OR=3.23; p<0.001), exceeding family (OR=2.77; p<0.001) and classmates (OR=2.53; p=0.002) support. The relevance of friends' support was almost identical to that in Study 1 (OR=1.59; p=0.105).

Conclusions: Study findings from 2018 and 2021 suggest a consistent positive effect of perceived social support on adolescents' psychological well-being. However, during the pandemic, the relevance of teachers' and classmates' support has increased, and support of friends stayed stable, while that of parents has decreased, even though it still was a very strong predictor of adolescent well-being.

ID: 115/06-PT-L-d2D: 3
Poster Presentation (Onsite)
Topics: ALLERGY, IMMUNOLOGY & RESPIRATORY, NEUROLOGY
Keywords: Ataxia telangiectasia, ATM gene, Cerebellar atrophy.

Ataxia Telangiectasia: A rare case report

Al Saleh, Abdullah Saleh
Ministry of the National Guard, Health Affairs/King Abdualziz Medical City, Saudi Arabia

Introduction: Ataxia Telangiectasia (AT) is a rare autosomal recessive neurodegenerative disease. It is characterized by progressive cerebellar ataxia, oculocutaneous telangiectasia, and recurrent respiratory and sinus infections. AT is caused by a defect in the ATM gene, the only gene known to be associated with AT. I am reporting on an eight-year-old Saudi girl who presented with an unsteady gait, frequent falls, and telangiectasia of the eyes. She has also had frequent episodes of respiratory tract infections. AT is a rare inherited disorder that affects the nervous, immune and other body systems. Its incidence is 1 in 100,000 births. Males and females are equally affected. The two diagnostic hallmarks are having ataxia and oculocutaneous telangiectasia, but it is relentless in its progression.

Case report: An eight-year-old girl, the first child of her first-degree cousin's parents, without a family history of significant diseases. She was seen in The Pediatric Clinic with complaints of repeated falls while walking for the last 2 years. Her speech became slurred, and she developed drooling of saliva. Since she was three years of age, she had been suffering from repeated episodes of otitis media. Physical examination revealed bilateral bulbar telangiectasia (Figure 1). Her body build and nutritional status were below the third centile. Cranial nerves were intact, with normal fundoscopic findings. There was marked hypotonia in the lower limbs with diminished deep tendon reflexes. Her gait was ataxic. Sensory function was intact. The cerebellar function was abnormal and showed past-pointing, dysdiadochokinesia, and nystagmus. Investigations revealed a normal CBC, renal profile, blood sugar, vitamin D, TSH, and CPK. IGA and IGE were low. Serum α- Fetoprotein was high (244 ng/L). Flow cytometry: reduced CD4 and CD8 T-cell count, reduced B-cell counts and normal NK-cell. MRI of the brain showed mild cerebellar and vermian atrophy (Figure 2). After counselling, symptomatic treatments were ensured. Physical and speech therapy were also advised.

Learning Points Discussion: In this index case, there was progressive cerebellar ataxia, bulbar telangiectasia, raised serum alpha-fetoprotein, decreased IGA and IGE levels, and characteristic MRI findings. These issues finalized our diagnosis of AT. In general, AT is a multisystem disorder characterized by progressive neurologic impairment, cerebellar ataxia, progressive immunodeficiency, ocular and cutaneous telangiectasia, increased risk of lymphoreticular malignancy, and hypersensitivity to ionizing radiation. Both humoral and cellular immunity show impairment in patients with AT. The most common immunologic abnormality is the absence or a decreased level of serum and salivary levels of IgA. These patients also have an increased susceptibility to sinopulmonary infection, x-ray hypersensitivity, and a predisposition to malignancy. Chromosomal abnormalities in the specific cell population are a characteristic finding in AT patients. Clinical characteristics include progressive ataxia (100%), telangiectasia of skin or conjunctivae (83.8%) and the ears (70.2%), eye movement disorder (apraxia of horizontal and vertical saccadic eye movements) (80.6%), choreoathetosis (87.1%), and dysarthria in almost all cases. Mental retardation occurs in nearly 10% of patients.

Conclusion: AT is a rare, multisystemic disease. Clinicians are not familiar with many cases, so it is commonly misdiagnosed; however, progressive ataxia, bulbar telangiectasia, and recurrent sinopulmonary infections can finalize the AT diagnosis. Management must be multidisciplinary.

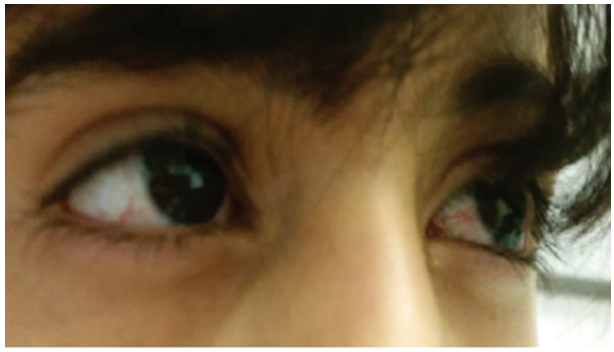


Figure 1. Bilateral bulbar conjunctival telangiectasia.

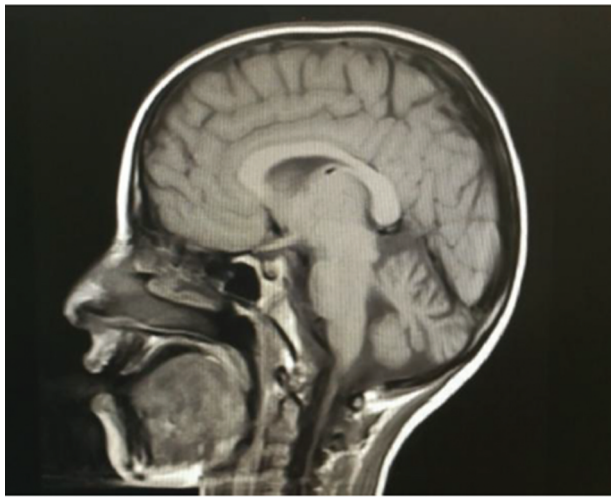


Figure 2. MRI showing cerebellar atrophy.

ID: 172/06-PT-L-d2D: 4
Poster Presentation (Onsite)
Topics: GENERAL PEDIATRICS, ALLERGY, IMMUNOLOGY & RESPIRATORY
Keywords: immunization, vaccination, vaccines, adverse effects, HHE

Case Study of a Hypotonic Hyporesponsive Episode (HHE) following vaccination – a very rare adverse effect.

Moutafi, Antonia C.
Private Practice-Primary Health Care Services, Greece

Background: A hypotonic-hyporesponsive episode (HHE) is defined as the sudden onset of hypotonia, hyporesponsiveness, and pallor or cyanosis that occurs within 48 hours after childhood immunization.

Case Presentation Summary: A healthy 2-month-old boy presented in the Private Pediatric Office for his regular clinical examination and vaccination with the hexavalent DTaP-IPV-HB-Hib conjugate vaccine. His medical record was unremarkable. At 2 months of age, the boy's clinical examination was also unremarkable and within the normal range of all measurements. The hexavalent conjugate vaccine was administrated intramuscularly on the left thigh. The boy first cried, with no signs of apnea. About 1 minute later, he became extremely pale and hypotonic, keeping eye contact, with symptoms similar to vasovagal syncope. After mild stimulation by medical personnel, the episode resolved within 5 minutes. Then he normalized and was kept in for observation for 1 hour before returning home. He had no signs of

arrhythmia, with a heart rate of 105 bpm and pulse saturation of 98%. An ECG, a heart triplex, and a neurologist's evaluation were performed the next day with unremarkable results.

Learning Points Discussion: A hypotonic-hyporesponsive episode (HHE) is an event that might be attributed to a paroxysmal vagal overactivity, according to the current bibliography, although the exact pathogenesis remains unknown. It usually follows the vaccination of the first dose of a hexavalent DTaP-IPV-HB-Hib vaccine. The referred frequency is 1 episode out of 10000 vaccinations. As far as re-vaccination is concerned, HHE is no longer considered an absolute contraindication. The bibliography supports that none of the kids who were revaccinated with a DTaP vaccine experienced a recurrent event. The boy described, after a thorough discussion between the parents and the pediatrician, presenting all the bibliography on HHE and the safety of revaccination, was successfully revaccinated with a hexavalent DTaP-IPV-HB-Hib vaccine at the age of 5 months, and no adverse event occurred. The boy continues (7 months old) to grow normally with no signs of any physical or neurological impairment. HHE is a very rare adverse effect with unknown pathogenesis. It is associated with the administration of a hexavalent DTaP-IPV-HB-Hib vaccine but rarely with other vaccines. Revaccination with a DTaP vaccine and avoidance of a whole cell pertussis vaccine is considered safe, as there is no evidence of a recurrent HHE episode or a related neurological or other developmental impairment.

ID: 188/06-PT-L-d2D: 5
Poster Presentation (Onsite)
Topics: PUBLIC HEALTH
Keywords: Disposable electronic cigarette, Qualitative study, Puff Bar, Youths

Disposable electronic cigarette (or puff) use among young people in Switzerland: a qualitative study

Chok, Lorraine[1]; Fernandes, Diana[1]; Cros, Jérémy[1]; Lebon, Luc Leb[1]; Zürcher, Karin[1]; Dubuis, Alexandre[2]; Berthouzoz, Cathy[2]; Barrense-Dias, Yara[1]
[1]Unisante, Switzerland; [2]Promotion santé Valais

Objective: This qualitative study aimed to explore the opinions and context of puff use among youth (14-25-year-olds) in terms of reasons to use, nicotine rate and purchase methods.

Methods: In fall 2022, 51 adolescents living in two cantons of the French-speaking part of Switzerland (Vaud and Valais) aged 14-25 participated in 8 focus groups. Participants were separated according to their canton, gender and age (14-17 and 18-25-year-olds). A content analysis was performed.

Results: Reasons: Participants reported that initiation to puff was often done under peer influence, and some only used puff when they were out partying, mainly because of fashion, belonging and/or habit. One of the main reasons for their use was the diversity of flavors, especially among the youngest. Flavors were described as sweet, fruity or mentholated, and pleasant. The practical and discreet aspect of puffs was also reported as another factor that may be attractive for youth, particularly to hide their use from adults. "[...] Cigarettes are ... [...] for everyone, whereas puffs are more colourful, more accessible, [...] they're easy to hide, I think [...] they (puff industry) want young people to buy them [...]." (Female, 17). Therefore, most participants considered that puffs were a product aimed primarily at a very young audience. Nicotine rate: Some young people reported that they had the feeling not to smoke something when they used a puff without nicotine and avoided using nicotine-free puffs. "[...] (When) there's no nicotine, it doesn't feel like you're actually smoking anything, [...] people want to ... to feel like they're smoking, I think". (Male, 25). Some participants who wanted to feel the effects of nicotine reported choosing puffs with 5% nicotine (the maximum legal rate in Europe is 2%-20mg/ml). Purchase **Methods**: Participants, including 14-17-year-olds, reported that puffs were mostly bought at kiosks, even when regulations prohibiting sales to minors were in place. Puffs were considered very accessible products as

they can be found in other shops such as kebab restaurants, bakeries and hair salons. Finally, social networks were also mentioned as a place of purchase with private resales. “There (are) a lot (of puffs) [...] on the snap (Snapchat) accounts, they (individuals) sell them (puffs) but like really cheap.” (Female, 17).

Conclusions: These results show that puffs are very attractive to young people and easily accessible. To protect young people and promote public health, regulations on puffs need to be strengthened and closely controlled.

ID: 279/06-PT-L-d2D: 6
Poster Presentation (Onsite)
Topics: RARE DISEASES, EMERGENCY PEDIATRICS
Keywords: Nephrology, Chronic Kidney Disease, Hemodyalisis, Genetics

Early-onset kidney failure in pediatric chronic kidney disease: a case report

Ribeiro, Joana Filipe[1,2]; Teixeira, Beatriz[1,3]; Mosca, Sara[1]; Correia-Costa, Liane[1]; Teixeira, Ana[1]; Rocha, Liliana[1]; Costa, Teresa[1]; Faria, Maria do Sameiro[1]; Matos, Paula[1]; Mota, Conceição[1]
[1]Pediatric Nephrology Unit, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto, Portugal; [2]Pediatric Department, Hospital Sousa Martins, ULS Guarda, Guarda, Portugal; [3]Pediatric Department, Centro Materno Infantil do Norte, Centro Hospitalar Universitário de Santo António, Porto, Portugal

Background: Chronic kidney disease (CKD) poses a significant challenge, disturbing body homeostasis, by impairing kidney function and resulting in multiple complications and developmental hurdles.

Case Presentation Summary: An 18-month-old girl with a history of poor weight gain since 6 months of age and psychomotor development delay presented to the emergency department with profuse diarrhoea, food refusal and prostration. No other relevant past or family history existed except for parental consanguinity. On examination, she displayed severe dehydration, mucous membrane pallor and experienced a brief seizure episode. She weighed 8kg and presented 75 cm of height (both < 3rd WHO percentile). Blood analysis revealed metabolic acidosis (pH 7.04, HCO3- 4.9mEq/L, anion gap 27mEq/L), normocytic and normochromic anemia (hemoglobin 5.4g/dL) severe hyperkalemia (8.8 mEq/L), hypocalcemia (ionized calcium 0.9 mmol/L), hyperphosphatemia (14.5mg/dL) and elevated urea (441mg/dl), creatinine (7.9 mg/dl) and parathormone levels (1546 pg/mL). Due to severe, intractable metabolic acidosis, she was intubated and transferred to the intensive care unit, where kidney replacement therapy (KRT) was initiated. After 4 days of peritoneal dialysis, and due to inadequate fluid overload management, she transitioned to hemodyalisis, exhibiting significant improvement in hypervolemia but also acidosis, hyperkalemia, and uremia. Kidney function did not recover and KRT was continued. A diagnosis of CKD exacerbated by acute illness was established. Throughout hospitalization, the patient underwent treatment for complications associated with CKD, including red blood cell transfusions and erythropoietin, amlodipine and for management of hydroelectrolytic imbalances. Carnitine supplementation was initiated to address possible secondary carnitine deficiency. Genetic analysis revealed a VOUS in the INVS gene in homozygosity, associated with type 2 nephronophtysis with autosomal recessive inheritance, and a likely pathogenic variant in the ACE gene, in heterozygosity, associated with renal tubular dysgenesis with autosomal recessive inheritance. Currently, the patient is maintained in a regular hemodialysis program four times a week and undergoes multidisciplinary follow-up. The next steps include the initiation of growth hormone therapy and kidney transplantation in the near future.

Learning Points Discussion: This case report highlights the complexity of diagnosing and managing pediatric CKD, emphasizing the importance of considering metabolic acidosis and/or kidney dysfunction in cases of developmental delay and poor weight gain. Early recognition, timely

intervention, and a multidisciplinary approach are crucial for optimal outcomes. Genetic analysis is key to understanding the underlying causes and prognosis.

