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ABSTRACTS OF THE ANNUAL MEETING 2025 (LAUSANNE, JUNE 11/12, 2026)

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ORAL COMMUNICATIONS

OC 1

Clinical impact of AI-based fracture detection software on diagnostic performance in a pediatric emergency department

Seiler M[1,2], Geiger LS[1], Kellenberger CJ[3], Altmann-Schneider I[2,3]

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Background: Relevant misinterpretation of radiographs in pediatric emergency departments (EDs) occurs in approximately 10% of cases. This study evaluated the clinical impact of an artificial intelligence (AI)-based fracture detection software on ED physicians' (EPs) diagnostic performance, examining whether AI support improves accuracy or contributes to misdiagnosis.

Methods: Between May–December 2023 (part 1) and January–August 2024 (part 2), EPs at the University Children's Hospital Zurich assessed bone radiographs of consecutive patients presenting to the ED with suspected fractures. In part 1, EPs interpreted radiographs without access to AI, and EP and AI performance were evaluated independently. In part 2, EPs had the option to use the AI software BoneView (Gleamer, Paris, France) during clinical decision-making but were not required to follow its output. EP diagnoses and AI results were compared with pediatric radiology reports as the reference standard.

Results: A total of 6027 patients (mean age 9.2 years, range 2–17 years) with 6696 radiographic studies were included (upper extremity 3597, lower extremity 2624, axial skeleton 475). The reference standard identified 3030 fractures (45.2%). In part 1, EPs achieved a sensitivity of 90.7% (95% CI 89.4–91.9), specificity of 93% (95% CI 91.9–94), a positive predictive value (PPV) of 92% (95% CI 90.7–93.1), and a negative predictive value (NPV) of 91.9% (95% CI 90.8–93). AI performed 3–5 percentage points worse across all metrics. Among 763 discrepant EP or AI readings, BoneView correctly identified 98 of 189 EP false negatives and 140 of 161 false positives, but also generated 226 false positives and missed 187 fractures among EPs' correct diagnoses. In part 2, when EPs could use AI during interpretation, their performance improved: sensitivity 94.2% (95% CI 92.8–95.4), specificity 96.4% (95.4–97.3), PPV 95.6% (95% CI 94.3–96.6), and NPV 95.3% (94.2–96.3).

Conclusions: This prospective real-life study demonstrates that AI-based fracture detection software can support EPs and reduce diagnostic errors, particularly false-positive fracture diagnoses. However, frequent misleading AI outputs underscore the need for cautious interpretation. The benefit of AI assistance may depend on clinician experience and trust in the tool.

OC 2

Clinical features and outcomes of pediatric Lyme arthritis in Europe: a large Swiss cohort study

Greiter BM[1], Sidorov S[1], Cannizzaro E[2], Seiler M[3], Osuna E[1], Baggi Menozzi F[4], von Felten S[5], Egli A[4], Berger C[1], Meyer-Sauteur PM[1]

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Background: Lyme arthritis (LA) in children typically manifests as monoarthritis of a large joint. Although the prognosis is generally good, persistent arthritis occurs in 10–23% of patients despite antibiotic treatment. Most described pediatric LA cohorts are from the U.S., with limited European data available. This study aimed to describe clinical features and outcomes of pediatric LA in Europe using a large Swiss cohort.

Methods: Children diagnosed with LA at the University Children's Hospital Zurich, Switzerland between January 1, 2006, and December 31, 2020 were included. Data on clinical disease presentation, laboratory findings, and treatment courses were compared between outcome groups using descriptive statistics and multivariable logistic regression models.

Results: A total of 108 LA patients were included. Persistent arthritis, defined as symptoms lasting ≥2 months after antibiotics, occurred in 24%. Characteristics associated with persistent arthritis included older age, symptoms >14 days before presentation, delayed LA-specific antibiotic treatment >30 days, absence of empirical antibiotics, and lower blood monocyte counts. Among patients with persistent arthritis, 10 (38.5%) recovered (9 after intra-articular corticosteroid injections), whereas 16 (61.5%) were eventually diagnosed with juvenile idiopathic arthritis (JIA).

Conclusions: This study provides a comprehensive characterization of pediatric LA in the largest European cohort to date, complementing existing data from the U.S. Early clinical and laboratory features did not reliably differentiate children who achieved resolution from those who developed persistent arthritis. The finding that a substantial proportion of children with persistent arthritis were later diagnosed with JIA highlights the urgent need to identify predictors of disease persistence and to optimize management strategies.

OC 3

Temporary exclusion of self-limiting infectious diseases children from childcare centres: A national survey in Switzerland

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Introduction: Children attending childcare centers (CCCs) are more likely to suffer from self-limiting infectious diseases. Approximately 35% of children in Switzerland attend a CCC. This is why exclusion from CCC is a long-standing public health measure. When deciding whether to temporarily exclude a child, CCC staff face the difficult task of balancing the need to

protect healthy children and staff with the aim of minimizing disruption to the daily lives of the families.

Methods: We developed a survey addressing the temporary exclusion of children from childcare centres (CCCs) due to infectious diseases and related symptoms through a participatory process involving CCC staff. We queried language region of the CCC, which resources CCC consulted to assess if a child needs to be excluded from CCC, and how they handled self-limiting diseases such as acute pharyngitis or acute otitis media. The survey was distributed via e-mail to 2,526 CCCs in January 2025. Data were analyzed descriptively, with proportions stratified by the language region of the CCCs.

Results: Out of 2,526 CCCs, 555 (22%) responded to our survey. Most responses were from the German-speaking region (n = 396; 72%), followed by the French-speaking region (n = 134; 24%). French-speaking CCCs more frequently relied on information provided by cantonal health officers when deciding whether to temporarily exclude children from CCCs, whereas German-speaking CCCs more often consulted private resources or professional organizations. German-speaking CCCs were more likely to recommend exclusion (acute pharyngitis: 73.8%, 95% CI 69.3–77.9 vs. 39.5%, 95% CI 31.6–48.0; p <0.001; acute otitis media: 66.3%, 95% CI 61.4–70.9 vs. 21.1%, 95% CI 15.0–28.8; p <0.001) and to require antibiotic therapy to allow for an earlier child's return to the CCC (acute pharyngitis: 25.7%, 95% CI 21.6–30.3 vs. 10.5%, 95% CI 6.2–17.1; p <0.001; acute otitis media: 15.2%, 95% CI 12.0–19.2 vs. 4.9%, 95% CI 2.3–10.2; p = 0.003) compared with French-speaking CCCs.

Discussion: Temporary exclusion policies for children with self-limiting infectious diseases vary among Swiss CCCs, with differences between language regions in both information sources and criteria for return. Further research is needed to understand the reasons for these differences and to develop harmonized, evidence-based guidelines.

OC 4

Persistent Burden of Hyperbilirubinemia in Sub-Saharan Africa: Clinical Evidence and an Improvement-oriented Intervention

Roth-Kleiner M[1,4,5], Hyjazi ME[2], Diaby M[2], Lomme C[3,5], Diallo AS[2], Condé I[2], Kaba I[2], Balde TM[2], Loua NF[2]

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Introduction: Since the introduction of neonatal screening and early phototherapy (PT), severe bilirubin-induced neonatal encephalopathy and kern icterus have almost disappeared in the northern hemisphere. In many low and middle-income countries, including Guinea, limited access to screening tools, diagnostic equipment and reliable phototherapy continues to expose newborns to preventable morbidity and mortality. We here present data from a reference hospital in northwestern Guinea, highlighting the burden of neonatal hyperbilirubinemia.

Patients and Methods: Between May 1st and October 31st, 2025, 169 newborn infants were admitted to the Hospital of Kamsar, a reference hospital serving a population of 1,2 Mio inhabitants in an area corresponding to ¾ of Switzerland. Only infants with clinically evident icterus underwent a transcutaneous bilirubin measurement (BTc). Serum bilirubin measurement was unavailable. One single PT device (360° Phototherapy Cradle, Médipréma, France) was available and was used for a 12 h course of PT per patient, when accessible.

Results: Among the 169 admitted newborns, 47 (27.8%) presented with clinical jaundice, 39 (83.0%) with a birth weight <2′500 g. Fourteen newborns showed clinical signs of severe hyperbilirubinemia, such as seizures or anaemia. BTc value at first evaluation exceeded their exchange transfusion limit in 27 (57.4%) patients, including values >500 µmol/L in 6 newborns. Due to limited availability of the PT lamp (already in use, lack of power) only 26 icteric newborns (55.3%) received PT. Four of the 6 patients (66%) with BTc >500 µmol/L died. Overall mortality among the icteric newborns was 29.8%. Long-term outcome could not be assessed.

Conclusion: Severe neonatal hyperbilirubinemia with life threatening consequences remains a major challenge in resource-constrained settings. The lack of reliable screening tools, affordable serum bilirubin testing and adequate PT capacity significantly limits timely and efficient jaundice management. In response, the Swiss NGO souffle2vie, in collaboration with the CHUV and Guinean partners, has launched a clinical and research initiative aimed at improving early detection and treatment of neonatal jaundice. Supported by private and governmental Swiss donors, the program has already enabled the deployment of adapted medical equipment as well as comprehensive training for local healthcare providers, laying the foundation for improved neonatal outcome.

OC 5

Emergency Department Usage and Return Visits to Emergency Department of Migrant vs Non Migrant Children

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Background: Migrant children represent a growing and vulnerable population in pediatric health care. Their utilization of Emergency Departments (EDs) and risk of unplanned return visits to the ED (RTEDs) may reflect inequities in access and quality of care.

Objective: This narrative literature review aimed to synthesize current evidence on differences in the utilization of the ED and in unplanned RTEDs between migrant and non-migrant children and to identify factors influencing these outcomes.

Methods: A systematic search of Medline (via Ovid) was conducted for studies published between January 2005 and August 2025 in English or German. Eligible studies included children (0–18 years) with migrant, refugee, or asylum-seeking backgrounds. Quantitative and qualitative studies were included.

Results: Of 334 identified papers, 30 met the inclusion criteria and 1 additional paper was added by hand-search. 20 studies examined differences in the utilization of pediatric emergency departments (PEDs), showing heterogeneous results regarding the frequency of PED visits among migrant and non-migrant children. However, most studies reported higher acuity levels and hospitalization rates among migrant children, suggesting delayed presentation or barriers to primary care. Only four studies directly addressed differences in unplanned RTEDs between migrant and non-migrant children, showing no consistent significant association. However, factors such as limited host-language proficiency, restricted insurance coverage, and non-White race or ethnicity were associated with increased RTEDs and rehospitalizations. Qualitative studies highlighted the importance of emphasizing respectful communication, improving the use of professional interpreter services, and increasing provider training to improve care for migrant families.

Conclusion: Evidence on unplanned RTEDs among migrant children remains scarce and inconclusive, revealing a substantial research gap. Future studies should include migration-re-

lated factors and evaluate interventions such as language interpretation and structural support promoting equitable access and culturally competent care in pediatric emergency settings.

OC 6

Second-Season Experience with Universal RSV Prophylaxis in Infants in Switzerland: Results from the RSV EpiCH Study Group

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Background: Since 2021, the RSV EpiCH project has provided representative, nationwide surveillance data on respiratory syncytial virus (RSV) detections in children in Switzerland. We have documented shifts in RSV epidemiology among Swiss children following the implementation and relaxation of non-pharmaceutical interventions during the COVID-19 pandemic and the introduction of Nirsevimab in autumn 2024. We present findings from ongoing RSV surveillance in Swiss children's hospitals during the second season of universal Nirsevimab availability for children <1 year of age, and after the introduction of maternal vaccination with Abrysvo in autumn 2025.

Methods: The RSV EpiCH project prospectively collects weekly aggregated data on the detection of RSV in children and adolescents (age range 0 to 18 years) from 21 of 29 paediatric acute care hospitals in Switzerland. These represent >90% of available paediatric beds in Switzerland. All sites report the number of children with detection of RSV in three age groups: infants (<1 year of age), 1 to 2 years of age, and older than 2 years. We compared total patient numbers and age distribution across five time periods: 1/2021–6/2022 (2021/2022 pandemic period), 7/2022–6/2023 (winter 2022/2023), 7/2023–6/2024 (winter 2023/2024), 7/2024-6/2025, and 7/2025-1/2026 (winter 2024/2025). Incidence rates were calculated using the permanent resident population in Switzerland, categorized by age group.

Results: Between January 4th, 2021, to January 26th, 2026, RSV was detected in 18'020 children; 5'160 (incidence rate (IR) 2.2 per 1000 child-years) in the 2021/2022 pandemic period, 5'242 (IR 3.3) in winter 2022/2023, 4'672 (IR 2.9) in winter 2023/2024, 2'381 (IR 1.5) in winter 2024/2025, and 565 (IR 0.6) in winter 2025/2026. Among infants, for the above-described seasons, incidence rates were 23.5, 40.5, 34, 13.4, and 4.9 per 1000 child-years, respectively. In parallel, the proportion of infants amongst all RSV detections declined from 57.1-61.5% in the three periods before winter 2024/2025 to 38.9-43% in winters 2024/2025 and 2025/2026, respectively.

Conclusion: During the first two winter seasons with universal availability of Nirsevimab, and after introduction of Abrysvo, preliminary data from paediatric acute care hospitals indicate a four- to ten-fold reduction in the number of infants with RSV detection.

OC 7

Managing pediatric migraine in the ED: what role for dopamine antagonists?

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Introduction: Acute migraine attack is a frequent cause of emergency department (ED) visits and hospitalization in children and adolescents. Management typically includes hydration and non-steroidal anti-inflammatory drugs. Dopamine receptor antagonists are sometimes used in this setting; however, uncertainty persists regarding their comparative effectiveness, durability of response, and safety in pediatric care.

Methods: A focused Best Evidence Topic review was performed. PubMed, Embase, and Web of Science were searched using the following keywords: "pediatric", "migraine", "dopamine antagonist", "prochlorperazine", "metoclopramide", "promethazine", and "chlorpromazine", up to January 2025. Eligible studies involved patients ≤18 years treated for acute migraine in ED or inpatient acute-care settings. Randomized controlled trials, comparative observational studies, and selected case series were included. Outcomes of interest were pain reduction, treatment failure (rescue therapy, admission, or return ED visit), and adverse effects.

Results: Seven studies met the inclusion criteria, including two randomized controlled trials, four comparative observational studies, and one case series. Prochlorperazine was associated with better short-term pain relief compared with ketorolac, and with lower rates of treatment failure and ED return visit compared with metoclopramide. Adding ketorolac to metoclopramide did not improve outcomes. Comparative studies within the dopamine antagonist class suggested promethazine and chlorpromazine were associated with higher failure rates than metoclopramide. One hypothesis is that the analgesic effect of these agents may relate to dopaminergic modulation of brainstem circuits involved in trigeminovascular transmission. Across studies, complete pain freedom was uncommon, and early relapse was frequent. Akathisia was the most commonly reported adverse effect.