ID: 138/06-PT-L-d2D: 7
Poster Presentation (Onsite)
Topics: NUTRITION & DIETS
Keywords: food neophobia, functional foods, school-age children

Evaluation of anthropometric measurements, food neophobia, and knowledge about functional foods in school-age children via parentel involving

Ege Gunduz, Kardelen Busra; Basturk, Berrak; Alan, Dilan; Guc, Merve
Halic University, Turkiye

Background: Food neophobia, characterized by reluctance to consume new foods or fear of trying unfamiliar foods, is a common eating behaviour among school-age children (6-13 years old). It has been observed that as the phobia increases, the quality of the diet decreases. Consumption of traditional foods with functional properties, such as vegetables, fruits, grains, dairy products, fish, and meat, is important for meeting the basic nutritional requirements in children. This study aims to investigate the relationship between food neophobia and attitudes towards functional foods in school-age children with the participation of their parents.

Methods: The study was conducted with 80 students (53.8% girls) in a school in Istanbul between May 1 and June 20. Anthropometric measurements of the students (height, weight, mid-upper arm circumference (MUAC), and waist circumference (WC)) were taken, and their food neophobia using the Food Neophobia Scale (range 9-45, the cut-off point for boys 27; for girls 29) and knowledge about functional foods were evaluated together with their parents.

Table 1. Evaluation of children's neophobia status and food preferences

Food	Food neophobia					X^2	p
		Neophobia		Not neophobia			
	Consumption	N	%	N	%		
Milk	Yes	23	28.75	18	22.5	0.19	0.22
	No	12	15	27	33.75		
Egg	Yes	12	15	26	32.5	0.03	0.04*
	No	23	28.75	19	23.75		
Vegetable	Yes	13	16.25	24	30	0.11	0.15
	No	22	27.5	21	26.25		
Fastfood	Yes	14	17.5	10	12.5	0.07	0.08
	No	21	26.25	35	43.75		
Chocolate	Yes	24	30	15	18.75	0.002	0.002*
	No	11	13.75	30	37.5		
Berries	Yes	28	35	41	51.25	0.14	0.15
	No	7	8.75	4	5		
Legumes	Yes	23	28.75	40	50	0.01	0.01*
	No	12	15	5	6.25		

Chi-square Test.
*p<0.05.

Results: A total of 80 children participated in the study, including 41 girls with a mean age of 8.2 ± 1.9 years, a mean body mass index (BMI) of 19.5 ± 3.6 kg/m2, a mean MUAC of 21.2 ± 3.1 cm, and a mean WC of 61.2 ± 8.4 cm; and 39 boys with a mean age of 8.8 ± 1.9 years, a BMI of 20.6 ± 4.3 kg/m2, a mean MUAC of 23.1 ± 4.4 cm, and a mean WC of 65.1 ± 11.2 cm. The average food neophobia scores were determined as 27.8 for girls and 26.3 for boys (p=0.17). 51% of girls are neophobic, while 35.9% of boys are neophobic. It was found that neophobic children consumed eggs less frequently (p=0.04) and chocolate more frequently (p=0.002) compared to non-neophobic children. No significant difference was found between the children's neophobia status and the awareness/use of kephir and omega-3 fatty acid-enriched eggs in their families. However, a significant difference was detected in the awareness/use of enriched bread (p=0.04). 81.3% of the participating families believe that functional foods strengthen the immune system, while 58.8% believe they help children's development. (table 1)

Conclusion: In school-age children who experience rapid growth and development, food neophobia scores tend to be higher, influencing their food preferences. Therefore, providing nutrition education to children and their families is important.

ID: 150/06-PT-L-d2D: 8
Poster Presentation (Onsite)
Topics: NUTRITION & DIETS
Keywords: Mediterranean diet, Arthritis, Child nutrition

Evaluation of Nutritional Status of Children with Juvenile Idiopathic Arthritis (JIA) by KIDMED and Anthropometric Measurements

Basturk, Berrak; Ege Gunduz, Kardelen Busra; Cevik, Irem; Karadavut, Zehra; Alageyik, Caglasu
Haliç University, Department of Nutrition and Dietetic Turkiye

Background: Arthritis, known as childhood rheumatism and seen during adolescence, is one of the significant causes of chronic, short-term, and long-term sequelae. While the exact prevalence of Juvenile Idiopathic Arthritis (JIA) is not fully known, it is estimated to be 113/100,000 in children aged ≤15 years. Patients with Juvenile Idiopathic Arthritis (JIA) have increased nutrient requirements, reduced nutrient intake, and nutrient absorption disorders. The main objectives of medical nutrition therapy for JIA include slowing down the inflammatory process, reducing joint pain, and improving the quality of life. Research conducted worldwide, and its results suggest that there is no clear consensus on which scale should be used to assess the nutritional status in JIA, and the applicability of the KIDMED (Mediterranean Diet Quality Index) in these patients is worth considering. This study aims to evaluate the nutritional status of JIA children using the KIDMED scale and anthropometric measurements.

Methods: This study was conducted with fifty children between the ages of 8 and 15 diagnosed with JIA at the Istanbul Cerrahpaşa Hospital Rheumatology Clinic. The patients were administered a questionnaire that included their sociodemographic characteristics, dietary habits, anthropometric measurements (body weight, height, mid-upper arm circumference(MUAC)), 24-hour food consumption records, and the KIDMED scale through face-to-face interviews. While evaluating KIDMED, a total score of ≥8 indicates optimal adherence to the Mediterranean diet (good), a score between 4 and 7 suggests that to improve diet quality, dietary intervention is required (medium), and a score of ≤3 indicates a very low dietary quality (low).

Results: The study included a total of 50 children, 29 of whom were girls with a mean age of 13.0 ± 2.7 years, a mean body mass index (BMI) of 19.6 ± 2.9 kg/m2, and a mean MUAC of 25.6 ± 3.5 cm; and 21 boys with a mean age of 14.2 ± 3.5 years, a BMI of 20.0 ± 3.2 kg/m2, and a mean MUAC of 28.1 ± 4.4 cm. The mean KIDMED score for the participating children was 6.2 ± 2.2, indicating a moderate adherence to the Mediterranean diet. The average KIDMED scores were determined as 6.0 ± 2.1 for girls and 6.3 ± 2.4 for boys (p=0.58). The percentage of male individuals with a low KIDMED score (3 and below) was 9.5%, while the percentage for girls was 13.8%. Although the KIDMED score decreased with the

Table 1. Evaluation of nutrient intake and KIDMED scores

Nutrient Intake	KIDMED score			F	p
	Optimal nutrition (≥8)	Nutrition intervention required (4-7)	Very low dietary quality (≤3)		
Carbohydrate (g)	191.6 ± 63.7	247.6 ± 105.6	240.6 ± 172.6	1.28	0.28
PUFA (g)	13.1 ± 6.9	15.1 ± 11.8	16.7 ± 8.7	0.29	0.74
Caroten (mg)	2.8 ± 1.9	2.3 ± 2.5	1.5 ± 1.2	0.68	0.51
Vitamin C (mg)	73.1 ± 40.3	77.4 ± 59.3	82.8 ± 63.5	0.06	0.93
Calcium (mg)	590.4 ± 218.6	546.8 ± 231.8	455.5 ± 420.g	0.57	0.56
Iron (mg)	9.8 ± 3.5	11.3 ± 6.4	9.1 ± 6.5	0.52	0.59
Zinc (mg)	9.5 ± 3.2	11.4 ± 5.7	6.6 ± 3.8	2.49	0.09
Sodium (mg)	3138.8 ± 1117.8	2459.6 ± 1363.1	2555.5 ± 1345.8	1.99	0.14
Magnessium (mg)	226.1 ± 60.1	254.6 ± 104.7	187.3 ± 121.9	1.35	0.26

One – way Anova *p < 0.05.
PUFA: Poly-unsaturated fatty acids.

duration of the disease, no significant relationship between adherence to the Mediterranean diet and the duration of the disease was found (r:-0.083; p=0.56). The adherence to the Mediterranean diet was found to be moderate in individuals with morning stiffness as a symptom of the disease (p=0.02). The patients' average calcium intake was 547.2 ± 253.3 mg, which is below the recommended intake (5-10 years: 800 mg, 11-17 years: 1150 mg). (table 1)

Conclusion: It has been determined that patients with JIA show moderate adherence to the Mediterranean diet, which has been demonstrated to have anti-inflammatory and antioxidant effects and is considered healthy and sustainable in many conditions. Providing nutritional education to patients and their families and increasing adherence to the Mediterranean diet are likely to enhance potential health benefits.

ID: 267/06-PT-L-d2D: 9
Poster Presentation (Onsite)
Topics: PUBLIC HEALTH, COVID-19
Keywords: adolescent, COVID-19 exposure, COVID-19 impact

How has the COVID-19 pandemic affected different areas of school-age children's lives?

Žemaitaitytė, Monika; Lukoševičiūtė-Barauskienė, Justė; Šmigelskas, Kastytis
Lithuanian University of Health Sciences, Lithuania

Background: The COVID-19 pandemic was one of the most significant aspects in which both direct and family exposure to COVID-19 and measures taken to contain the pandemic may have had short- and long-term effects on adolescent well-being, health, and health behavior. This study aims to explore how COVID-19 pandemic exposure has affected different areas of adolescent life from their perspective.

Methods: Data was gathered from general education and vocational schools during the HBSC national survey in Lithuania from April to June 2022. The study involved 6628 participants (50.3%

boys, mean age 14.1 ± 2.24 years). The overall sample consisted of children from grades 5 to 11 in Lithuania. The self-report questionnaire was used to ask adolescents to report subjective perceptions of COVID-19 exposure impact (themselves or someone in a close family) on ten areas of their lives. The primary analysis was conducted using multivariate binary logistic regression. The results were adjusted by gender, age and family's socioeconomic status.

Results: Overall, 63.2% of adolescents reported being infected by COVID-19, and 74.9% had to self-isolate due to illness or contact with an infected person. Also, 81.6% indicated that the virus infected someone in their close family, and 13.5% had been treated in hospital. Most adolescents experienced neutral or negative impacts of the COVID-19 pandemic in each area. 57.2% of adolescents reported negative results in 1–5 (up to half) of the areas of their lives, and 14.4% had negative impacts in 6–10 (most) areas. More than a third of adolescents indicated that the COVID-19 pandemic negatively impacted their lives in general, mental health, school performance,

Table 1. Regression models predicting the negative impact of COVID-19 on different domains of adolescents' lives

		Infected with the COVID-19 virus	Self-isolate	Someone in close family was infected by the virus	Someone in close family had been treated in hospital
Life as a whole	OR 95 % CI p	1.03 [0.93-1.16] 0.558	1.01 [0.89-1.14] 0.903	0.94 [0.82-1.08] 0.394	**1.31** **[1.13-1.53]** **<0.001**
Health	OR 95 % CI p	**1.55** **[1.37-1.75]** **<0.001**	**1.29** **[1.13-1.47]** **<0.001**	**1.31** **[1.13-1.53]** **<0.001**	**1.58** **[1.35-1.85]** **<0.001**
Relationships with family	OR 95 % CI p	0.96 [0.81-1.23] 0.599	**0.81** **[0.68-0.97]** **0.021**	0.91 [0.74-1.11] 0.332	**1.56** **[1.26-1.92]** **<0.001**
Relationships with friends	OR 95 % CI p	**0.85** **[0.75-0.97]** **0.017**	0.87 [0.75-1.00] 0.054	0.89 [0.77-1.06] 0.194	**1.30** **[1.09-1.55]** **0.004**
Mental health	OR 95 % CI p	1.09 [0.97-1.22] 0.150	**1.15** **[1.01-1.31]** **0.036**	**1.17** **[1.01-1.36]** **0.034**	**1.35** **[1.15-1.59]** **<0.001**
School performance	OR 95 % CI p	1.07 [0.96-1.20] 0.223	1.13 [0.99-1.28] 0.058	1.12 [0.97-1.28] 0.116	**1.17** **[1.01-1.37]** **0.044**
Physical activity	OR 95 % CI p	1.01 [0.91-1.12] 0.902	1.01 [0.89-1.13] 0.939	1.13 [0.99-1.30] 0.071	1.01 [0.86-1.17] 0.938
Nutrition	OR 95 % CI p	**1.23** **[1.08-1.39]** **<0.001**	**1.15** **[1.00-1.33]** **0.048**	1.12 [0.96-1.31] 0.160	**1.54** **[1.31-1.82]** **<0.001**
Future expectations	OR 95 % CI p	1.03 [0.91-1.16] 0.665	**1.17** **[1.02-1.34]** **0.028**	1.07 [0.92-1.25] 0.393	**1.39** **[1.18-1.64]** **<0.001**
Family financial situation	OR 95 % CI p	0.88 [0.76-1.02] 0.095	**0.81** **[0.69-0.95]** **0.011**	**0.83** **[0.70-0.99]** **0.048**	**1.72** **[1.42-2.08]** **<0.001**
Most areas (6-10)	OR 95 % CI p	1.14 [0.98-1.32] 0.088	1.03 [0.87-1.22] 0.730	1.08 [0.90-1.31] 0.403	**1.70** **[1.41-2.05]** **<0.001**

*Adjusted by: gender, age and family socioeconomic status.

and physical activity. Multivariate logistic regression showed that COVID-19 exposure when someone in a close family had been treated in a hospital was the highest risk factor for negative impact in most adolescent life areas (OR=1.70, p<0.001) and was identified as a significant predictor of negative impact in all ten adolescents areas except for physical activity (Table 1).

Conclusions: These findings emphasize that different experiences of the COVID-19 pandemic, both personal and family, may have had different effects on various areas of adolescents' lives, especially when young people had to experience the hospitalisation of their close family members.

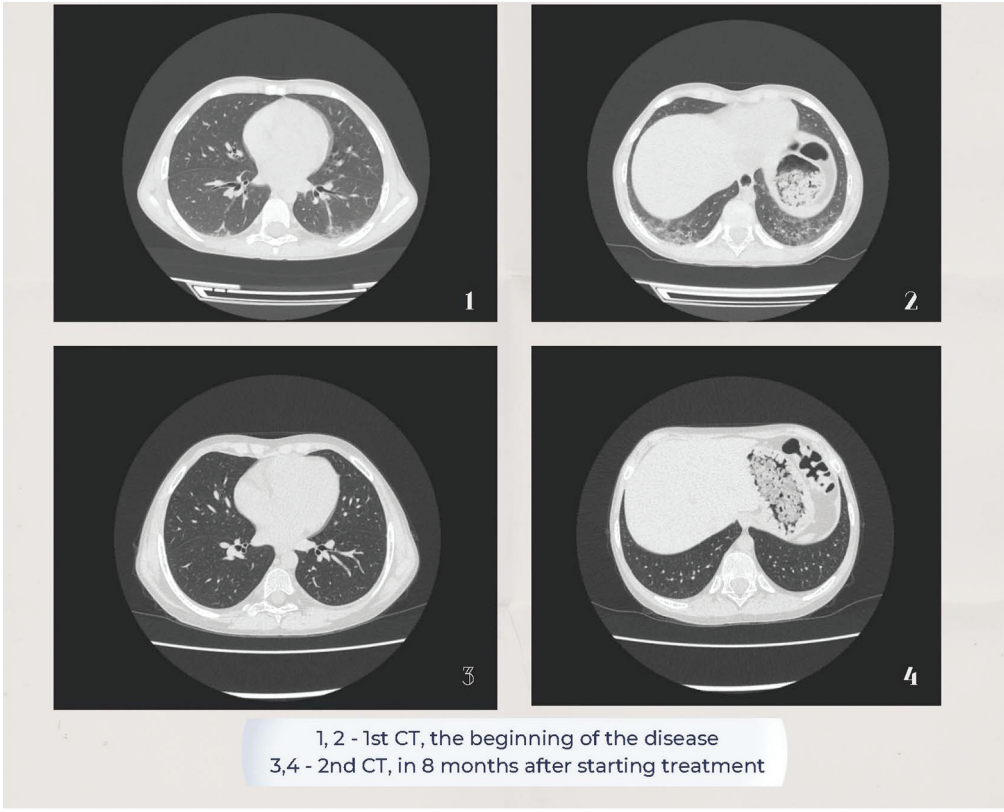
ID: 237/06-PT-L-d2D: 10
Poster Presentation (Onsite)
Topics: RHEUMATOLOGY
Keywords: muscle weakness, interstitial lung disease

Juvenile dermatimyositis complicated with Interstitial lung disease

Eksuzyan, Garunik[1]; Khloyan, Gayane[1]; Arustamyan, Susanna[1]; Sarkissian, Ashot[1,2]
[1]Arabkir JMC, Armenia; [2]Yerevan State Medical University, Armenia

Background: Juvenile dermatomyositis (JDM) is a rare autoimmune inflammatory disease of unknown origin, mainly affecting striated muscle and skin. Interstitial lung disease (ILD) is a rare complication of JDM.

Figure 1.



Case Presentation Summary: An 11-year-old boy was admitted to the hospital with complaints of severe weakness and difficulty in hand movements, climbing stairs, and dressing during the last month, which started after episodes of mild cough. Physical examination revealed erythematous papules and plaques over the extensor surfaces of the MCP, PIP, and elbow joints (Gottron's papules), violaceus rash, and edema of the upper eyelids. Hoarseness of the voice was also observed. The patient had symmetrical proximal muscle weakness - couldn't lift his head from the pillow, sit without support, stand up from a sitting position, lift upper limbs, and keep lower limbs raised for more than 5 sec. Elbows, wrists, 3rd PIP, left 3rd, 4th MCP joints movements were limited and painful. Auscultation of the lungs revealed a few unstable wet crackles on both sides. Laboratory data was remarkable for elevated ESR – 35 mm/h, Creatine kinase (CK) – 14724 U/l, Lactate dehydrogenase (LDH) – 2687 U/l, ALT – 355 U/l, AST – 511 U/l. ANA anti ds-DNA were positive. There was thickening of bronchial walls, bronchiectasis, and interstitial lung changes with signs of early fibrosis on chest CT scan. Body-plethysmography revealed weakness of intercostal muscles, FEV1 – 68.4%, FVC - 62.9%. Based on the aforementioned findings, the diagnosis of Juvenile dermatomyositis complicated with Interstitial lung disease was established. The treatment consists of IVIG, pulse therapy, and oral Methylprednisolone, Cyclosporin A, Co-trimoxazole, and Physiotherapy. At 8-month follow-up, the patient had complete clinical and laboratory remission with few residual linear areas of atelectasis on chest CT scan and following body-plethysmography data: FEV1 – 109.2%, FVC – 102.5%. (figure 1)

Learning Points Discussion: Proper examination of langs in patients with JDM, even without respiratory symptoms, is important for the correct choice of Disease-modifying antirheumatic drugs and for the prognosis of the disease.

ID: 122/06-PT-L-d2D: 11
Poster Presentation (Onsite)
Topics: RARE DISEASES
Keywords: Kabuki syndrome, rare disease, KDM6A, MLL2

Kabuki syndrome associated with IgA primary immunodeficiency

Rivera Silva, Gerardo Francisco Javier[1]; Silva Hernández, José Guillermo[2]; Velázquez Fuentes, Axel[3]
[1]Universidad de Monterrey, Mexico; [2]Universidad de Monterrey, Mexico; [3]Universidad de Monterrey, Mexico

Background: Kabuki syndrome is a rare condition with a prevalence of 1 per 32,000 newborns, with characteristic facial phenotype and predominance in the male sex. This disease has been linked to a microdeletion of chromosome 8, causing a mutation in the MLL2 gene or a mutation in the KDM6A gene, which results in not being able to write its epigenetic code correctly. The most frequent immunodeficiency presented is a selective IgA deficiency.

Case Presentation Summary: A 3-year-old male presented to our clinic for eczematous lesions on the armpits, genitals, and the back of the knees, which appeared spontaneously in the last two years. The mother reported that he had multiple hospitalizations due to respiratory and digestive tract infections. Additional important antecedent: G1, P1, A0, C0, from a 35-year-old mother with hypertension and obesity and his maternal grandmother with an allergy to pollen and peach. The physical examination revealed whitening focused on the anterior part of the face, eversion of the lateral third of the lower eyelid, epicanthal fold, large and abnormally shaped ears, wide philtrum, thick eyebrows, growth and development delays and mental retardation. Laboratory investigations showed decreased IgA (0.489 g/l), elevated IgE levels (>220 IU/ml), and normal IgG and IgM. Genetic examination showed a mutation of the MLL2 gene due to microdeletion of chromosome 8. The patient was treated for eczematous lesions with 0,05% clobetasone butyrate cream.

Learning Points Discussion: We identified a patient with Kabuki syndrome associated with a selective IgA deficiency. It has not been possible to determine the cause of this association, because the mutation of the MLL2 protein conditions a failure by adding methyl groups to lysine at the position of histone H3, which would explain the typical phenotype and the mental retardation, but not the selective IgA deficiency.

ID: 196/06-PT-L-d2D: 12
Poster Presentation (Onsite)
Topics: GENERAL PEDIATRICS, PUBLIC HEALTH
Keywords: vaccination, free clinic, underserved, school-based, student-run

Addressing gaps in vaccination-related school suspensions: outcomes from a student-run vaccine clinic

Ashley, Noah David; Chang, Anna Grace; Fernandez-Reyes, Jessi Arlett; Linder, Brian David; Scott, Virginia Ringo
Medical University of South Carolina, United States of America

Background: Disparities in insurance status place some children at increased risk of school suspension for lacking required vaccines. Children defined by the Charleston County School District (CCSD) as "newcomers" (having immigrated to the U.S. within the last three years) are particularly at risk due to ineligibility for annual Medicaid, loss of vaccine records in the immigration process, and discrepancies between U.S. immunization schedules and those of other countries. According to the South Carolina Department of Health and Environmental Control (SC DHEC), in the 2022-2023 school year, 270 students in Charleston County schools were suspended due to vaccine non-compliance.

Objectives: To reduce vaccine-related suspension by providing a free vaccination clinic through a collaboration between Charleston County School District nursing staff and CARES, a student-run free health clinic at the Medical University of South Carolina (Medical University of South Carolina). To assess the cost reduction impact of a free vaccination event for newcomer families.

Methods: Since 2019, there have been 9 Pediatric Prevention Clinic (PPC) events, a free vaccination clinic organized by the MUSC CARES Medical Clinic in partnership with CCSD. At intervals of approximately every 3-6 months, the nursing staff at CCSD identified students who are at risk of suspension due to immunization status and provided our team with the number of students at risk and vaccines needed for each student. The CARES and CCSD staff worked together to schedule families for appointments at PPC. Our team then obtained needed vaccines through the Vaccines for Children program and recruited College of Pharmacy, Nursing, and Medicine volunteers and preceptors to set up and run the school-based clinic. Vaccine cost reduction was calculated by multiplying the number of students who attended PPC by $39, the estimated cost of an immunization appointment with SC DHEC.

Results: 301 vaccines were administered to 69 children at PPC events in March and July 2023. The majority of the children who were vaccinated at PPC were age 5 (range: ages 4-16). The estimated cost burden alleviated for families who attended PPC in 2023 is $2691 USD. According to parents surveyed at the July PPC, 79.6% of families reported being aware that their children required vaccines, but only 4.17% reported having access to vaccines outside of PPC. 87.5% of parents reported their children do not have a primary care physician. When presented with information about the student-run CARES clinic, 79.2% reported interest in establishing pediatric primary care.

Conclusions: There is a paucity of resources for US Medicaid-ineligible children to affordably receive vaccinations required for school, which can result in delayed vaccination and school absences. The PPC collaboration between a student fun free clinic and school health staff is a unique approach to addressing this gap of resources and vaccine-related suspensions, allowing for direct identification of students at risk for immunization-related suspension through the school district and providing free vaccination through the resources of a student-run free clinic. This clinic reduces the immunization cost burden on families, making timely vaccination more accessible for underserved families. Additionally, the PPC outreach initiative provides an opportunity for families to be connected with pediatric primary care services through the CARES medical clinic.

ID: 321/06-PT-L-d2D: 13
Poster Presentation (Onsite)
Topics: ADOLESCENT MEDICINE, PUBLIC HEALTH
Keywords: Problematic social media use; Adolescent; Family support; Sex difference

Problematic social media use in HBSC 2017-2018 study: Prevalence, relationship with socio-demographic, social supports well-being and media use factors: A nationally representative sample of adolescents in Türkiye

Sayili, Ugurcan[1]; Albayrak Kaymak, Deniz[2]; Uysal, Omer[3]; Balay, Mehmet Akif[4]; Yanikoglu, Erkan[4]; Bariscil, Esma Kubra[4]; Onder, Melike Zeynep[4]; Erginoz, Ethem[1]; Alikasifoglu, Mujgan[5]; Ercan, Oya[6]
[1]Department of Public Health, Cerrahpasa Faculty of Medicine, Istanbul University-Cerrahpasa, Istanbul, Türkiye; [2]Department of Educational Sciences, Bogazici University, Istanbul, Türkiye; [3]Department of Biostatistics, Cerrahpasa Faculty of Medicine, Istanbul University-Cerrahpasa, Istanbul, Türkiye; [4]Cerrahpasa Faculty of Medicine, Istanbul University-Cerrahpasa, Istanbul, Türkiye; [5]Department of Pediatrics, Acibadem Altunizade Hospital, Istanbul, Türkiye; [6]Department of Pediatrics, Cerrahpasa Faculty of Medicine, Istanbul University-Cerrahpasa, Istanbul, Türkiye

Background: Social media platforms have significantly affected young people's interactions with the world, but concerns have emerged regarding the potential for problematic social media use (PSMU) among these young people. This study aimed to determine the prevalence of PSMU in a nationally representative sample in Turkey and to investigate its relationship with socioeconomic and life factors.

Methods: This cross-sectional study was conducted in Turkey as part of the 2017-2018 Health Behaviors in School-Age Children (HBSC) survey. A nationally representative sample (N=5727) of 11-, 13- and 15-year-old children were surveyed. PSMU, the dependent variable, was investigated through a nine-item yes/no scale, the Social Media Disorder Scale. The independent variables were sociodemographic factors, social support factors, well-being factors and media use factors. The univariate, followed by multivariate logistic regression analyses were performed.

Results: The prevalence of PSMU across three age groups was 9.99%, and there was no significant difference between sexes for PSMU in all age groups. The prevalence of PSMU increased by age (p: <0.001) (Table 1). In the 11-year age group, 8.4% of boys and 3.8% of girls had PSMU (p: <0.001); in the 13-year age group, 12.2% of boys and 11.4% of girls had PSMU (p: 0.599); and in the 15-year age group, 11.0% of boys and 16.1% of girls had PSMU (p: 0.004). 13-year and 15-year-olds were at increased risk compared to 11-year-olds (OR: 1.89; 1.47-2.42; OR: 1.85; 1.43-2.39). High family affluence score (OR:2.04;1.55-2.68), fair-poor self-rated (OR:1.77;1.35-2.32), high teacher support (OR:1.8;1.35-2.4), low family support (2.16;1.77-2.64), and intense use of electronic media communication (OR:2.0;1.65-2.43 were found to be significant factors for PSMU.

Conclusions: The prevalence of PSMU, reported as 7% in the HBSC 17/18 Study international report, was nearly 10% in this study and increased with age. International reports suggest that girls are prone to higher levels of PSMU than boys, but this study found no difference between boys and girls. However, in our study, PSMU was found to be higher in boys at the age of 11 years, similar

Table 1. The relationship of sociodemographic, social supports, well-being and media use factors with PSMU in univariate analysis

	Normal Social Media Use		Problematic Social Media Use		p value
Gender					
Boy	2489	89.5%	291	10.5%	0.239
Girl	2666	90.5%	281	9.5%	
Age					
11-year-old	2156	94.0%	137	6.0%	**<0.001**
13-year-old	1688	88.2%	226	11.8%	
15-year-old	1292	86.4%	203	13.6%	
Family Affluence Scale (FAS III)					
Low	1431	91.6%	132	8.4%	**<0.001**
Medium	2615	90.5%	274	9.5%	
High	974	86.6%	151	13.4%	
Self-rated health					
Excellent	1786	92.6%	142	7.4%	**<0.001**
Good	2357	90.1%	260	9.9%	
Fair-Poor	994	85.6%	167	14.4%	
Think about body					
Thin	922	90.6%	96	9.4%	**0.001**
Right	3252	90.9%	327	9.1%	
Fat	919	87.0%	137	13.0%	
Classmate support					
Low Classmate support	4708	90.7%	484	9.3%	**<0.001**
High Classmate support	395	83.7%	77	16.3%	
Teacher support					
Low Teacher support	4775	90.8%	482	9.2%	**<0.001**
High Teacher support	325	80.0%	81	20.0%	
Family support					
Low Family support	1556	84.2%	291	15.8%	**<0.001**
High Family support	3376	93.0%	254	7.0%	
Peer support					
Low Peer support	2469	89.0%	305	11.0%	**0.012**
High Peer support	2564	91.0%	253	9.0%	

(*Continued*)

	Normal Social Media Use		Problematic Social Media Use		p value
Life Satisfaction					
Low Life Satisfaction	1582	87.5%	225	12.5%	**<0.001**
High Life Satisfaction	3326	91.4%	312	8.6%	
daily physical activity					
Insufficient daily physical activity	4260	90.0%	475	10.0%	0.755
Sufficient daily physical activity	719	90.3%	77	9.7%	
Vigorous physical activity					
Insufficient Vigorous physical activity	2239	89.2%	270	10.8%	0.083
Sufficient Vigorous physical activity	2909	90.6%	301	9.4%	
Electronic Media Communication					
Intense use of Electronic Media Communication	1669	85.9%	273	14.1%	**<0.001**
Non-intense use of Electronic Media Communication	3338	92.4%	275	7.6%	

between sexes at the age of 13 years, and higher in girls at the age of 15. Socioeconomic factors, family support, fair-poor health status and intense use of electronic media communication constituted potential risk factors for PSMU. Thus, these factors can be utilized to guide us in detecting and preventing PSMU.