Conclusion: Dopamine antagonists appear to provide short-term pain control for pediatric migraine attacks in the ED, although responses are often incomplete and not durable. Available evidence suggests that outcomes vary depending on the agent used. Metoclopramide and prochlorperazine may be safely considered as part of ED acute pharmacological treatment of pediatric migraine attacks. Their position within the overall management strategy of pediatric migraine has yet to be determined.

OC 8

PAEDIATRIC RESPIRATORY HOSPITALIZATIONS IN MONGOLIA IN 2024 – is asthma massively underdiagnosed?

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Background: Respiratory diseases are a leading cause of morbidity and hospitalization among children worldwide. In low- and middle-income countries, pneumonia is often over-diagnosed and asthma under-diagnosed. We determined the incidence of respiratory hospitalizations in Mongolia and compared it with data from Spain.

Methods: We analyzed inpatient health records for children aged <19 years in 2024 in Mongolia, routinely collected by the Health Development Center. We included ICD-10 codes J00–J98 and calculated incidence of respiratory hospitalizations overall, and by age group and by diagnostic category. We used the resident population of children <19 years as the denominator and compared results with published hospital discharge data from Spain (2022) for the same age groups.

Results: In 2024, incidence of pediatric respiratory hospitalizations was 8,411 per 100,000 in Mongolia (95% CI: 8,362–8,461), compared with 1,180 per 100,000 in Spain (Relative Risk, RR 7). The incidence of acute URTI and influenza was six times higher (824 per 100,000 children; 95% CI: 809–840) than in Spain (141 per 100,000 children). Pneumonia was the most frequent diagnosis with 5,976 per 100,000 children (95% CI: 5,934–6,018), compared to 155 per 100,000 in Spain (RR 38). In contrast, asthma was rarely diagnosed with an incidence of 23 per 100,000 children in Mongolia compared 73 per 100,000 in Spain (RR 0.32).

Conclusion: Respiratory hospitalization in children are 7 times more common in Mongolia than in Spain. Pneumonia is diagnosed much more often in Mongolia, across all pediatric age groups, while asthma seems to be rare. Our findings suggest that asthma may be under-recognized or under-coded in Mongolia, with wheezing illnesses of viral origin frequently coded as pneumonia.

OC 9

Incidence and clinical features of Mycoplasma pneumoniae infections in hospitalized children with Down syndrome: a retrospective comparative cohort study

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In children with Down syndrome, respiratory infections are a leading cause of morbidity and mortality. Data on Mycoplasma pneumoniae (Mp), a common cause of respiratory tract infections in children, is lacking in this population. The few available studies indicate more severe disease. In this study, we aimed to investigate the incidence and clinical features of Mp infections in hospitalized children with Down syndrome.

We used monthly-aggregated data from the University Children's Hospitals Bern and Zurich, Switzerland, to describe the epidemiology of Mp in children with and without Down syndrome, admitted to the hospital from January 2010 to June 2024. Additionally, we compared demographics, clinical features, and severity of Mp infections to influenza and respiratory syncytial virus (RSV) infections in children with Down syndrome admitted to the University Children's Hospital Bern during the same period.

As previously described, we observed an increase in Mp case numbers following the lifting of non-pharmaceutical interventions implemented during the COVID-19 pandemic. However, there was no change in the relative proportion of children with Down syndrome.

We assessed demographics, clinical features and severity of 59 children with Down syndrome: 16 (27%) with Mp, 9 (15%) with influenza, and 34 (58%) with RSV infection. Patients with Mp infection were older (9.6 years [interquartile range 5.2-12.3] vs. influenza 6.1 [0.9-8.1] and RSV 2.1 [0.7-3.4]), had higher C-reactive protein (CRP) levels (75 mg/L [51-100] vs. influenza 14 [9-96] and RSV 48 [17-84]), and had a longer length of hospital stay (LOS) (8 days [3-12] vs. influenza 2 [2-3] and RSV 7 [5-10]). Intensive care unit (ICU) admission (Mp 19%, influenza 0%, RSV 24%) and mechanical ventilation rates (Mp 0%, influenza 11%, RSV 6%) did not differ statistically between groups.

In hospitalized children with Down syndrome, Mp is a common cause of respiratory infections. The proportion of children with Down syndrome among the children hospitalized with Mp did not change after COVID-19 restrictions. We observed notable differences in distinct clinical characteristics, including older age at presentation, higher CRP levels, and longer LOS compared to influenza and RSV. Disease severity, defined by rates of ICU admission or need for mechanical ventilation, did not differ between groups.

OC 10

Adherence to national vaccination guidelines among pediatric cancer patients: a retrospective study from two tertiary care centers in Switzerland

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Background: Childhood cancer diagnosis and treatment cause significant immunosuppression, increasing vulnerability to vaccine-preventable diseases and disrupting routine vaccination schedules. In Switzerland, vaccination guidelines to support physicians caring for these patients were published in 2022. Adherence to these recommendations among pediatric cancer patients remains unknown.

Methods: We conducted a retrospective chart review of pediatric cancer patients (0–16 years at diagnosis) treated at two Swiss tertiary care centers between June 2022 and November 2024. Vaccine uptake was assessed at diagnosis, during, and after treatment using descriptive analyses. Exploratory analyses evaluated risk factors for under-vaccination, and occurrence of vaccine-preventable diseases was documented.

Results: Among 105 participants (median age at diagnosis 7.6 years [IQR 2.7–12.9]), uptake of vaccines recommended during treatment was low (pneumococcal conjugate vaccine 5%, influenza vaccine 10%, COVID-19 vaccine 19%). Post-treatment vaccine uptake was delayed and insufficient, ranging from 0–

41% within 0–3 months following recommendation date and from 15–76% thereafter, depending on the vaccine. Younger age at diagnosis was associated with complete post-treatment vaccine uptake (p = 0.03). Vaccine-preventable diseases, including COVID-19, influenza, varicella, herpes zoster, and pertussis, occurred in 30/105 participants (29%). Most vaccines during (82%), and all vaccines after treatment (100%), were administered in primary care.

Conclusion: In a setting where post-treatment vaccination relies exclusively on primary care and no structured in-hospital measures are set in place, vaccine uptake among pediatric cancer patients remained insufficient. Targeted strategies are needed to improve guidelines adherence and reduce the burden of vaccine-preventable diseases, particularly among older children.

OC 11

A nationwide survey of parents on access to pediatric primary care in Switzerland

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Background: Switzerland faces an increasing shortage of primary care pediatricians, and it is unknown whether all children have access to a pediatrician. In this representative national survey of parents, we investigated access to pediatric primary care in Switzerland, identified influencing factors, and explored parental perspectives.

Methods: The Swiss Federal Statistical Office provided a random sample of 14,280 addresses of households with at least one child <18 years. We sent them a postal letter with a link to an online questionnaire; non-responders received two reminders. We analyzed results overall and separately by region and age group. We identified factors associated with having a pediatrician using logistic regression.

Results: Of 14,280 households invited 6,464 responded (45%). Overall, 85% [confidence interval: 84–86] of children were cared for by a pediatrician and 14% [13–15] by a general practitioner. Only 1% [1–2] of parents reported having no primary care provider for their child and visited walk-in clinics or the emergency department when medical care was needed. Regional differences emerged, 93% of children in Ticino and 92% in the Region lémanique had a pediatrician compared to only 78% in Central Switzerland or 77% in Eastern Switzerland. Adolescents aged 12–17 years (65% [63–68]) were less often cared for by a pediatrician, compared with children aged 6–11 years (89% [87–90]), 2–5 years (94% [92–95]), and 0-1 year (96% [95–97]), p<0.001. In the logistic regression children were less likely to have a pediatrician if they lived in a rural area or in a canton with fewer primary care pediatricians, were from families of non-Swiss origin or lower socioeconomic position, or had parents with lower education. More than half of parents (53%) perceived a shortage of primary care pediatricians in their region. One out of four parents (28%) found it difficult to find a medical practice for their child and almost one in five parents (17%) searched for longer than one month.

Conclusion: Our study shows that access to pediatric primary care is unevenly distributed across Swiss cantons. Policy makers should prioritize a more equal distribution of pediatricians across Switzerland, especially in rural areas, and support parents in finding a pediatrician to ensure equitable access to pediatric care.

OC 12

Socioeconomic position is associated with obesity severity and cardiometabolic risk factors in Swiss children and adolescents with severe obesity

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Lower socioeconomic position (SEP) correlates with childhood obesity in high-income countries, yet SEP gradients and associations with cardiometabolic outcomes among children with obesity remain underexplored. We examined associations between SEP, obesity severity, cardiometabolic risk, and weight trajectories in the Bern Obesity in Childhood and Adolescence Biorepository (BOCAB).

The Swiss neighbourhood index of SEP—an area-based composite measure of rent, education, occupation, and crowding—was linked to participant's home address at baseline and examined for cross-sectional associations with obesity severity (body mass index z-score [BMIz], percent of the 95th BMI percentile for age and sex [%BMIp95]) and cardiometabolic risk factors (low-density lipoprotein cholesterol [LDL-C], high-density lipoprotein C [HDL-C], non-HDL-C, triglycerides [TG], systolic blood pressure [SBP], homeostasis model assessment of insulin resistance [HOMA-IR] and Alanine aminotransferase [ALT]), and for longitudinal associations with BMIz change in regression models adjusted for age and sex.

Among 787 participants (52% male, mean age 11.3 years [SD 3.2, range 2–17]), 41% were in the low (most disadvantaged), 37.2% in the middle, and 21.7% in the high SEP tertile. Mean BMIz was 2.32 (SD 0.62) and mean%BMIp95 124% (SD 17.6%). The prevalence of dyslipidaemia was 47%, hypertension 19%, insulin resistance 64%, and elevated ALT 46%. Compared with the low tertile, high SEP tertile showed lower cross-sectional BMIz (β –0.23; 95% CI –0.34 to –0.11),%BMIp95 (–6.00; –9.21 to –2.79) and SBP (–2.14; –4.14 to –0.13), plus lower odds of severe obesity (OR 0.57; 0.39–0.83), dyslipidaemia (OR 0.63; 0.42–0.94), low HDL-C (OR 0.54; 0.32–0.90) and elevated non-HDL-C (OR 0.48; 0.24–0.89). Longitudinally (n=457; median follow-up 15.4 months [IQR 9.2–29.7]), high SEP was associated with lower baseline BMIz (–0.25; –0.40 to –0.10), but BMIz reduction during follow-up did not differ by SEP (low –0.10 vs. high –0.09 SD/year; p=0.8).

Our findings demonstrate marked SEP gradients in obesity severity and cardiometabolic risk among children and adolescents with obesity, yet comparable responses to tertiary care. Integrating SEP in risk stratification, personalized care, and public health strategies is essential to mitigate cardiometabolic risk and long-term morbidity among disadvantaged youth.

OC 13

Parental awareness of the vaccination status of their children – About the unintentional delay in vaccine administration

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Background: Data on the timeliness of childhood vaccine administration in Switzerland are limited. While vaccination coverage has been reported in national surveys, less is known about adherence to the recommended vaccination schedule and parental awareness of delayed or incomplete immunization. This study aimed to assess vaccination status in young children and parents' awareness of vaccination completeness and timing.

Methods: In 2013–2014 and 2020, parents of children aged 6 months to 7 years presenting to the emergency department of the University Children's Hospital Zurich were asked to complete a questionnaire and to provide the child's vaccination booklet. Timing of vaccine administration was compared with the Swiss national vaccination schedule to identify delayed or omitted doses.

Results: A total of 571 children were included (mean age 37.7 months, SD 24.5). Overall, 89% of children received all recommended vaccine doses. However, 40% of doses were administered later than scheduled, with a median delay of 44 days (mean 136 days, SD 254). Among children with delayed vaccinations, 64% of parents were unaware of the delay. While 86% of parents supported vaccination in general, only 42% considered infant vaccinations essential. Potential reasons for vaccine delays or omissions were reported by 85% of parents, with acute illness of the child being the most frequently cited reason.

Conclusion: Most parents recognize the importance of vaccination and ensure that their children receive recommended immunizations. Nevertheless, delays in vaccine administration were frequent, affecting 40% of children, and were unintended in two-thirds of cases. Limited parental awareness may prolong periods of susceptibility to vaccine-preventable diseases, as parents may not actively pursue catch-up vaccinations for under-vaccinated children.

OC 14

Pediatric Rheumatology Vaccination Rates at the Children's Hospital in Zürich – where can we improve?

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Introduction: Patients with rheumatic disease (PRD) can be at an increased risk of infection, and we want to provide optimal prevention by ensuring an up to date vaccination status in our patients.

Methods: This is an observational longitudinal monocenter study to assess i) the completeness of the vaccination status, ii) factors that influenced decision to vaccinate, and iii) changes over time. Completeness was defined as a vaccination status aligned with the recommendation of the Swiss federal office of public health (BAG) of the year of visit. Data was collected from PRD aged 1-18 during routine clinical visits between 01-06/2022 (v1) and 01-06/2024 (v2). Patients without consent for further use were excluded. Patients with immunosuppression (IM) and without immunosuppression (NIM) were compared.

Results: 66 patients were interviewed at v1, 57 patients at v2. Mean age was 10.8 years, 63% were female, 66% received IM. Overall basic vaccination completeness was high and stable (v1 89.4%; v2 89.5%). Influenza vaccination rate dropped from 42.9% (v1) to 34.5% (v2). Complete basic vaccination status was observed in 93.2% of IM versus 89.3% of NIM (Fisher's exact p = 0.069). Influenza vaccination was significantly more frequent in IM (48.1%) than NIM (19.2%) (p = 0.015). 87.1% of Families reported that they had been spoken to about vaccination by a health professional (IM 89.5%, vs NIM 79.7%). In 72% it was their pediatrician, in 42.8% the pediatric rheumatologist and the GP in 1.8%. 10.8% would have wished for more information. Reasons for not completing the basic and/or influenza vaccinations were: not knowing; worry of side effect or reactivation; scared of injections; child with other chronic illness; forgetting; not wanting vaccinations; no time. Some families did not perceive influenza as a dangerous disease warranting vaccination.

Conclusion: In this single center cohort, basic vaccination completeness remained high (~89%) compared to multicenter data (70%). However, influenza immunization declined over time between v1 (2022) and v2 (2024). Knowledge gaps and safety concerns were the predominant, potentially modifiable barriers. Targeted counselling and routine vaccination reviews during rheumatology visits, especially during adolescence and before initiating IM, may prevent missed doses.

Close cooperation with the pediatrician is essential to ensure everyone recommends vaccinations consistently, thus removing one factor of insecurity.

OC 15

Reasons of caregivers living in economic precariousness to visit the pediatric emergency department with minor health problems – a qualitative study from Bern, Switzerland

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Objectives: Visits to paediatric emergency departments (PEDs) for minor health problems are common. Previous studies have identified an association between such visits and caregivers living in economic precariousness. The primary objective of this study was to explore the reasons caregivers experiencing economic precariousness report for presenting to the PED for minor health problems, in order to inform recommendations for improving health care delivery for this marginalized population.

Design: Qualitative exploratory study.

Setting: Paediatric emergency department, University Hospital Bern, Switzerland.