ID: 274/06-PT-L-d2D: 14
Poster Presentation (Onsite)
Topics: NEONATOLOGY, EMERGENCY PEDIATRICS
Keywords: In-hospital fatality, intensive care, nationwide registry, hospitalization, newborns

Newborn hospitalizations in intensive care units in Poland: study based on the National Hospital Registry, 2012-2021

Kanecki, Krzysztof[1]; Goryński, Paweł[2]; Kowalczyk, Michał[3]; Lewtak, Katarzyna[1]; Tyszko, Piotr[1,4]; Rząd, Michał[1,5]; Nitsch-Osuch, Aneta[1]
[1]Medical University of Warsaw, Poland; [2]National Institute of Public Health NIH - National Research Institute, Warsaw, Poland; [3]Medical University of Lublin, Lublin, Poland; [4]Institute of Rural Health in Lublin, Lublin, Poland; [5]Doctoral School, Medical University of Warsaw, Warsaw, Poland

Background: Intensive care unit (ICU) hospitalizations among newborns might be a key factor when analyzing comprehensive care of newborn infants. The study aimed to describe newborn ICU hospitalizations and in-hospital fatality rates among these patients in Poland from 2012 to 2021.

Methods: Our study is a population-based, retrospective analysis of 1992 hospital discharge records of newborns, where a newborn after birth was hospitalized and required a stay in the intensive care unit. Data were obtained from the Nationwide General Hospital Morbidity Study conducted by the National Institute of Public Health in Poland (2012-2021). The analyses of the reasons for ICU admissions among newborns were based on the main discharge diagnostic codes according to the International Classification of Diseases (ICD-10).

Results: Based on the hospital registry, the mean annual ICU hospitalization incidence among newborns was estimated to be 54.1 per 100,000 (95% CI: 47.8 – 60.4). In the study group, we observed a significant predominance of male patients (61.4% vs 38.6%, P<0.001) when compared to all newborns in Poland. The mean length of stay was 29.2 days (95%CI: 27.8 - 30.7), a median of 19 days (IQR: 13-35). Respiratory distress syndrome of newborn (ICD-10: P22.0, 16.7%), other preterm infants (ICD-10: P07.3, 11.5%) with extreme immaturity of newborn (ICD-10: P07.2, 5.9%), respiratory failure of newborn (ICD-10: P28.5, 11.0%) were the most often observed primary cause of hospitalization. The mean annual rate of fatal hospitalizations accounted for 8.1% (95% CI: 7.2% – 9.0%). Almost all in-hospital deaths were observed during ICU stay (8.0%).

Conclusions: The presented data might be the basis for comparative analyses in a global context. Male gender of the newborn and prematurity could increase the risk of newborn care in the ICU settings. However, a thorough assessment of this relationship requires further research.

ID: 295/06-PT-L-d2D: 15
Poster Presentation (Onsite)
Topics: PUBLIC HEALTH
Keywords: vaccination, war refugees, migrant health, healthcare workres, vaccine-preventable diseases

What are the challenges in the vaccination of Ukrainian children in Poland from healthcare workers' perspectives?

Lewtak, Katarzyna[1,2]; Kleszczewska, Dorota[3]; Dzielska, Anna[4]; Mazur, Joanna[5]; Nurzhynska, Anastasiia[6]; Bahruddinov, Mutribjon[6]; Sochoń, Agnieszka[6]
[1]Medical University of Warsaw, Department of Social Medicine and Public Health, Warsaw, Poland; [2]National Institute of Public Health NIH -NRI, Department of Health Promotion and Prevention of Chronic Diseases, Warsaw, Poland; [3]Institute of Mother and Child Foundation, Warsaw, Poland; [4]Institute of Mother and Child, Department of Child and Adolescent Health, Warsaw, Poland; [5]University of Zielona Góra, Collegium Medicum, Departament of Humanization of Health Care and Sexology, Zielona Gora, Poland; [6]UNICEF Refugee Response Office in Poland, Warsaw, Poland

Background: The war in Ukraine had a strong, negative impact on the health of refugee children who have fled to neighbouring countries. Children are highly vulnerable to mass population displacements, experiencing a combined loss of safety, nutrition, shelter, and health care. Although there is increasing concern about the health of child migrants and war refugees, healthcare professionals in host countries still have a limited understanding of their health concerns and needs. The presented study aimed to explore the challenges in delivering preventive services to this vulnerable population from a healthcare professional's perspective.

Material and Methods: The study was based on data analysis from 15 in-depth interviews (IDIs) with healthcare professionals working with Ukrainian refugees conducted in Poland in July 2023.

Results: The results of the IDIs demonstrate that the main barriers to delivering preventive services (i.e. vaccination) were difficulties in communication (language barriers, cultural competencies), low level of refugees' health literacy and challenges in continuity of care (including access to healthcare services).

Conclusions: The results of this study demonstrate that there is a need for mobilization, coordination, and sharing of experiences, which will enable the effective response to emerging public health challenges, primarily focused on enhancing Ukrainian mothers' health literacy level and implementing interventions toward vaccine-preventable diseases. It is possible to identify fields of action for preventing vaccination gaps among Ukrainian children and for their systematic integration into the regular primary healthcare system. Competence among health professionals and communication with parents should be strengthened.

ID: 289/06-PT-L-d2D: 16
Poster Presentation (Onsite)
Topics: GENERAL PEDIATRICS, PUBLIC HEALTH
Keywords: migrant health, refugee health, hospital admissions, hospital morbidity, Poland

What are the reasons that refugee and migrant children use hospital health care in Poland? Lessons to learn from the analysis of data from Polish Nationwide General Hospital Morbidity Study (2022)

Lewtak, Katarzyna; Gajewska, Małgorzata; Urban, Ewa; Piotrowicz, Maria; Goryński, Paweł
National Institute of Public Health NIH – National Research Institute, Warsaw, Poland

Background and Objective: As the presence of migrants and war refugees increases in Poland, studies on their health condition and the use of health services are of crucial importance to fulfil their unmet health needs. The present study aimed to evaluate the cause of hospitalizations of child migrants and refugees in Poland in 2022 to identify their health needs, how these needs are being met and what areas for improvement exist.

Methods: The study was based on the analysis of hospital discharge data of pediatric migrants and refugees, which were collected from the Nationwide General Hospital Morbidity Study conducted by the National Institute of Public Health in Poland. Discharges were classified according to the diagnosis or condition most responsible for the patient's stay in the hospital. Diagnoses were coded using the International Classification of Diseases (ICD-10).

Results: There were 4495 discharges of foreign pediatric patients in 2022, of which 3917 were Ukrainian child migrants and refugees (87.1%). Infectious and parasitic diseases (ICD-10: A00-B99) – 19.4%, mainly viral and other specified intestinal infections (A08; 45.2%), other gastroenteritis and colitis of infectious and unspecified origin (A09; 31.8%) were the top reason for child migrants and refugees to receive hospital services. The second most frequently reported health problems were related to abnormal clinical and lab findings (R00-R99) - 14.1%, the majority of which (74.6%) were related to digestive system symptoms - nausea and vomiting (R11, 37.3%), fever of other and unknown origin (R50, 19.0%) and abdominal and pelvic pain (R10, 18.3%). Diseases of the respiratory system (J00-J99) ranked as the third leading causes of hospitalization (12.7%), followed by injury, poisoning and certain other consequences of external causes (S00-T98) - 11.2%. 141 patients were admitted to hospital due to COVID-19 (3.1%). The most frequently reported hospital events among the Ukrainian migrant children were infectious and parasitic diseases (A00-B99), abnormal clinical and lab findings (R00-R99) and diseases of the respiratory system (J00-J99). For pediatric patients from other countries (mainly from Western and Northern Europe), the highest percentages of hospital events were infectious and parasitic diseases (A00-B99), injuries (S00-T98) and diseases of the respiratory system (J00-J99).

Conclusions: Our findings may support health policy planning and delivering adequate healthcare in refugee-hosting countries.

Session

07-PT-L-d2A
Time:

Friday, 01/Dec/2023:
9:00am - 11:00am

Presentations

ID: 148/07-PT-L-d2A: 1
Poster Presentation (Onsite)
Topics: NUTRITION & DIETS
Keywords: Autism, mealtime behaviors, nutritional problems, mediterranean diet

Mealtime Behaviors, Adherence to the Mediterranean Diet, and Evaluation of Mothers' Adherence to the Mediterranean Diet in Children and Adolescents with Autism

Bora, Sümeyye; Gülhan, Esma Gül; Adiloğlu, Yasemin
Halic University, Turkiye

Objective: This study aimed to measure the mealtime behaviours, nutritional problems, and adherence to the Mediterranean diet in children and adolescents with autism, as well as to evaluate the relationship between their mothers' adherence to the Mediterranean diet.

Methods: This study was conducted face-to-face with the parents of 53 children and adolescents aged 2-18 in a Special Education and Rehabilitation Complex in Istanbul between April 10, 2023, and June 1, 2023. The children/adolescents' mealtime behaviours were assessed using the Autism Mealtime Behavior Short Scale (BAMBİ), their adherence to the Mediterranean diet was assessed using the Mediterranean Diet Quality Index (KIDMED), and their mothers' adherence to the Mediterranean diet was assessed using the Mediterranean Diet Adherence Screener (MEDAS). Anthropometric measurements were evaluated using the WHO Anthro Plus program. The data obtained were analyzed using the SPSS (Statistical Package for Social Science) Statistics 25.0 software package. All statistical analyses were evaluated at a 95% confidence interval and a significance level of $p<0.05$.

Results: In this study, the majority (77.4%) of the participants were male, with a mean age of 7.86 ± 2.79. While 20.8% of the children and adolescents had a normal BMI for their age, 18.9% were classified as underweight, and 34% were classified as obese based on their age. Among the individuals, 41.5% had mild autism, 30.2% had moderate autism, and 28.3% had severe autism. It was found that 50.9% of the mothers provided processed foods as rewards to their children,

Table 1. Adaptation of children/adolescents with autism and their mothers to the Mediterranean diet

		Mothers			Total
		Low	Moderate	High	
Children/ Adolescents	Low	5 (9.4%)	3 (5.7%)	1 (1.9%)	9 (17%)
	Moderate	5 (9.4%)	14 (26.4%)	15 (28.3%)	34 (64.2%)
	High	0	4 (7.5%)	6 (11.3%)	10 (18.9%)
Total		10 (18.9%)	21 (39.6%)	22 (41.5%)	53 (100%)

69.8% observed increased activity in their children with the consumption of processed foods, 37.7% used food to capture their child's attention, 56.6% observed increased concentration when they did not give packaged products to their children, and 54.7% experienced tantrums when they did not provide the desired packaged products to their children. The participants' mean scores for BAMBİ were determined as follows: total score 37.16 ± 9.17, limited food variety 19.45 ± 7.01, food refusal 7.94 ± 3.44, and autism mealtime behaviour 9.58 ± 2.84. The mean KIDMED score for children/adolescents with autism was 5.62 ± 2.16, and the mean MEDAS score for their mothers was 8.13 ± 2.03. There was a statistically significant relationship between the KIDMED and MEDAS scores, indicating the adherence of children/adolescents and their mothers to the Mediterranean diet (p=0.02). (table 1)

Conclusions: Within the scope of this study, it was revealed that the adherence to the Mediterranean diet of children/adolescents and their mothers is related to each other, emphasizing the need for further research to improve the nutritional knowledge of parents of these children.

ID: 229/07-PT-L-d2A: 2
Poster Presentation (Onsite)
Topics: INFECTIOUS DISEASES
Keywords: RSV, bronchiolitis, passive immunoprophylaxis

Meta-analysis of the efficacy of palivizumab at preventing medically-attended respiratory syncytial virus infections in preterm infants not requiring hospitalisation

Fullarton, John[1]; Paes, Bosco[2]; Waghorne, Nicola[1]; Keary, Ian[1]; Rodgers-Gray, Barry[1]; Carbonell-Estrany, Xavier[3]
[1]Violicom Medical Limited, Aldermaston, United Kingdom; [2]McMaster University, Hamilton, Ontario, Canada; [3]Hospital Clinic, Barcelona, Spain

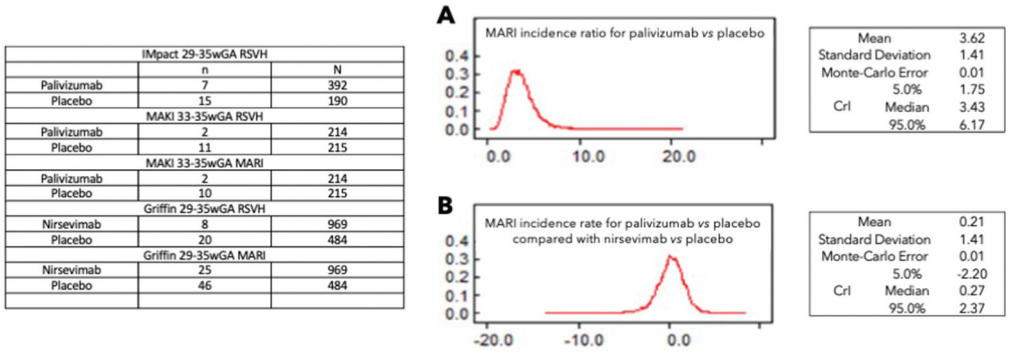
Background: Palivizumab is effective at preventing hospitalisation of infants and vulnerable children with severe respiratory syncytial virus (RSV) infections. In addition to RSV-related hospitalisations (RSVH), it is now widely recognised that a substantial part of the burden of RSV relates to medically-attended infections not requiring hospitalisation (MARI). Studies of newer RSV preventives, such as nirsevimab, include MARI as a key outcome. A meta-analysis was undertaken to generate efficacy data for palivizumab at preventing MARI in premature infants born ≤35 weeks gestational age (wGA).

Methods: A systematic literature review (SLR) was undertaken in the PubMed, EMBASE and Cochrane Library databases (from database inception to 27 June 2023) to identify studies assessing passive immunoprophylaxis with monoclonals versus placebo/untreated preterm infants born ≤35wGA in the prevention of RSVH and/or MARI. Studies of all monoclonals were sought to strengthen the bridge between palivizumab RSVH to MARI data. Identified studies were included in a logical block diagram to generate a Bayesian inferential output (10,000 Markov-Chain-Monto-Carlo iterations) of MARI rate for palivizumab versus placebo/untreated infants and nirsevimab.

Results: The SLR assessed 654 citations, of which 627 were excluded based on title/abstract review and a further 24 at full paper review, identifying three relevant studies for inclusion in the meta-analysis. All three studies were randomised placebo-controlled trials with a low risk of bias (as assessed by the Cochrane Risk of Bias 2 Tool). Palivizumab was found to significantly reduce the MARI rate from 9.5% with placebo to 2.8% (70.5% relative reduction; median ratio 1:3.425, respectively, 95% credible interval [CrI] 1:1.75 to 1:6.17) [Figure 1]. There was no significant difference in MARI efficacy between palivizumab and nirsevimab (median difference between palivizumab vs. placebo compared with nirsevimab vs. placebo: 0.27, 95% CrI -2.20 to 2.37). A minor limitation of the meta-analysis was one of the studies included only 33-35wGA infants while

cogent public health

Figure 1. Data sources and results of meta-analysis of MARI rates for pallvizumab versus placebo (A) and pallvizumab versus nirsevimab (B).