Participants and Methods: Participants were selected from a previous study (Jaboyedoff et al., 2024) and screened for both economic precariousness and PED visits for minor health problems. From this cohort, seven caregivers were interviewed using a previously developed and pilot-tested semi-structured interview guide. Interviews were transcribed verbatim and analyzed using qualitative data analysis software (MAXQDA).

Results: Interviews were conducted in May 2024. Most participants were employed full- or part-time (71.4%, 5/7), and 42.9% (3/7) held a college or university degree. The main reasons reported for PED visits for minor health problems were high accessibility of the PED, avoidance of double costs, and a perceived better value for money compared with other care options. The caregiver-primary care provider relationship also

emerged as an important factor influencing decisions about where to seek care.

Conclusion: Improving accessibility and resources in primary care, along with strengthening relationships between caregivers and primary care paediatricians, may increase the use of primary care services for minor health problems among families living in economic precariousness and support more appropriate care utilization.

OC 16

Intrathyroidal Ectopic Thymus in Children: Sonographic Features and Natural History in a Cohort of 65 Patients

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Background: Intrathyroidal thymic tissue (ITT) is a rare and benign finding, typically identified incidentally in children during neck ultrasonography. Despite its benign nature, ITT can mimic thyroid neoplasms, potentially leading to unnecessary diagnostic or surgical procedures.

Objective: The aim of this study is to describe the clinical and ultrasonographic features, anatomical distribution, and natural history of ITT in a large pediatric cohort followed at a tertiary endocrinology center.

Methods: Clinical and ultrasonographic data from 65 patients (26 females, 39 males; median age at diagnosis 5.7 years) diagnosed with ITT between 2008 and 2024 were retrospectively analyzed. Lesion location, ultrasonographic characteristics, and evolution were evaluated. Ultrasonographic follow-up was available for 58 patients (89%) with a median duration of 3.6 years.

Results: A total of 70 ITT lesions were identified. Lesions were more frequent in the left thyroid lobe (68%) and predominantly located in the middle and lower portions of the gland. The most typical ultrasonographic appearance was hypoechoic with internal hyperechoic spots. During follow-up, complete resolution occurred in 19% of cases after a mean of 5.9 years, at a mean age of 12.5 years. Partial size reduction was observed in 36% of cases, with a mean diameter decrease of 5 mm by the end of follow-up. Thirty-eight percent of lesions remained stable, and 5% showed a slight increase in volume. Logistic regression analysis showed that among the variables studied, only follow-up duration was significantly associated with lesion disappearance ($p < 0.05$). Longer follow-up was significantly correlated with complete regression.

Conclusions: ITT is a benign and self-limiting condition in pediatric patients, which resolves in most cases but often remains stable over time. Awareness of its ultrasonographic features and variable regression can help avoid misdiagnosis or overtreatment. In most cases, a conservative approach with ultrasonographic follow-up is appropriate.

OC 17

Long-term effect of CFTR modulators on the quality of life of patients with cystic fibrosis

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Background: Elexacaftor/Tezacaftor/Ivacaftor treatment has revolutionized the management of cystic fibrosis in the pediatric population, particularly in patients with the F508del mutation. However, few studies have demonstrated the longitudinal impact of ETI treatment on quality of life (QoL), particularly in the pediatric population alone. This study aims to evaluate the impact after one year of ETI treatment in children with cystic fibrosis using the Cystic Fibrosis Questionnaire Revised (CFQ-R).

Methodology: A longitudinal observational study included a pediatric population (6-17 years old) with cystic fibrosis who had started ETI treatment. QoL was assessed using the CFQ-R at the start of ETI treatment (baseline), 3 months (M3) and 12 months (M12) after ETI treatment.

Results: A total of 28 children (mean age: 9.85 years) with cystic fibrosis were included in this analysis. The total CFQ-R score showed a significant improvement at M3, which was maintained at M12. Most physical domains also showed rapid improvement at M3, which was significantly maintained at M12, particularly for the physical functioning, respiratory symptoms, and eating disorder domains, except for the digestive symptoms and treatment burden domains, which showed rapid improvement at M3 but no significant improvement at M12. However, psychosocial domains show no improvement at either M3 or M12, except for the social domain, which shows a significant improvement at M12 only. There is also no significant improvement in the total score and all domains of the CFQ-R between M3 and M12.

Conclusion: The initiation of ETI treatment in the pediatric population shows rapid progress that is maintained in the long term, particularly in the physical domains. However, ETI treatment does not show longitudinal improvement in most psychosocial domains.

OC 18

Newborn screening for Spinal muscular atrophy in Switzerland: two years old now

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5q-associated spinal muscular atrophy (SMA) is a rare autosomal recessive neuromuscular disorder characterized by the progressive loss of the spinal motor neurons leading to a progressive muscle weakness. The disease is usually caused by a homozygous deletion in the SMN1 gene, and the copy number of the paralogue SMN2 gene strongly modifies the disease onset and severity. In its most frequent and severe forms, progressive symmetrical muscle weakness occurs in early infancy and leads rapidly to severe and diffuse motor impairment. Respiratory failure, complicated by feeding and orthopedic issues, is a major cause of premature death in SMA. The incidence of the disease is close to 1 in 10'000 live births worldwide.

In Switzerland, three disease modifying therapies (DMT) have been approved for the treatment of SMA since 2017 (nusinersen, onasemnogene abeparvovec and risdiplam) with strict treatment criteria allowing for their reimbursement by the health insurances. Each DMT has demonstrated similar benefits on motor function and survival. Early treatment initiation, ideally before the onset of symptoms, further improves outcome. In 2020, a national working group was founded to set up newborn screening for SMA (NBS-SMA) in Switzerland.

On March 1, 2024, SMA screening was officially added to the national NBS program and screening began through the search for the homozygous SMN1 deletion. Based on the then available Swiss Agency for Therapeutic Products (Swissmedic) authorization, the health insurance regulations and the available scientific literature at that moment, DMT was initially indicated for symptomatic and asymptomatic babies with ≤3 SMN2 copies. A "watch and wait" strategy was implemented for the asymptomatic newborns with ≥4 SMN2 copies, consisting of a close clinical follow-up and start of DMT as soon as symptoms arise. During the second year of NBS-SMA, based on growing experience about NBS-SMA worldwide, DMT is now also recommended for asymptomatic babies with 4 SMN2 copies.

This contribution will present trajectories of motor development and therapeutic management of all newborns with confirmed SMA identified through the NBS-SMA in Switzerland and describe the challenges we encountered.

OC 19

YounG AsthMa E-health: The use of digital tools to support therapeutic education for children and adolescents with asthma – GAME study

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Background: Asthma affects 1 in 10 children in Switzerland and significantly impacts family quality of life. Therapeutic patient education (TPE) is essential for self-management, yet current programs are mostly hospital-centred and poorly adapted to young people's and family's needs. Digital tools (e-TPE) offer potential to make TPE more accessible, interactive, and personalised.

Objectives: The GAME project aimed to identify key characteristics of an "ideal" digital tool to support e-TPE for children, adolescents with asthma and their family, integrating scientific evidence and stakeholder preferences.

Methods: This convergent mixed-methods study used Q-sort and qualitative semi-structured interviews of children (7–10 years), adolescents (11–17 years), their parents, paediatricians and nurses involved in paediatric asthma in a specialised unit in a Swiss university hospital. Participants ranked Q-sort cards illustrating features of digital tools (type, components, modalities, interactions) and commented on their choices. Q-sort quantitative data were analysed using factor analysis (principal components). Qualitative data were analysed through thematic analysis and integrated to provide deeper insight and understanding.

Results: We included 39 participants: 8 children, 7 adolescents, 14 parents, 5 paediatricians and 5 nurses. In the Q-sort, 3 factors explained >50% of variance in preferences. Strong consensus emerged on: (1) Priority components—asthma knowledge, action plan, reminders, symptom diary, treatment adherence—; (2) Format—mobile app as main platform, age-appropriate gamified elements, websites considered less relevant—; (3) Interactions—customisable notifications favoured, real-time clinical chat rejected, preference for moderated and structured sharing—.

Parents emphasised accessibility—offline, audio, multilingual—and an emergency module—decision trees, inhaler guides—. Professionals warned about using digital tools and preferred contextual use. It was emphasised that e-TPE could improve self-management, asthma control, adherence, knowledge and quality of life.

Conclusion: We involved all relevant stakeholders in the research. Key characteristics of an ideal e-tool could be identified pointing to: a modular, free, app integrating educational microgames, smart reminders, and crisis decision tools, while ensuring data confidentiality. These recommendations will guide the co-development of a prototype during the next phase of the project.

OC 20

Pediatric Kidney Allocation in Switzerland between 2008 and 2025

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We aim to evaluate outcomes of pediatric kidney transplantation from donation after brain death (DBD), donation after circulatory death (DCD), and living donors (LD) in Switzerland. The study will include all kidney transplant candidates being younger than 20 years of age at time of listing between 2008 and 2025, using data from the Swiss Organ Allocation System (SOAS). Transplant recipients will be compared according to donor type. The planned cohort is expected to include 274 pediatric kidney transplant candidates, comprising 167 DBD donor transplants, 16 DCD donor transplants, and 81 living donor transplants.

The primary outcome is whether patients waitlisted received a DBD, DCD or LD transplant, were delisted, died on the waiting list, or remain on the list. Secondary outcomes will include median time to transplantation, delayed allograft function (DGF), primary non-function (PNF), graft survival (GS), and patient survival (PS). Baseline donor and recipient characteristics will be described and compared according to donor type to contextualize outcome analyses. We hypothesize that kidney transplants from DCD donors may be associated with higher rates of DGF and PNF compared with DBD and living donor transplants, while GS and PS are not expected to differ significantly between donor types.

To our knowledge, this study will be the first national analysis of pediatric kidney allocation in Switzerland. By describing the

current situation of pediatric patients waitlisted for kidney transplantation, we aim to review the allocation modality. Also, we aim to inform clinicians and policymakers about the potential role of DCD donors in expanding access to kidney transplantation for children and adolescents in Switzerland.

OC 21

Impact of GLP-1 analogues on weight change in pediatric patients with hypothalamic obesity secondary to craniopharyngioma

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Introduction: Craniopharyngioma is a rare tumor of the hypothalamic-pituitary region whose management, particularly surgical management, carries a high risk of hypothalamic injury, which can lead to hypothalamic obesity. This complication has significant metabolic and psychosocial consequences. To date, there are few available therapeutic options; among them, GLP-1 analogs represent a promising treatment approach.

Objectives: To evaluate the impact of GLP-1 analogues on weight change in pediatric patients with hypothalamic obesity secondary to craniopharyngioma followed at the CHUV from 2015 to 2025, and to identify factors likely to influence response to treatment.

Method: A retrospective descriptive study conducted between 2015 and 2025 initially identified 13 patients. After application of the inclusion criteria, five patients were included in the final analysis. We analyzed anthropometric, endocrine, surgical, and radiological data at key time points: before and after surgery, at the start of treatment, and at 6 months and 1 year.

Results: An average increase in BMI z-score of 1.40 +/- 0.98 was observed during the year following surgery. In the GLP-1 analogues group, patients showed a slight decrease in BMI z-score at 6 months (-0.0667 +/- 0.462), followed by stabilization at 1 year (0.007 +/- 0.24), with no significant weight loss overall. One patient showed weight regain, suggesting possible treatment resistance. MRI revealed heterogeneous hypothalamic involvement. The absence of third-ventricle enlargement was associated with a greater reduction in BMI z-score, suggesting a possible link between distal hypothalamic damage and reduced response to GLP-1 analogs.

Conclusion: Hypothalamic obesity is characterized by rapid and severe weight gain as well as limited therapeutic options. Our study confirms that GLP-1 analogs may help stabilize BMI z-scores. However, the results should be interpreted with caution due to the small number of patients and the retrospective nature of the data. Future studies, ideally within national cohorts, are needed to better characterize the response to GLP-1 analogs and to evaluate the relevance of standardized management protocols, including accurate analysis of imaging data, nutritional monitoring, screening for psychological disorders, and determination of the optimal window for treatment initiation.

OC 22

Knowledge, Attitudes, and Behaviors Driving Pediatric TBE Vaccination Decisions in Switzerland

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Background: Tick-borne encephalitis (TBE) remains a significant public health concern in Switzerland, though vaccination coverage throughout the country remains suboptimal. In 2024, the recommended age for TBE vaccination was lowered from 6 to 3 years. Currently, factors driving parental TBE vaccine decision-making remain poorly understood.

Method: We conducted two cross-sectional surveys in Canton Zurich where TBE incidence is among the highest in the country. Both pediatricians (n=93/355 invited) and parents of 2-, 8-, and 16-year-old children were surveyed by post (n=717/2,250 invited). Descriptive analyses quantified awareness, information sources, and confidence related to TBE vaccination. Free-text responses were analyzed inductively to identify recurring themes related to drivers and barriers to TBE vaccination.

Results: Awareness of the updated recommendation was universal among pediatricians (100%), and most agreed with the change (77%), though 19% preferred earlier or later vaccination. Most reported initiating vaccination between 3 and 6 years of age (80%), rated vaccination as highly important (mean 4.6/5), and considered it safe (99%) and effective (98%). A majority of pediatricians (61%) reported that additional continuing education on TBE and other tick-borne diseases would be beneficial. Among parents, awareness of TBE (90%), the vaccine (93%), and the recommendation (86%) was high. Nearly all children had a regular healthcare provider (97%), and medical professionals were the primary source for information on TBE and TBE vaccination (64%). However, approximately 30% of parents reported not receiving, or being unsure whether they had received, information from their child's healthcare provider. Most parents perceived vaccination as safe (80%) and effective (83%), though 15–20% expressed uncertainty. Most parents (69%) reported that their child was vaccinated, and 69% of parents of unvaccinated children reported that they were intending to vaccinate their child. Free-text responses frequently reflected confusion about the appropriate age for TBE vaccination.

Conclusions: Despite high awareness and generally positive attitudes towards TBE vaccination both by pediatricians and parents, communication gaps, particularly regarding vaccination timing, persist. These gaps highlight opportunities for continuing education to support clearer clinical communication.

OC 23

Reduced Nerve Vitality in Children and Adolescents upon Manifestation of Type 1 Diabetes (Stage III) – Indication for earlier neurophysiological screening

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Background: Diabetic peripheral neuropathy (DPN) is one of the most common long-term complications in young patients with type 1 diabetes mellitus (T1D). The current ISPAD guidelines recommend to start clinical screening at the age of 11 and 2-5 years of diabetes duration. A reduction of nerve conduction

velocity (NCV) can be detected long before any deterioration becomes apparent in clinical examinations, not least because these may be unreliable in young children. Abnormalities in NCV are considered early indicators of DPN and as no specific treatment options are available it highlights the importance of early diagnosis and prevention. This study investigates the role of NCV-measurements at T1D-manifestation and factors that may influence early nerve dysfunction, focusing on chronic hyperglycemia (HbA1c) and diabetic ketoacidosis (DKA).