IMpact 29-35wGA RSVH		
	n	N
Palivizumab	7	392
Placebo	15	190
MAKI 33-35wGA RSVH		
Palivizumab	2	214
Placebo	11	215
MAKI 33-35wGA MARI		
Palivizumab	2	214
Placebo	10	215
Griffin 29-35wGA RSVH		
Nirsevimab	8	969
Placebo	20	484
Griffin 29-35wGA MARI		
Nirsevimab	25	969
Placebo	46	484

the other two spanned 29-35wGA infants. Additionally, none of the studies evaluated MARI in infants <29wGA.

Conclusions: This meta-analysis confirms that palivizumab is highly effective at preventing MARI in preterm infants born 29-35wGA, with efficacy similar to that reported for nirsevimab.

ID: 193/07-PT-L-d2A: 3
Poster Presentation (Onsite)
Topics: GENERAL PEDIATRICS, RARE DISEASES
Keywords: Brain Abscess, portosystemic shunt, congenital portosystemic shunt, hepatopulmonary syndrome, Abernethy malformation

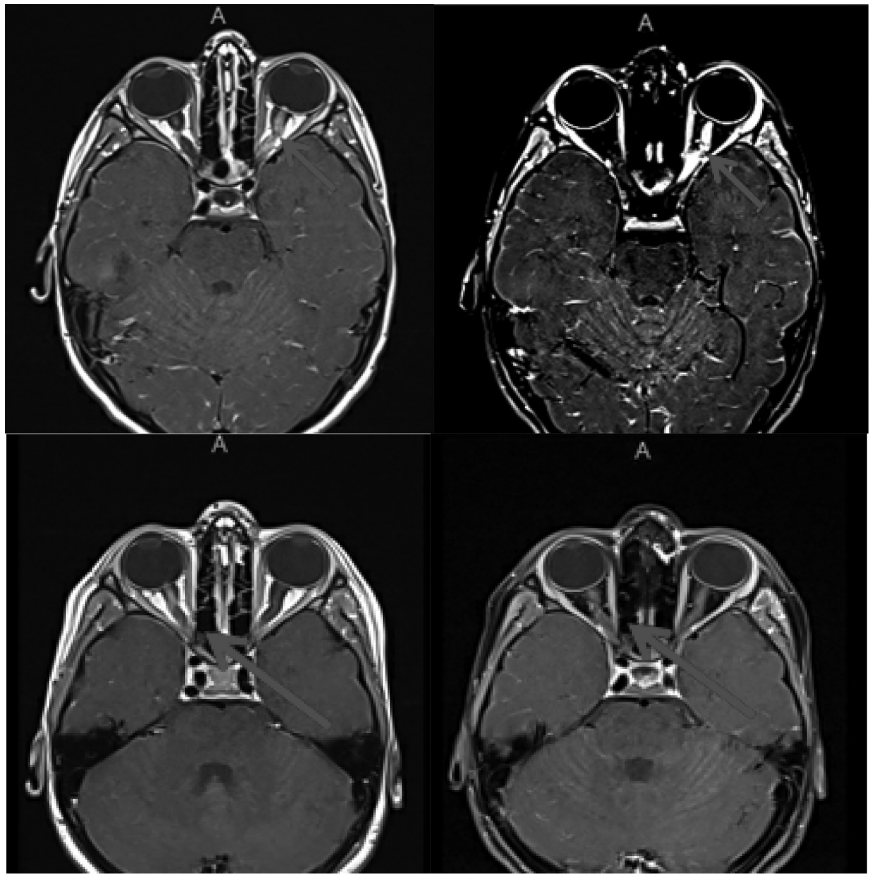
Multifocal brain abscesses in a pediatric patient with hepatopulmonary syndrome due to rare portosystemic shunt.

Benbrahim, Assia[1,2,5]; Abu Saleh, Bushra[2]; Kadam, Rochita[1,2,5]; Mehasi, Taif[1,2,5]; Fathalla, Waseem[3,5]; El Badaoui, Hazem[4,5]
[1]Education Institute, Pediatric Residency Program; [2]Department of Pediatrics; [3]Division of Neurology; [4]Division of Cardiology; [5]Sheikh Shakhbout Medical City (SSMC), Abu Dhabi, United Arab Emirates

Background: Brain abscess is an uncommon but life-threatening infection in children. Brain abscess can result from infection of contiguous structures or through hematogenous spread from a distant body part. Brain abscess due to hepatopulmonary syndrome in children is rare, with very few reported cases. Hepatopulmonary syndrome is a rare complication of liver disease or pulmonary hypertension, which leads to dilation of pulmonary vasculature forming shunts. This causes inconsistent blood low, which can bypass filtration and oxygenation in the lungs, making the individual susceptible to infections. We present a female child with otherwise unexplained multifocal brain abscesses in the context of a rare congenital portosystemic shunt and hepatopulmonary syndrome.

Case summary: A 9-year-old female with congenital portosystemic shunt with hepatopulmonary syndrome was brought to our hospital with complaints of vomiting and fever for 2 days. There was no history of seizures, headaches or altered sensorium. On admission, she was alert with no focal deficits but had positive meningeal signs, including Kernig's and Brudzinski's. Laboratory investigations revealed leukocytosis with elevated inflammatory markers. CSF analysis showed marked pleocytosis, elevated protein and decreased glucose. Both blood and CSF cultures were negative. CT brain and MRI brain showed multiple ring-enhancing lesions in both hemispheres compatible with cerebral abscesses. She was started empirically on parenteral Ceftriaxone, Vancomycin and Metronidazole. Neurosurgery was consulted, and a right temporal craniotomy for diagnostic excision of abscess was performed. Histopathology of the sample reported glial tissue infiltrated by numerous neutrophils forming collections in areas suggestive of abscess formation but was

Figure 1.



otherwise unremarkable. Stains for neoplasm were negative. An echocardiogram with bubble study was negative for endocardial vegetations but showed extracardiac right to left shunting, which was presumed to have caused the abscesses. The child received 2 months of inpatient antibiotics, with improved symptoms and interval decrease in the sizes and subsequent almost complete resolution of the abscesses on neuroimaging. [Figure 1].

Discussion: Brain abscess can result in significant morbidity and mortality and typically occur in a susceptible host. As brain abscesses may present with varying symptoms in pediatric patients, a high level of suspicion is warranted for timely diagnosis, particularly in those with underlying risk factors such as vascular malformations like hepatopulmonary syndrome. Awareness and knowledge of congenital portosystemic shunts and their complications are important for early recognition and better prognostication of such patients.

MRI of the brain: Coronal images showing multiple well-defined rounded and ovoid rim enhancing cystic lesions are noted within both cerebral hemispheres; associated with diffusion restriction.

ID: 186/07-PT-L-d2A: 4
Poster Presentation (Onsite)
Topics: NEUROLOGY
Keywords: Optic neuritis, CRION, anti-MOG-Ab, IVIG

Myelin oligodendrocyte glycoprotein antibody associated optic neuritis responsive to IVIG therapy in a pediatric patient

Kadam, Rochita[1]; Fathalla, Waseem[2]; Hosain, Syed[2]; Al Binali, Reem[3]
[1]Department of Pediatrics, Sheikh Shakhbout Medical City, United Arab Emirates; [2]Department of Pediatric neurology, Sheikh Shakhbout Medical City, United Arab Emirates; [3]University of Calgary, Canada

Background: Optic neuritis is one of the most common forms of acquired demyelinating syndromes in childhood. Chronic relapsing inflammatory optic neuropathy (CRION) is characterised by recurrent episodes of optic neuritis, accompanied by clinical symptoms and corresponding neuroimaging findings. Optic neuritis with Myelin oligodendrocyte glycoprotein antibody (MOG-Ab) seropositivity may occur with neurological or systemic symptoms, and when it follows a recurring pattern, it is classified as CRION. Although the full spectrum of phenotypes and best treatment options are still being determined, it is important to consider anti-MOG-Ab-associated disorders in the differential diagnosis of CRION and seek expert treatment advice when possible.

Case summary: We present an eight-year-old male with complaints of headache, blurry vision, and eye pain. Ophthalmological exams and magnetic resonance imaging confirmed the presence of optic neuritis (Figure 1). Initial cerebrospinal fluid analysis was negative for all antibodies associated with optic neuritis, including anti-myelin oligodendrocyte glycoprotein Ab (anti-MOG-Ab). The child was treated with pulse methylprednisolone therapy for five days, with significant improvement in his symptoms. However, the child had a recurrent episode of optic neuritis one month after his initial presentation. Hence, investigations targeting immunological biomarkers were repeated and were positive for anti-MOG-Abs with elevated titers of 1:100. The child was diagnosed with MOG-Ab-associated optic neuritis presenting as chronic relapsing inflammatory optic neuropathy (CRION). He was then started on maintenance intravenous immunoglobulin (IVIG) therapy as a disease-modifying therapy,

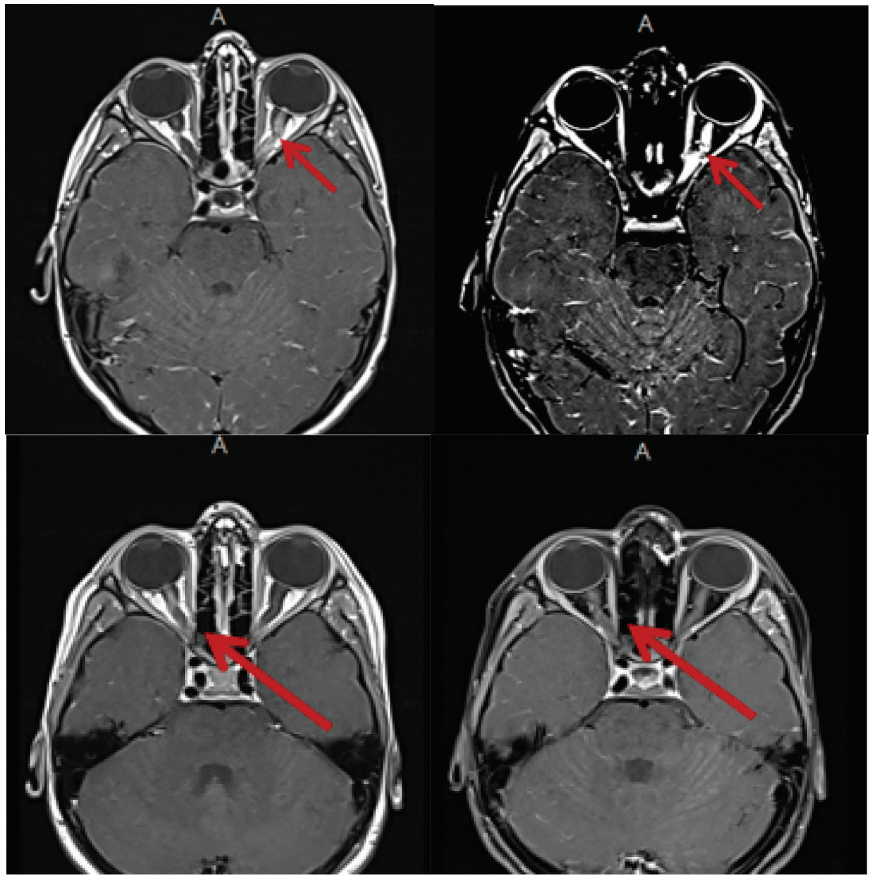


Figure 1. MRI Brain showing recurrent optic nerve enhancements; initially left sided and subsequently right sided.

following which he has not had any further relapses over two years with a reduction of his antibody titers to 1:40.

Discussion: This case shows that maintenance IVIG therapy can treat MOG-Ab-associated recurring optic neuritis in the pediatric population. Moreover, anti-MOG-Ab seroconversion can often be seen later in the disease course of children presenting with recurrent episodes of optic neuritis. Furthermore, the commencement of regular IVIG therapy showed good therapeutic benefits with significantly reduced Ab titers over two years. Thus, clinicians should be aware of the importance of testing for anti-MOG-Ab in recurrent episodes of demyelinating conditions like optic neuritis when initial workup fails to yield an appropriate diagnosis, as timely initiation of suitable immunotherapy can result in better prognostication and quality of life in such patients.

ID: 174/07-PT-L-d2A: 5
Poster Presentation (Onsite)
Topics: RARE DISEASES
Keywords: Incontinentia Pigmenti (IP), Neonatal rash, Rare genetic disorder

Neonatal complicated rash leading to diagnosis of a Rare Disease: a case report of Incontinentia Pigmenti

Psaroulaki, Evdokia; Katsaras, Georgios; Koutsi, Silouani; Xylouri, Garygallia; Oikonomou, Evaggelos; Papatsimpa, Aikaterini; Tsitsani, Pelagia
Pediatric Clinic, General Hospital of Pella-Hospital Unit of Edessa, Greece

Background: Incontinentia Pigmenti (IP), also known as Bloch-Sulzberger syndrome, is a rare X-linked dominant genodermatosis caused by mutations in the NEMO gene that presents at birth or soon after birth with cutaneous manifestation. IP is a systemic disease that involves tissue of ectodermic and mesodermic origin, including cutaneous tissue, teeth, eyes, and the central nervous system, amongst other organs. IP is estimated to affect 1.2 in 100,000 individuals worldwide. The diagnosis's primary clinical component is identifying characteristic skin lesions. Diagnosis is supported by the existence of dental, hair, nail, and ocular abnormalities.

Case Presentation Summary: A 25-day-old female neonate was evaluated for an evolving rash. She was born at term by spontaneous vaginal delivery to a G2P2 mother with an unremarkable pregnancy. Apgar score was 8 and 9 at 1 and 5 minutes, respectively. She had a birth weight of 2930gr, a length of 49 cm, and a head circumference of 33 cm. Routine antenatal serological tests for HIV, hepatitis B, and syphilis were negative. Immediately after birth, a confluent vesciculo-bullous rash filled with clear fluid and an erythematous rash at the upper and lower extremities, especially at the extensor surfaces, was observed. Moreover, a large Mongolian spot on the right side of the abdomen co-existed. There was no involvement of the mucous membranes, palms, and soles. A skin culture was conducted, in which Pseudomonas aeruginosa was isolated. Physical examination of the skin revealed tense blisters and bullae on an inflammatory base. Lesions were localized on the extremities in a linear arrangement that followed the lines of Blaschko and seemed to be painless. The Nikolsky test was negative. No other systemic manifestations were detected. Blood work was unremarkable, with negative inflammation and TORCH markers. Performed fundoscopy was normal. The patient was admitted for further investigation and received intravenous amikacin and ceftazidime alongside the local application of cream on the afflicted lesions. She was discharged after ten days with clinical improvement of the infectious skin. Follow-up in 15 days depicted localized skin eruptions and clustered lesions. A pediatric dermatologist consult was sought, and a skin biopsy was obtained confirming Incontinentia Pigmenti (IP).

Learning Points Discussion: Although most rashes in neonates are transient and benign, some require careful monitoring and additional work-up. Incontinentia Pigmenti (IP) is a rare

dominant sex-linked genetic disease affecting tissues and organs. It is seen almost exclusively in females and is usually lethal in males before birth, apart from some rare male cases (mosaicism or XXY karyotype). Major criteria of the disease are a) typical neonatal rash with erythema and vesicobullae, b) verrucous papules or plaques along the Blaschko lines, c) typical hyperpigmentation along the Blaschko lines fading in adolescence, d) linear, atrophic, hairless lesions on limbs or scarring alopecia of the vertex, e) dental abnormalities and f) identification of mutations in gene IKBKG. Minor criteria are a) ocular anomalies, b) CNS anomalies, c) alopecia, d) abnormal hair, e) abnormal nails, f) palate anomalies, g) nipple and breast anomalies, h) maternal history of multiple male miscarriages and i) typical histopathologic findings in a skin biopsy. At least 2 or more major criteria or 1 major and 1 or more minors are required for a definite diagnosis. Early recognition of IP is crucial as these patients are at risk for stroke and vision loss, especially in the first year of life.