Methods: The SNF-funded KIND project is a 24-month prospective observational study conducted in children and adolescents aged ≥5 years with T1D treated in two outpatient clinics with a planned cohort size of N = 100. For the present analyses, 18 patients aged 8–18 years with newly manifested T1D were selected from the cohort. Participants underwent NCV studies within 3 months of diagnosis and were compared with an age-matched healthy control group. NCV measurements focused on the motor median nerve, which is considered an early marker of diabetic peripheral nerve involvement. HbA1c measurements ">15" were imputed as 15.25. HbA1c levels at manifestation and DKA status, classified according to the ISPAD 2022 guidelines, were analysed.

Results: Analyses demonstrate a negative linear regression coefficient (b = -0.886, p <0.001) between HbA1c levels and motor NCV. Most patients with HbA1c levels >14% exhibited reduced NCV values between 50 and 55 m/s, whereas patients with lower HbA1c values showed near-normal NCV (expected NCV normal range >58 m/s). A trend, but no clear association between DKA status and NCV reduction was observed.

Conclusion: Motor NCV of the median nerve can already be considerably reduced at manifestation of T1D and appears to be negatively associated with markedly elevated HbA1c levels, independent of DKA status. Chronic hyperglycemia at disease onset may represent an important risk factor for early DPN and NCV measurements will detect patients at risk earlier. Potentially, awareness campaigns for earlier diagnosis of T1D would contribute to prevent nerve damage by chronic hyperglycemia.

OC 24

The "expert patient": a resource for young people with type 1 diabetes transitioning from pediatric to adult care?

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Introduction: Managing type 1 diabetes (T1D) is a daily challenge for young adults and their close relatives, especially during the transition from pediatric to adult care. The "Expert Patients" program, inspired by the "patient partner" model in Montreal, relies on people living with T1D who share their experiences to support other young people. Our study measures the awareness of a newly introduced "Expert patient" program among young adults with type 1 diabetes in the canton of Vaud and identifies their expectations and support needs.

Methods: Prospective observational study conducted among young people aged 16–25 year with T1D, residing in the canton of Vaud and followed at the Lausanne University Hospital. We collected data via an online questionnaire and group and individual interviews.

Results: Of the 178 eligible patients, 84 responded (47%). The majority of respondents were female (59.5%), aged 18 or over (65.5%), living with their families (81%), and students (63%). Nearly 80% had been living with T1D for 5 years or more, and 88% were being monitored by a diabetologist. The "Expert Patients" program remained largely unknown (90.5% were unaware of it), and only 28.5% considered using it in the future, mainly young adults and those who expressed an increased need for listening and support. Expectations focused on occasional, flexible exchanges, with a preference for messaging (62%) and face-to-face meetings (52.5%), particularly for diagnosis or new situations. The interviews confirm the value of peer support, the importance of listening, and the need to raise awareness of the program.

Discussion: Despite generally satisfactory specialist care, some young people express unmet relational needs and a specific interest in peer support. The programme's low visibility limits its use. The results argue for a non-medical, voluntary approach focused on listening, empathy, and sharing experiences, with clarified terminology (e.g., "resource patient"). The intervention should be ad hoc, targeted, and on demand, especially post-diagnosis and in new situations or situations of tension with loved ones, via flexible channels (messaging). The programme would benefit from being positioned as a complementary resource to medical and nursing care, under the centralised supervision of Diabètevaud.

OC 25

Growing Up Trans: Understanding Early Gender-Related Experiences Through Youth-Parent Narratives

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Background: Pediatricians increasingly encounter children and adolescents who question their gender identity, often before or at the onset of puberty and frequently in consultation with their families. Public debates often rely on abstract explanatory models of gender-related questioning in youth, while empirical data on the lived experiences and meaning-making of children and families throughout this developmental and clinical pathway remain limited. Families play a central role in children's developmental trajectories and are often the primary interlocutors of healthcare professionals, making it particularly important to understand how parents participate in the recognition and co-construction of gender identity. This is especially relevant during the prepubertal and early pubertal period, which remains underrepresented in existing research.

Methods: Growing Up Trans is an international, multicentric and longitudinal qualitative study conducted in six countries (Canada, Australia, Switzerland, England, India and the United States) over the period 2022–2026. In the first wave of data collection, semi-structured interviews were conducted with 45 trans and non-binary youth aged 8–15 years and their parents or caregivers, recruited in a clinical context. Interviews explored early gender-related experiences and family dynamics. Data were analysed using thematic analysis following Braun and Clarke, integrating cross-sectional perspectives across diverse cultural and healthcare contexts.

Results: Preliminary analyses identify a non-linear model of gender identity recognition structured around three interrelated dimensions rather than successive stages: perceiving dissonance (an early sense of social or bodily incongruence), expressing dissonance (through behaviours, preferences or language, with variable recognition), and understanding dissonance (progressive meaning-making and naming of these experiences). These dimensions may overlap, unfold in varying sequences, and are shaped through ongoing interactions within families.

Conclusion: Gender identity recognition in childhood and early adolescence appears as a dynamic and relational process rather than a uniform developmental pathway. Better understanding how youth and parents jointly make sense of early gender-related experiences may help

OC 26

Establishing a Standardized Clinical Dataset for Pediatric Pleuropneumonia: A Feasibility Study Using Electronic Health Records

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Aim: Pleuropneumonia complications represent a relevant clinical challenge worldwide, with outcomes varying across institutions and treatment strategies. In this context, we aim at comparing outcomes at the Children's Hospital of Central Switzerland (KidZ) with published data and recommendations. The primary goal of the current study was to identify and extract a cohort of pleuropneumonia patients from the electronic health record system (EHR) Epic and to assess the availability and quality of the clinical data. The secondary aim was to create a standardized database and derive institutional recommendations to improve data capture and facilitate future studies.

Methods: A retrospective analysis was done of hospitalized cases of pleuropneumonia in children aged 0 to 18 years at KidZ over a five-year period (2020-2024), restricted to patients with a definitive diagnosis and disease-specific treatment. Extracted variables included patient demographics, clinical presentation, imaging, laboratory values, treatments and clinical course. Primary extraction was accomplished using SQL queries against the EHR relational database. Query results were processed using Excel, selected parameters required manual completion.

Results: Clinical data from 96 patients was retrieved. 51% were girls, the median age was 4 years and 2 months and the medium length of stay 8 days. Identification of eligible patients was feasible and reliable. However, data extraction revealed considerable variability in data completeness and structure across parameters. Vital signs, laboratory values and medication data were consistently documented and readily extractable. In contrast, inaccuracies in time stamps and heterogeneity in data formats and units required extensive post-processing. Standardizing clinical signs, pathogen diagnostics, imaging findings, and surgical procedures for automated analysis proved to be particularly challenging.

Conclusions: While retrospective data extraction from the EHR is feasible, it remains time-consuming and requires substantial manual effort, particularly during data transformation and harmonization. An iterative process and collaboration between clinical and technical experts work best for achieving a high-quality data set. Several opportunities to improve data collection were identified to significantly facilitate future research. Overall, the current system supports retrospective studies, but further standardization of data input is needed.

OC 27

Advancing the Understanding of Dystrophinopathies in Switzerland: How about the Family?

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Duchenne muscular dystrophy (DMD) is an X-linked inherited disease that manifests in early childhood with symptoms such as progressive muscle weakness due to the absence of dystrophin in muscle cells. In the field of DMD, there is a large unmet medical need. Patients and their families constantly face new challenges, and disease burden is substantial. This project focuses primarily on family situations, employment, and educational attainment among families with a child with DMD. The aim of this study is to compare family concepts in DMD affected and unaffected families.