ID: 106/07-PT-L-d2A: 6
Poster Presentation (Onsite)
Topics: NEUROLOGY, COVID-19
Keywords: neurodevelopmental delay, neurodevelopmental outcome, prenatal COVID-19 infection, infants, perinatal transmission, Sars-CoV-2

Neurodevelopmental outcome of infants born to mothers with COVID-19 infection during pregnancy: a meta-analysis

Gumpal Te, Alej an Joyce Marie Aguilar
University of Santo Tomas Hospital, Philippines

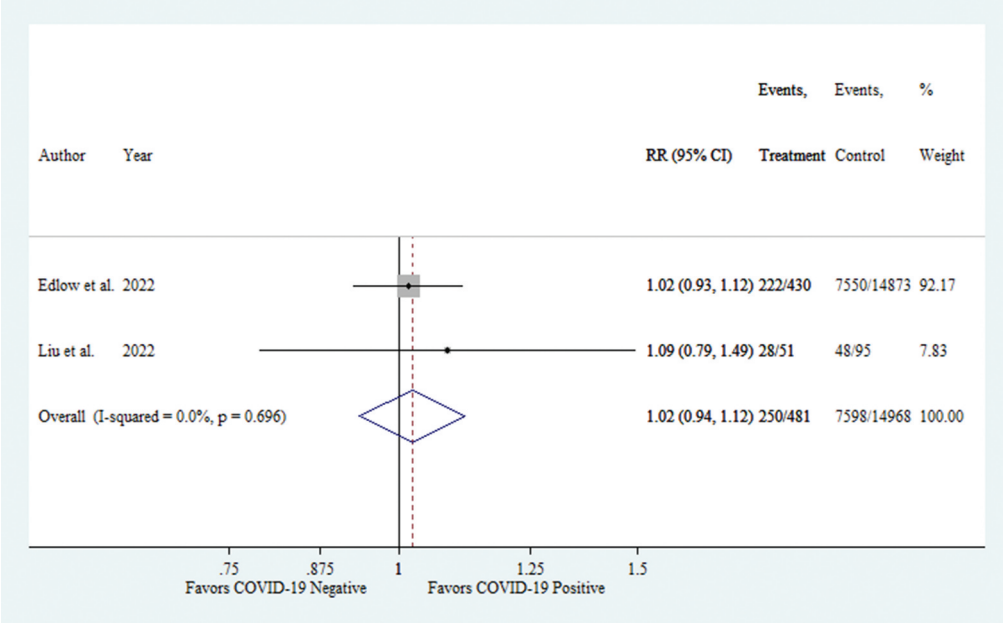
Background: Intrauterine viral infections increase proinflammatory cytokine levels, inhibiting the proliferation of neuronal precursor cells and stimulating oligodendrocyte cell death, leading to abnormal neurodevelopment. Epidemiologic studies suggest maternal immune activation during pregnancy may be associated with neurodevelopmental effects in infants, which is of great concern. Given the large number of exposed individuals, even a modest increase in risk for adverse offspring neurodevelopment would still have a massive public health impact.

Objective: To determine the neurodevelopmental outcome of infants born to mothers with COVID-19 infection during pregnancy.

Methodology: This study utilized a meta-analysis design. Studies published up to 30 September 2022 were included in the analysis. STATA MP Statistical Software, Version 13, College Station, TX: StataCorp LP was utilized for all statistical analyses. A p-value ≤0.05 was considered statistically significant. A fixed-effect model was utilised since the estimated heterogeneity is non-significant and not substantial. The pooled risk ratio was utilized as the summary effect measure for the risk of neurodevelopmental delays and was estimated with their corresponding 95% confidence intervals. Heterogeneity was scrutinised using the following statistical tests: Q statistics test, I2 statistics, and tau squared statistics. I2 values greater than 50% imply substantial heterogeneity, while Q-statistics with a significant p-value denote statistically significant heterogeneity.

Results: Two studies with a total population of 7,848 patients met the eligibility criteria. Results indicated that all included studies have good quality selection, comparability, and exposure evidence. Appraisal of the included studies in these areas of evaluation also showed that all studies were of good quality. The pooled risk of neurodevelopmental delays among infants born to COVID-19-positive mothers was 2.00% higher than those born from mothers who were negative for COVID-19 infection. However, this was not statistically significant. Graphical analysis of publication bias showed funnel symmetry, suggesting that publication bias was unlikely. This result was confirmed with formal statistical tests using Begg's adjusted rank correlation test and Egger's regression asymmetry test. (table 1)

Table 1.



Conclusion: Although not statistically significant, infants born to mothers with COVID-19 infection during pregnancy have an increased risk of neurodevelopmental delay. This may be attributed to the limited number of studies and articles available and partly because children born to women infected in the first wave of the pandemic are younger than two years of age. In addition, most developmental delays reflected motor function or speech and language disorders.

Recommendations: Given the time frame since the pandemic started, little is known about the effect of in-utero exposure to COVID-19 in infants and children. Hence, this research topic remains important considering the increasing proportion of pregnant women infected with COVID-19. The author recommends exploring future studies assessing the neurodevelopmental outcome in children with longer follow-up duration should be explored.

ID: 272/07-PT-L-d2A: 7
Poster Presentation (Onsite)
Topics: ADOLESCENT MEDICINE
Keywords: adolescents, loneliness, well-being, mental health, Covid-19

Polish adolescents feel lonely according to new data of HBSC study. Has COVID-19 pandemic's effect stayed with them for good?

Kleszczewska, Dorota Wiktoria[1]; Mazur, Joanna[2]; Dzielska, Anna[3]; Małkowska-Szkutnik, Agnieszka[4]
[1]Institute of Mother and Child Foundation, Poland; [2]Department of Humanization of Health Care and Sexology, Collegium Medicum, University of Zielona Góra, 65-046 Zielona Gora, Poland; [3]Institute of Mother and Child, Department of Child and Adolescent Health, Warsaw, Poland; [4]Warsaw University, Faculty of Education, Poland

Background: Mental health problems (MH) remain a significant burden among adolescents worldwide. Loneliness is one of the feelings highlighted by youth when asked about their well-being. The

Table 1. The impact of Covid-19 pandemic on adolescent loneliness (%)

Loneliness	Pandemic's impact		
	Negative	Neutral	Positive
Rarely	56.1	76.4	80.6
Often	43.9	23.6	19.4

impact of the COVID-19 pandemic on adolescent MH is still worth analysing since adolescents are the group most severely affected by social distancing.

Objective: The objective was to analyse the impact of the pandemic on "loneliness" as perceived by Polish adolescents.

Material and Methods: The data was collected from the Health Behaviour in School-aged Children (HBSC) study in Poland in schoolyear 2021/2022. The sample consisted of 7124 schoolchildren aged 11-, 13-, 15-, and 17-year-olds (1627, 1559, 2204, 1734 respectively), 53.1% girls and 46.9% boys. Respondents rated the impact of the pandemic on ten aspects of their lives (ranging from 1-very negative to 5-very positive). The most relevant outcome variable was "loneliness", measured with the question: How often have you felt lonely in the last 12 months?

Results: 26.4% of adolescents felt lonely always or most of the time, more often girls (33.1%) than boys (18.6%) – p<0.001. Adolescent mental health (mean score (MS) 2.71) and physical activity (MS 2.76) were most negatively affected by the COVID-19 pandemic, followed by expectations for the future (MS 2.81) and physical health (MS 2.81). The percentage of lonely adolescents decreases when the negative impact of a pandemic is lower (Table 1). Table 1. - please add here from the file. According to the results of logistic regression, the negative impact of the pandemic on adolescents' lives significantly increases the risk of frequent feelings of loneliness (OR=2.99; p<0.001), but the neutral impact is also significant (OR=1.23; p=0.017). The risk of frequent feelings of loneliness was increased for girls compared to boys (OR=2.05; p<0.001) and for 15-year-olds compared to 11-year-olds (OR=1.97; p<0.001).

Conclusion: The results confirmed the impact of the pandemic on frequent feelings of loneliness. It is justified to overcome the distant effects of the pandemic on the adolescent MH. One such attempt is the HeadsUp project. Its research part aims to estimate how often teachers work with school children with depression, what experiences teachers have with depression in adolescents, and how to support teachers to help young people in this struggle.

ID: 281/07-PT-L-d2A: 8
Poster Presentation (Onsite)
Topics: PUBLIC HEALTH
Keywords: burnout syndrome, professional health, depersonalisation, occupational stress

Professional burn out syndrome in nursing staff. Causes and managing methods.

Katsiardani, Anastasia Anastasiou; Gakikou, Stauroula; Svolou, Stavroula; Balatsouka, Argyro; Kalantzi, Eirini; Karalis, Vasileios; Anastasiou, Drosoula; Katsiardani-Giovanetto, Kalliopi-Penelope
General Hospital, Volos, Greece

Introduction: Professional Burnout Syndrome is troubling social sciences and management-organization specialists as the importance and effects on the individual, economy, and

productivity are significant. Considering chronic, prolonged occupational stress, the person weakens and feels mentally unable to perform work. It is distinguished in 3 categories: 1) Emotional exhaustion: feeling of mental fatigue, lack of concentration in work tasks. 2) Pre-silencing: neutral/negative feelings; 3) Feeling of reduced achievement: goals, reduced feeling of satisfaction. Purpose: Information, recording causes of the syndrome, and finding treatment and preventative measures.

Method: An internet search was conducted on Greek/international websites and databases among data corresponding to the subject.

Results: Causes: A) Environmental: environment and workload, exhausting working hours, lack of staff, rigid/authoritarian management, non-psychological support, increased patient/relative demands, exposure to death at high rates. B) Individually: stress management, expectations, salary adequacy, quick decision making, overall pressure. Prevention/treatment measures: a) Individual: early recognition of symptoms (organic-psychosocial), reassessment of personal goals/expectations, search-giving support, engaging in interests/activities. b) Organizational-administrative: The right professional in the right place increases performance/quality care. Increased breaks and leave professional development and psychological support groups. Continuing education/training. From the state: Defining a role with skills /professional rights. Specialists in providing primary/secondary care.

Conclusions: In recent years, due to the effects on mental/physical health, a different approach has begun, in which the causes of stress are alleviated or eliminated with service interventions. In Greece, an investigation is required due to family prevailing social relations (extended family). In conclusion, the administration, recognizing the importance of the syndrome in terms of financial, physical, psychological and social aspects, should ensure that the necessary measures are taken to ensure the health of the staff.

ID: 292/07-PT-L-d2A: 9
Poster Presentation (Onsite)
Topics: NEONATOLOGY
Keywords: neonatal care, newborn admissions, births

Retrospective study of newborn admissions in the neonatal care unit, level II, over the last 10 years (2013-2022)

Katsiardani, Anastasia Anastasiou[1]; Gakikou, Stavroula[1]; Katsiardani-Giovanetto, Kalliopi-Penelope[2]; Maggou, Harikleia[1]; Kalantzi, Eirini[1]; Tanou, Kalliopi[1]; Karalis, Vasileios[1]; Stamou, Dimitra[2]
[1]Neonatal Care Unit, General Hospital, Volos, Greece; [2]Department of Obstetrics, General Hospital, Volos. Greece

Background: In the Neonatal Care Unit were admitted neonates born in the Maternity Department of our Hospital, at the private birth centre, at home or in different places.

Aim: To record the birth rate over the last 10 years (2013-2022), the frequency of admissions in the Neonatal Care Unit and the origin of the births.

Material: The data were obtained from the electronic database “Asclepios” and the archive of the neonatal care unit.

Results: During the decade 2013-2022, a total of 5672 births took place in the maternity department of our hospital. The number of births by year is presented below: 2013: 648 births, 2014: 684, 2015: 615, 2016: 613, 2017: 605, 2018: 626, 2019: 525, 2020: 497, 2021: 435, 2022:

424. A total of 1421 newborns were hospitalized in the Neonatal Care Unit. A total of 1161 newborns (20.5% of births take place at the hospital) were admitted to the neonate care unit, which corresponds to 81.7% of the total number of admissions (2013: 159 admissions, 2014: 145, 2015: 114, 2016: 97, 2017: 95, 2018: 107, 2019: 109, 2020:108, 2021: 105, 2022: 122). 260 neonates born outside the hospital were hospitalized in the neonatal care unit (18.3% of total admissions).

Conclusions: The reasons that influenced the annual fluctuating incidence of births and admissions are the under-birth, the strict criteria for referrals and access in accordance with international guidelines, migration, the Covid-19 pandemic and the restrictive measures that accompanied them.

ID: 175/07-PT-L-d2A: 10
Poster Presentation (Onsite)
Topics: GENERAL PEDIATRICS, INFECTIOUS DISEASES
Keywords: Rickettsia, rash, child, tick

Rickettsia conorii infection in a child with febrile rash and congenital heart disease

Draganescu, Anca Cristina[1,2]; Bilasco, Anuta[1]; Bancila, Diana Maria[1]; Matei, Roxana[1]; Borindel, Morena[1]; Plesca, Doina Anca[2]
[1]National Institute for Infectious Diseases 'Prof. dr. Matei Bals', Bucharest, Romania; [2]Carol Davila University of Medicine and Farmacy, Bucharest, Romania

Background: Rickettsia conorii is responsible for Mediterranean spotted fever, a tick-borne endemic disease that was reported not only in Southern Europe but also in certain areas around The Black Sea, like Romania. It is classically characterized by a febrile generalized rash with flu-like symptoms associated with black eschar at the bite site and can lead to increased morbidity and mortality if untreated.

Case Presentation Summary: We present the case of a 10-year-old child with a pre-existing surgically corrected Transposition of the Great Arteries and secondary pulmonary artery stenosis, admitted to our clinic after a 7-day history of febrile illness associated with generalized maculopapular rash, malaise, arthralgia and myalgia. The patient had rural exposure to a tick bite 7 days before symptoms onset, and a black eschar was noted at the bite site. Blood analysis showed highly elevated C reactive protein and a mild increase in serum transaminases. Based on history, clinical presentation and laboratory findings, a differential diagnosis was made in a febrile patient with rash and congenital heart disease, including serious bacterial infections, viral diseases and other rickettsial infections. The patient was started on oral ciprofloxacin treatment with favourable clinical outcomes, and paired serum samples were positive for Rickettsia conorii using indirect immunofluorescence assay (IFA).

Learning Points Discussion: Rickettsia conorii infection should be considered in a child with a febrile rash and exposure to animals in rural areas to correctly administer antibiotic therapy because serological diagnosis is possible only late during the illness.

ID: 171/07-PT-L-d2A: 11
Poster Presentation (Onsite)
Topics: COVID-19
Keywords: Sudden sensory neural hearing loss, COVID-19, post-infectious complication, steroid treatment

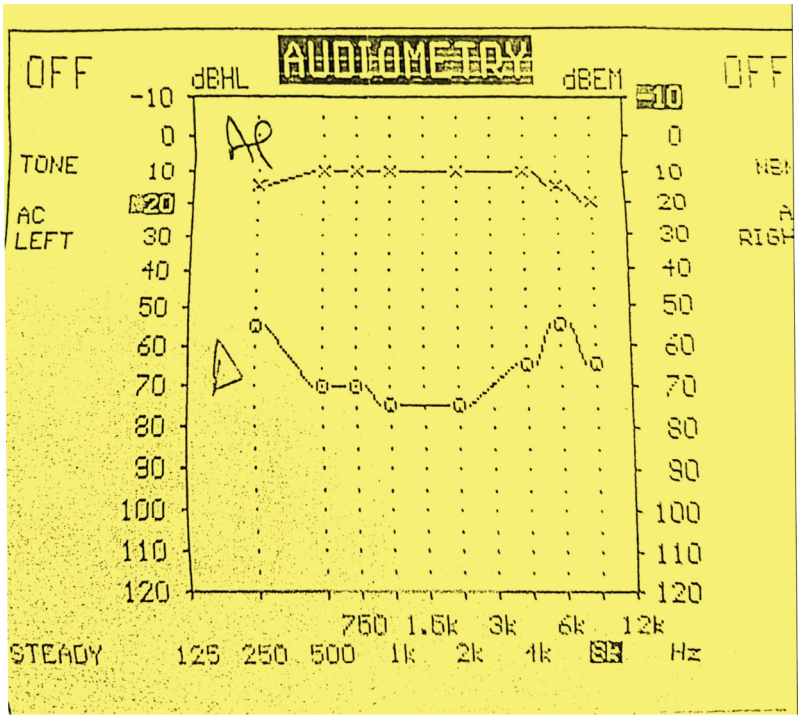
Sudden unilateral sensory neural hearing loss (SSNHL) in a school-aged boy attributed to COVID-19 post-infection.

Psaroulaki, Evdokia[1]; Katsaras, Georgios[1]; Karapistolas, Spyros[1]; Gouni, Dimitra[1]; Toumpidou, Evdokia[2]; Tsitsani, Pelagia[1]
[1]Pediatric Clinic, General Hospital of Pella -Hospital Unit of Edessa, Greece; [2]Ear, Nose & Throat (ENT) Department, General Hospital of Pella -Hospital Unit of Edessa, Greece

Background: Sudden sensory neural hearing loss (SSNHL) is defined as an abrupt decrease of more than 30 dB across three contiguous frequencies within less than three days and can be unilateral or bilateral. Its incidence is unknown, and its causes are assumed to be viral or idiopathic. The lack of standardization of approaches to diagnosing and managing SSNHL leaves children without treatment during a critical window where steroids could be effective.

Case Presentation Summary: An 11-year-old boy was presented to the Emergency Department with a sudden loss of hearing in the right ear accompanied by tinnitus. The audiological testing revealed a moderate to moderately severe frequency unilateral SNHL (Figure 1). Physical examination did not reveal any abnormal symptoms or signs. The conducted blood work revealed unremarkable CBC, sedimentation rate, biochemical profile, blood coagulation tests, as well as negative CMV, EBV, Toxoplasma, HIV I/II, anti-HCV, HBsAg, and positive IgG SARS-CoV-2 antibodies. fT4, ft3, and TSH were added to the investigation panel to exclude any thyroid disease. Our patient suffered from COVID-19 6 weeks earlier. An ocular evaluation was performed without any abnormal findings in fundoscopy. The patient was admitted for further investigation in the ENT department. Empirical treatment was initiated with intravenous dexamethasone 8mg/day. In the next few days, due to the worsening of the symptoms in the affected ear, a comprehensive series of tests were done. Transient otoacoustic emissions were not depicted on the right ear, the auditory evoked potential test was at 110 dB, in the range of profound hearing loss, and intratympanicin fusion of dexamethasone was administered. The ENT requested a computed tomography (CT) scan of the petrous bones after the initial visit, which was unrevealing. Although he initially showed very modest improvement on systemic steroids, he continued to experience intermittent tinnitus and hearing fluctuations at certain frequencies. The patient had a follow-up audiogram 2 months later,

Figure 1.



whereby moderate SSNHL was still detected in the afflicted ear. Consequently, he started hyperbaric oxygen therapy (HOT) because of the persistent hearing loss. His otolaryngology follow-ups in 1 and 3 months divulged mild progress. Though abruptly manifested in our patient, hearing impairment was considered a post-infectious complication of previous COVID-19 disease.

Learning Points Discussion: Systematic steroids are indicated as the primary treatment of SSNHL, but the potential impact and timing of intratympanic steroid treatment as an analogous primary treatment or salvage therapy remains unclear. Imaging of the temporal bones and brain with CT and magnetic resonance imaging (MRI) may play an important role in the diagnosis of a hearing loss etiology and in establishing a management plan. Adding HOT to corticosteroid administration does not seem to have superior results compared to corticosteroid usage alone. However, initiating HOT within the first 3 days of symptom onset could yield positive results in cases of idiopathic SSNHL. The chance of exceeding the norm at any frequency in the pure tone audiometry test by a person who suffered from COVID-19 is over sixty times higher compared to a healthy person who did not get COVID-19 infection.

ID: 192/07-PT-L-d2A: 12
Poster Presentation (Onsite)
Topics: ADOLESCENT MEDICINE
Keywords: anxiety, anxiety level, adolescent, gad-7, covid-19

The anxiety level of senior high school students in the resumption of face-to-face classes during the COVID-19 pandemic in a public high school in the Philippines using the Generalized Anxiety Disorder - 7 Scale

Awa, Princess Timbangan; David, Helen Grace Aragones
Las Piñas Doctors Hospital, Philippines

Background: The COVID-19 pandemic caused a significant disruption in the education systems by transitioning from face-to-face to online learning. Confinement of children in their homes posed substantial risks of developing mental health problems such as anxiety, one of the most common mental health problems in adolescence. The student's mental health may be significantly affected by the pandemic's progression and the school's continuous adaptation to the new normal.

Objectives: This study aims to determine the anxiety levels of senior high school students in a public high school in Las Piñas City during the resumption of face-to-face classes in the academic year 2022-2023.

Methods: The study is a cross-sectional descriptive study that utilized purposive sampling. The participants were senior high school students aged 18 years and below in Las Piñas National High School in Las Piñas City, Philippines. They were not previously diagnosed with mental health problems. The study utilized a two-part self-administered questionnaire containing the sociodemographic and socioeconomic profile and the Generalized Anxiety Disorder – 7 (GAD-7) Questionnaire. Frequency, percentage, and Chi-square tests were used to interpret the result.

Results: A total of 400 participants were included in the study. Most of the participants were 17 years old (42.3%), females (50.2%), middle children (38%), and fully vaccinated with the COVID-19 vaccine (81%). The result showed that most senior high school students have mild anxiety (30.5%). The most common anxiety symptom was irritability (26.3%), followed by worrying too much about different things (25.8%). Restlessness (6.5%) was the least experienced symptom. Age and gender were found to have a statistically significant relationship with the anxiety levels of the study population ($p=.008$ and $p<.001$, respectively). The population with severe anxiety is mostly 17 and 18 years old, at 38.3%. Females also had moderate and severe anxiety levels at 67.5% and 71.7%,

Table 1. Level of Anxiety of senior High school Students in a Public High School in Las Piñas City

Score	n	%
Minimal	104	26.0
Mild	122	30.5
Moderate	114	28.5
Severe	60	15.0

Note.n=400

respectively. Other sociodemographic factors were statistically insignificant (p=.171 for birth order, p=.171 for family income, and p=.134 for COVID-19 vaccination status). (Table 1)

Conclusion: The study revealed that most senior high school students in a public high school in Las Piñas City, Philippines, have mild anxiety while resuming face-to-face classes during the COVID-19 pandemic. It was associated with the increasing population who had COVID-19 vaccines and the decreasing number of COVID-19 cases in the Philippines. The onset of continuous interactions with other youth after months of isolation and distant learning may have also played a significant role in the mild severity of anxiety among the students.

ID: 167/07-PT-L-d2A: 13
Poster Presentation (Onsite)
Topics: GENERAL PEDIATRICS
Keywords: vascular rings, double aortic arch, right aortic arch, pulmonary artery sling

Vascular rings: our review of a clinical challenge

Ortigado, Alfonso[1]; Cartón, Antonio[2]; Deiros, Lucía[2]; Bret, Montserrat[2]; Navalón, Ana[3]; Ortigado-López, Daniel A[3]
[1]Guadalajara University Hospital, SESCAM, Public Health Service, Spain; [2]La Paz University Hospital, Madrid, Spain; [3]University of Alcalá, Madrid, Spain

Background: Vascular rings are congenital anomalies which affect the aortic arch and the trunk of the pulmonary arteries that compress the trachea or esophagus (1% of all congenital cardiac anomalies). This compression leads to a range of symptoms from respiratory distress in newborns, noisy breathing, barking cough, recurrent upper respiratory infections, wheezing or stridor, and exertional dyspnea to swallowing difficulties in older children when the solid food is introduced. Some infants can present following an apneic episode or apparent life-threatening event (ALTE), now renamed “brief resolved unexplained event” (BRUE). The nomenclature and classification systems for vascular rings have varied over time. In 2000, The International Congenital Heart Surgery Nomenclature and Database Committee recommended a classification of complete and incomplete vascular rings. The increasing and improved fetal imaging allows the opportunity to optimize the timing of diagnosis and potential surgical interventions. Scanning from the Three-Vessel-View (3VV) up to the Three-Vessel-Traquea (3VT) view, the trachea should be recognized and used to determine the position of the aortic arch and ductus. After birth, the ductus turns into a ligament and it is more difficult to visualize postnatally. Computed tomography angiography (CTA) is the gold standard imaging technique that enables rapid and high-resolution evaluation of the exact anatomy for a preoperative evaluation. Symptomatic patients require surgical interventions, usually with excellent outcomes.

Case presentation summary: we reviewed all the cases of vascular rings diagnosed in our hospital from January 2012 to January 2023 (16,500 newborns in this period). Twelve patients were diagnosed: 5 aberrant right subclavian artery (ARSA), 3 right arch with the aberrant left subclavian artery

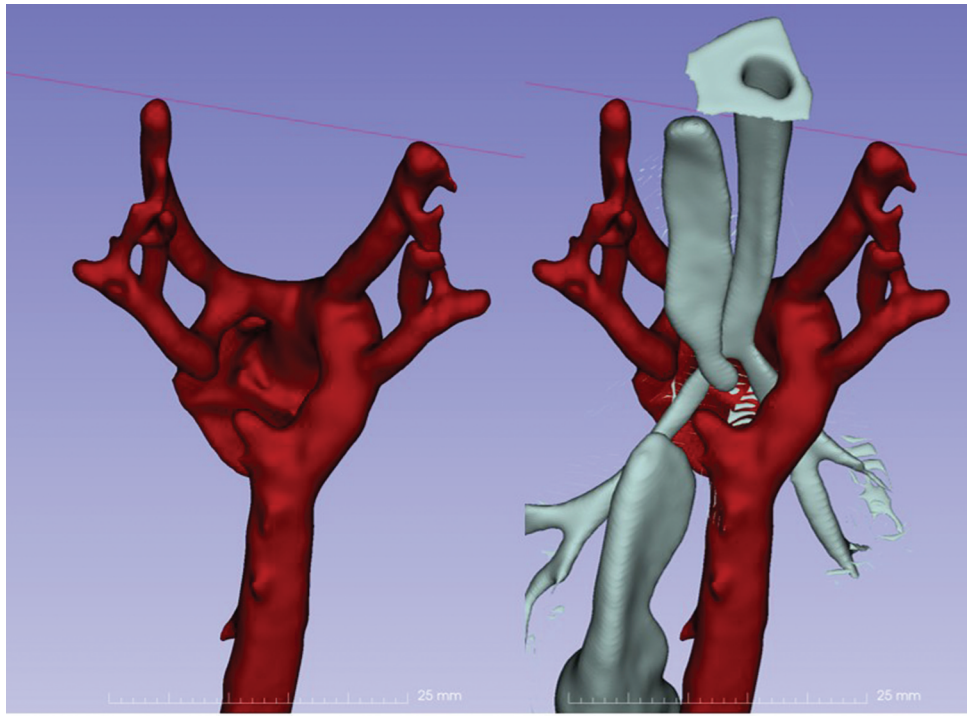


Figure 1. Doble aprtic Arch: CTA with three-dimensional reconstruction of the vascular ring that encircles the trachea and esophagus.

(arising from the retroesophageal Kommerell diverticulum) and left ligamentum (RAA+ALSA), 2 double aortic arch (DDA), 1 RAA with mirror-image branching and 1 pulmonary artery sling (PAS). Clinical presentation: all ARSCA and RAA mirror-image branching were asymptomatic, but true vascular rings and PAS had clinical symptoms (earlier presentation in DDA). Fetal echocardiographic diagnosis was performed in 6 cases (50%). Associated anomalies: tetralogy of Fallot (1), Down syndrome (1), deletion 15q26.3 (1), duplication 16p11.2 (1). Symptomatic cases underwent surgical repair after confirming the diagnosis with a CTA and three-dimensional reconstruction (figure 1). Surgical intervention was performed to release the ring with favourable midterm outcomes

Learning Points Discussion: 1.- Vascular rings are rare malformations, but with prenatal detection are more frequently diagnosed (7 cases in 10,000 live births). 2.- Prenatal diagnosis allows for planned delivery at reference centres and makes it possible to schedule surgery. 3.- ARSA was the most common anomaly, all of them without Kommerell diverticulum, and all were asymptomatic (no dysphagia lusoria). 4.- CTA with three-dimensional reconstruction provided an excellent image of the structures and helped for presurgical planning. 5.- Symptomatic vascular rings were corrected surgically with favourable outcomes, preventing prolonged airway compression and serious complications.

ID: 278/07-PT-L-d2A: 14
Poster Presentation (Onsite)
Topics: NEONATOLOGY
Keywords: neonates, social problems, drug abuse, covid-19

10 Year retrospective study recording the annual admissions in the Neonatal Care Unit Level II, due to social factors

Katsiardani, Anastasia Anastasiou; Balatsouka, Argyro; Gakikou, Stauroula; Maggou, Harikleia; Kalantzi, Eirini; Katsiardani-Giovanetto, Kalliopi-Penelope; Makri, Sofia; Tanou, Kalliopi
General Hospital, Volos, Greece

Background: In the Neonatal Care Unit, newborns are hospitalized for various causes such as respiratory problems, prematurity, perinatal stress, infections, etc. There is often a need to admit newborns with various social problems until they end up in a safe environment or until they are given to an institution or foster care due to significant medico-social problems (mothers addicted to drugs, psychiatric problems or with a public prosecutor's order).

Aim: To record the admissions to the Neonatal Care Unit in the last ten years due to social factors.

Material: We collected data from the ASKLEPIOS electronic file and the Neonatal Care Unit's file for 2013-2022.

Results: Fifty-five newborns were hospitalized for various reasons during the study period, and 29 of them (52.7%) were female. All the newborns were born in the Maternity Department of our Hospital, except one that was born at home and one that involved another delivery. In our unit were accommodated neonates born by mothers a) addicted to drugs (2013:3, 2015:2, 2016:5, 2017:3, 2018:2, 2019:1, 2021:1 total:17), b) had various psychiatric problems, c) hospitalized following a prosecutorial order: (2020:2), d) positive tested for Covid-19 until they become negative, in the last three years: (2020:1, 2021:1, 2022:13, total 15), e) presented with significant health problems before or after childbirth (stroke, convulsions, uterine rupture, uncontrollable bleeding, etc.): (2014:1, 2015:2, 2017:2, 2019:1, 2020:1, 2021:3, 2022:1, total:11) until it became possible to deliver them to a safe environment. Specifically, from the total of 55 newborns, 40 were returned to their mothers, 4 to a maternal or paternal grandmother or a relative, 8 to a newborn care institution, 2 were placed in the University Hospital, and 1 was given to a foster family. Regarding the problems of the admitted newborns, 17 (30.9%) showed symptoms of withdrawal syndrome due to the intake of addictive drugs, while 15 (27.2%) were hospitalized due to the mother's illness from coronavirus. Regarding the Obstetric History of these children, 56.3% had clear amniotic fluid and 14.5% coloured. 4/55 mothers developed Gestational Diabetes Mellitus.

Conclusions: The supportive role of the Neonatal Care Unit is vital in our region because the highest percentage of newborns return to the mother and family environment with social support.

ID: 156/07-PT-L-d2A: 15
Poster Presentation (Onsite)
Topics: RARE DISEASES
Keywords: Alström syndrome, cardiomyopathy, ciliopathy, obesity

Alström syndrome is not yet curable but is a treatable condition

Ortigado, Alfonso[1]; Álvarez, Visitación[1]; García-Guereta, Luis[2]; Valverde, Diana[3]; Ortigado-López, Alfonso[4]
[1]Guadalajara University Hospital, SESCAM, Public Health Service, Spain; [2]La Paz University Hospital, Madrid, Spain; [3]University of Vigo, Spain; [4]Biogen Center, Madrid, Spain.

Background: Alström syndrome (AS; #OMIM 203800) is an ultrarare autosomal recessive genetic disorder (1 /1.000.000). Cardinal features include cone-rod retinal dystrophy, nystagmus, photophobia, neurosensorial hearing loss, truncal obesity, type 2 diabetes mellitus (T2DM), hypertriglyceridemia, dilated cardiomyopathy (DCM) and multi-organ fibrosis (lung, kidney, liver). AS is a monogenic ciliopathy caused by a mutation to the Alström syndrome 1 (ALMS1) gene located on chromosome 2p13 (23 exons). ALMS1 encodes a large ubiquitously expressed protein that is found in primary cilia. The rarity of this disorder and the complexity of the syndrome can translate into

Table 1.

	Weight (kg	Height (m)	BMI kg/ m^2	BD (mmHg)	HOMA-IR	Glucose (mg/dl)	HbA1C (%)	TG (mg/dl)	Total Col/HDL-Col (mg/dl)
June 2022	74.8kg	155	31.0	130/90	8.23	101	5.4	486	286/38
June 2023	59.0kg	155	24.5	110/60	5.97	72	4.9	179	160/34

Notes: BMI: body mass index. BD: blood pressure. HOMA-IR: homeostatic model assessment for insulin resistance. TG: triglycerides. Col: cholesterol. HDL-col: high-density lipoprotein cholesterol.

misdiagnosis or delayed diagnosis. Dilated cardiomyopathy (DCM) may arise in infancy (between 3 weeks and 4 months of age), then often resolves within 3 years, but it may recur in adolescence or adulthood. DCM is caused by diffuse interstitial fibrosis in the heart. Myocardial fibrosis can be a direct consequence of the abnormal ALMS1 protein or a result in childhood of the metabolic derangements that are associated with AS. Obesity is a chronic and low-grade inflammation (lipoinflammation). There are no effective treatments known to reverse myocardial fibrosis.

Case presentation summary: We report a Spanish 21-year-old male with Alström syndrome; the first clinical manifestation (4 months) was a sudden abrupt onset of heart failure due to dilated cardiomyopathy (DCM) with a full recovery by age 2 years. Clinical features emerge throughout infancy and childhood. Genetic testing (ALMS1 gene): mutation g.5253t>C (exon 8), and mutation c.11615_11616del (exon 17). In June 2022 (20 years old), treatment was considered with Glucagon-like peptide-1 receptor agonist (GLP-1RA), once-weekly subcutaneous semaglutide with a dose-escalation schedule. Treatment was well tolerated, and after 1 year, reduced cardiovascular risk factors, obesity, T2DM, hyperlipidemia, and obstructive sleep apnea … (table 1). Cardiac study is currently normal (ECG, echocardiography, high-sensitivity cardiac troponin and B-type natriuretic peptide).

Learning points discussion: Dilated cardiomyopathy (DCM) is common in AS, with a bimodal pattern, first, the infantile-onset, and later in adolescence-childhood (myocardial fibrosis). 2.- DCM in the infantile onset can resolve with an apparent recovery. 3.- Metabolic disturbances begin in childhood and increase the risk of cardiac dysfunction in adolescence or adulthood (myocardial fibrosis). 4.- GLP-1RA could be considered not only to promote weight loss and inhibit appetite but also to improve metabolic complications of obesity. 5.- GLP-1RA can reduce various cardiovascular risk factors, and therefore, it could delay or even prevent the recurrence of heart disease in adulthood in patients with AS.

ID: 144/07-PT-L-d2A: 16
Poster Presentation (Onsite)
Topics: PSYCHIATRY
Keywords: Autism spectrum, Sexual behaviour, behavioural scale, coping mechanism, diagnostic tool

Exploring Masturbation as a potential diagnostic sign in Autistic girls: A case-control study

Samarani Akl, Marie[2]; Fadous Khalife, Marie Claude[1,2]; Hallit, Souheil[2,3]; Alam, Chadi[4]; Amm abi Ghosn, Miryam[1,2]
[1]UH-Notre Dame Des Secours, Lebanon (Lebanese Republic); [2]Faculty of Medicine, Holy Spirit University of Kaslik, Kaslik Lebanon; [3]La Croix Psychiatric Hospital, Lebanon; [4]American center for psychiatry and Neurology, Abu Dhabi and Al Ain

Background: One of the key features of autism is the presence of restricted, repetitive behaviors, which exhibit considerable variation among individuals. This heterogeneity in the expression of

repetitive behaviors may be valuable in identifying potential subtypes of ASD. When it comes to sexual behaviors, Inappropriate sexual behavior, including public or private masturbation, is relatively common among adolescents with ASD, often attributed to both normal developmental changes and challenges.

Methods: To explore the correlation between masturbation and autism, a case-control study was conducted on a sample of young girls from Lebanon. The study carried out at the University Hospital Center of Notre Dame des Secours (CHUNDS) involved a double-blinded survey comparing the results of autistic Lebanese girls to a similar group of girls from the general population. Ethical approval was obtained from the Ethics and Research Committee of Notre Dame de Secours University Hospital, and parental consent was obtained prior to survey participation. The questionnaire used in the study was designed in Arabic, the native language of Lebanon, and consisted of three parts: socio-demographic information, a section from the Repetitive Behavioral Scale of Early Childhood, and a masturbation survey. Statistical analysis, performed using SPSS software, involved the use of the Chi-square and Fisher exact tests for categorical variables and the Student t-test for means comparison, with a significance level set at $p < 0.05$.

Results: The results of this study indicate that among children who masturbated, autistic children had a significantly higher mean age of masturbation compared to healthy children (9.00 vs 1.33; $p<0.001$). Additionally, a higher percentage of autistic children exhibited more frequent repetitive behaviors, encompassing various aspects such as legs, arms, object usage, vocalizations, and locomotion. While masturbation may provide comfort or serve as a coping mechanism, it can also impede social interactions, limit flexibility, or interfere with learning and academic performance. Understanding the functional significance of these behaviors is essential for tailoring interventions that address the specific needs and goals of autistic girls, promoting their overall well-being and inclusion. Further studies are needed, with a larger cohort, to confirm masturbation as part of diagnostic tools for autism in girls.

Conclusions: Autistic girls had a significantly higher percentage of masturbation compared to healthy girls. These findings deepen our understanding of the complex manifestations of ASD and emphasize the importance of additional research and support to address the unique challenges faced by individuals with autism.

ID: 328/07-PT-L-d2A: 17
Poster Presentation (Onsite)
Topics: ENDOCRINOLOGY
Keywords: Adrenal insufficiency, adrenal hypoplasia, salt-wasting adrnal crisis, hypogonadotropic hypogonadism

Adrenal hypoplasia – a clinical challenge

Paulino, Sara Geraldes[1]; Cunha, Rosário[2]; Porto, Alice[3]; Oliveira, Renata[3]; Ferreira, Sofia[1]; Silva, Rita Santos[1]; Castro-Correia, Cíntia[1]
[1]Department of Pediatrics, Centro Hospitalar Universitário São João, Portugal; [2]Department of Pediatrics, Centro Hospitalar de Entre Douro e Vouga, Portugal; [3]Department of Genetics, Centro Hospitalar Universitário São João, Portugal

Background: Adrenal insufficiency (AI) is a potentially life-threatening condition characterized by inadequate secretion of glucocorticoid and/or mineralocorticoid hormones by the adrenal cortex. Several disorders can cause it, but the most common one in pediatric patients is congenital adrenal hyperplasia (CAH) due to 21-hydroxylase deficiency.

Case Presentation Summary: A male neonate was born with scrotal hyperpigmentation with no other alterations on physical examination. On day 3 of life, he developed refractory hypotension to aminergic support, and laboratory tests showed hyponatremia, hypokalemia and metabolic acidosis - all signs compatible with a salt-wasting adrenal crisis. Therefore, he started on intravenous hydrocortisone and fludrocortisone for suspected CAH and was discharged from the NICU on day 30 of life. At 10 months of age, as the levels of 17-hydroxyprogesterone were low, the CAH hypothesis was questioned, and medication tapering was initiated. However, hyperpigmentation of the skin mucous membranes began to appear, and a medication restart was recommended. At this time, laboratory tests showed low levels of aldosterone and elevated renin, low levels of dehydroepiandrosterone-sulfate, androstenedione and testosterone and high levels of ACTH. Genetic tests were conducted, and no variations associated with CAH were found, so the etiology of primary AI remained unknown. Besides the AI, this child had a short stature (percentile <1) – initially attributed to high doses of hydrocortisone –a pubertal delay with hypogonadotropic hypogonadism and a mild intellectual developmental disorder. A genomic array test revealed a mutation of the CSNK2A1 gene (deletion at cytoband 20p13), associated with Okur-Chung syndrome, which explains the short stature and intellectual disability, but not the AI. Hence, genetic tests associated with adrenal hypoplasia were conducted, and it was identified a pathogenic variant in the NR0B1 gene (variant c. 1273 A>G (p. (Arg425Gly)) in hemizygosity), responsible not only for the AI but also for the hypogonadotropic hypogonadism.

Learning Points Discussion: Although adrenal insufficiency in children is mostly caused by CAH due to 21-hydroxylase deficiency, in this specific case, it was caused by NR0B1 gene mutation, which, despite being rare, also explains hypogonadotropic hypogonadism. Additionally, the short stature that was interpreted, in the beginning, in the context of high doses of hydrocortisone was likewise explained by another mutation in the CSNK2A1 gene, which was also responsible for the intellectual developmental disorder. In conclusion, this clinical case shows the importance of looking at the patient as a whole, integrating all the pathologies/features, to avoid false or misdiagnosis.

ID: 325/07-PT-L-d2A: 18
Poster Presentation (Onsite)
Topics: INFECTIOUS DISEASES
Keywords: RSV, bronchiolitis, passive immunoprophylaxis

Validation of the International Risk Scoring Tool for identifying moderate-to-late preterm infants at greatest risk of severe respiratory syncytial virus disease in Brazil

Ribeiro, Paulo Andre[2,3]; Carbonell-Estrany, Xavier[4]; Fullarton, John[1]; Keary, Ian[1]; Rodgers-Gray, Barry[1]; D'Apremont, Ivonne[5]; Moreno Espinosa, Sarbelio[6]; Rodriguez-Martinez, Carlos E.[7]; Stein, Renato T.[8]; Vain, Nestor[9]; Paes, Bosco[10]
[1]Violicom Medical Limited, United Kingdom; [2]Centro Hospitalar Unimed - Unimed Joinville, Brazil; [3]Hospital Infantil Dr Jeser Amarante Farias, Joinville, Brazil; [4]Hospital Clinic, Barcelona, Spain; [5]Pontificia Universidad Católica de Chile, Santiago de Chile, Chile; [6]Hospital Infantil de México, Ciudad de México, México; [7]Universidad Nacional de Colombia, Bogota, Colombia; [8]Hospital Moinhos de Vento and Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil; [9]Hospital Sanatorio Trinidad Palermo, Buenos Aires, Argentina; [10]McMaster University, Hamilton, Ontario, Canada

Background: The International Risk Scoring Tool (IRST) uses three risk factors (birth 3 months before to two months after the respiratory syncytial virus (RSV) season start date; smoking in the household and/or smoking while pregnant; siblings and/or daycare) to categorise the risk of RSV hospitalisation (RSVH) in 32-35 weeks gestational age (wGA) infants. The data used to build and validate the IRST are dominated by countries from Western Europe and North America. To support the adoption of the IRST in Latin America (LATAM), the IRST was validated against data from Brazil.

Methods: Data covering the IRST risk factors together with two others considered important in LATAM, breastfeeding (defined as exclusive and given or planned from birth to 3 months of age)

and maternal education to primary level (as a surrogate for social deprivation), were collected from three hospitals in Brazil. Premature infants born 32-35wGA without comorbidities who had RSVH within the first 6 months of life (cases) were matched with gestationally and chronologically age-matched controls without RSVH. Validation analyses included employing logistic regression to generate the IRST, both with and without breastfeeding and maternal education, and assessing the predictive accuracy (1=perfect prediction) by calculating the area under the receiver operating characteristic curve (AUROC) using the Brazilian data.

Results: Data on 49 cases and 48 controls were collected. Generating the IRST using Brazilian data resulted in an AUROC of 0.712 when siblings and daycare attendance were used as individual variables rather than combined. Siblings were found to be the strongest predictor, with an odds ratio (exp(beta)) nearly twice that of the next two most powerful contributors to the regression function, namely birth in relation to season start and daycare (odds ratios: 1.9, 1.1 and 0.9, respectively). Adding breastfeeding to the IRST risk factors improved accuracy, resulting in an AUROC of 0.737 (Figure 1). However, adding maternal education did not improve accuracy. The omission of any of the IRST variables from the analysis produced a diminished AUROC.

Conclusions: This validation strongly supports that the IRST risk factors predict RSVH in this population and that breastfeeding is a worthwhile addition. The overall predictive accuracy of 0.737 compared favourably with an AUROC of 0.773 for the original IRST and 0.707 in the primary validation using Irish data. The IRST provides a mechanism to target palivizumab to 32-35wGA Brazilian infants most likely to benefit from prophylaxis.

Figure 1.