In a survey study of the Swiss Registry for Neuromuscular Disorders we contacted 60 families and male patients aged 8–18 years with DMD in Switzerland. We assessed the family situation, employment and educational level of the parents using a self-constructed questionnaire. For comparison, the latest data from the Swiss Federal Office of Public Health was used.

When comparing the employment status, we found that mothers of children with DMD are more likely to be unemployed or to work part-time. The unemployment rate was 40% and the part-time employment rate was 52.5% in the affected, compared to 4.6% and 74.9% respectively in the unaffected group. With regard to family situation, there was a tendency for the divorce rate to be lower in families with a child with DMD (12.5%) than in families without (39.7%). The educational level of families with a child with DMD is on average lower than the corresponding statistical data of the Swiss Federal Office of Public Health. 44% of Swiss families completed a tertiary degree while it was only 28% in families with a child with DMD. Within DMD families, more fathers than mothers appear to have completed higher education. While 60.6% of fathers completed a tertiary degree, only 47.1% of mothers achieved the same.

The results show a meaningful difference between affected and unaffected families. The observation that the mother is more often unemployed, with less potential for higher education, could suggest that DMD may be associated with predefined parental roles. On the one hand, these results raise the question if the unemployed mother is a factor in family stability given the lower divorce rate. On the other hand, it raises the question if families with chronically ill children are supported enough. Further studies are needed to better understand the mechanisms and psychosocial aspects behind these descriptive results.

POSTERS

P 1

See it, think it, test it: herpes-like eschar in ulceroglandular tularemia

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Background: Tularemia is a rare but highly virulent zoonotic disease caused by Francisella tularensis. In Central Europe, its most common pediatric presentation is ulceroglandular, defined by an eschar (i.e., an entry-site ulcer) and regional lymphadenitis, typically following an arthropod bite (predominantly ticks). However, localized skin lesions near inflamed lymph nodes are common in children and may be unrelated. Based on our earlier observations and inspired by a case reported by Byington et al. in 2008, we reviewed all eschars in microbiologically confirmed tularemia cases at our institution for which photographic documentation was available.

Case Presentation Summary: In a retrospective case series (12/2009-09/2025) of 35 consecutive patients, we identified 20 with ulceroglandular tularemia. Entry-site photographs were available in 17 cases and were reviewed retrospectively by two pediatric infectious disease specialists. All showed an oval shaped primary ulcer (with or without crust), in 16 cases surrounded by discrete smaller satellite lesions on an erythematous base. These were papular in three cases, vesicular in two, and mixed (including also pustular or scaling features) in the remainder. At the time of photography, the duration of acute illness had an interquartile range of 7–16 days.

Discussion: The presence of these to some degree herpes-like lesions surrounding an eschar, in combination with regional lymphadenopathy, should raise clinical suspicion for tularemia. Conversely, acute lymphadenitis should prompt a targeted search for such entry-site lesions within the corresponding lymphatic drainage area during physical examination. Recognition of this characteristic pattern may justify early initiation of intracellularly active antibiotic therapy with ciprofloxacin or doxycycline. In parallel, early microbiological testing, such as rapid antibody screening (and PCR of an eschar), should be performed to avoid diagnostic delay. Other differential diagnoses associated with eschars, including bacterial ecthyma or rickettsial infections, typically lack satellite lesions. Nevertheless, we acknowledge that not all satellite eruptions are necessarily pathogen-related, as some may reflect contact dermatitis from wound dressings or topical treatments rather than tularemia-specific findings. Whether these satellite lesions, similarly to the eschars, also contain tularemia DNA is unknown but may be of interest for future research.

P 2

From Head to Toe: Diagnostic Challenges in Guillain-Barré Syndrome with Miller-Fisher Features

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Guillain-Barré syndrome (GBS) is a rare inflammatory demyelinating polyradiculoneuropathy typically triggered by infection. It is characterized by ascending weakness from lower to upper limbs and cranial muscles. However, the clinical presentation is heterogenous. As one variant, the Miller-Fisher syndrome (MFS) with its triad of ataxia, areflexia, and ophthalmoplegia may overlap with GBS features (GBS/MFS overlap syndrome). Diagnosis of GBS and its variants is primarily clinical and supported by cerebrospinal fluid (CSF) (albuminocytological dissociation) and electrophysiological abnormalities (signs of acute demyelinating or axonal lesions). Anti-GQ1b antibodies are detected in approximately 80% of patients with MFS. Neuroimaging is often normal but important to exclude differential diagnoses, including cerebral or cerebellar inflammation, infections, toxic, metabolic, or structural disorders of the central nervous system. Treatment may include intravenous immunoglobulins (IVIG) or plasma exchange. The outcome is generally good; residual deficits in children are rare.

A 6-year-old girl presented with a 3-day history of strabismus, headache, and morning vomiting. Bilateral abducens nerve palsy was observed. Initial imaging and CSF analysis were normal. The patient deteriorated neurologically with progressive weakness of extremities, areflexia, dysphagia, and incomplete ophthalmoplegia, prompting transfer to an intensive care unit. Based on clinical suspicion of GBS with MFS overlap, IVIG therapy was initiated. The ophthalmoplegia improved slowly, as did the ataxic movements of the upper extremities and dysphagia. Neuropathic pain responded well to gabapentin. During recovery, marked right-sided asymmetry became apparent, which is atypical for GBS, and anti-GQ1b antibody remained negative. However, spinal MRI revealed cauda equina enhancement consistent with radiculitis, and neurography showed absent F-waves and present A-waves, indicative of acute demyelination. Response to IVIG treatment strengthened the diagnostic confidence.

Diagnostic workup identified an acute Epstein-Barr virus infection as the potential trigger. The patient showed substantial neurological recovery. This case highlights diagnostic challenges of GBS/MFS overlap, particularly in pediatric patients with atypical or evolving presentations. In summary, diagnosis remains primarily clinical as supportive diagnostic findings may be delayed, underscoring the importance of close follow-up.

P 3

When Glucose and Electrolytes Don’t Tell the Same Story

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Introduction: Type 2 diabetes is increasingly diagnosed in adolescents, while Gitelman syndrome is a rare inherited tubulopathy. Electrolyte disturbances are not typical of type 2 diabetes and should prompt further investigation. In this case, electrolyte abnormalities detected during the initial diabetes work-up led to the unexpected diagnosis of Gitelman syndrome.

Case presentation: A 15-year-old adolescent girl was referred for evaluation of hyperglycaemia discovered during outpatient testing. She reported chronic polydipsia without polyuria or weight loss, and increased fatigue. Family history was significant for type 2 diabetes and parental consanguinity. Physical examination revealed only a mild obesity (BMI à 28.24 kg/m2 , >97th percentile for age) and acanthosis nigricans. Laboratory investigations confirmed newly diagnosed type 2 diabetes mellitus (Hba1c 7.1%, 54 mmol/mol). Unexpectedly, severe hypokalaemia (2.2mmol/l) and hypomagnesaemia (0.

49mmol/l) associated with hypochloraemia and metabolic alkalosis were identified. Tubular reabsorption studies showed inappropriately low sodium, potassium, and chloride reabsorption, consistent with a distal convoluted tubule defect. These findings raised suspicion for Gitelman syndrome and led to a request for paediatric nephrology consultation for diagnostic confirmation and further management.

Discussion: In adolescents with newly diagnosed type 2 diabetes, significant electrolyte abnormalities are unexpected and should prompt further evaluation. Chronic hypokalaemia and hypomagnesaemia may worsen insulin resistance and impair insulin secretion (source?). In this case, renal salt wasting and metabolic alkalosis suggested Gitelman syndrome, highlighting how atypical findings can reveal an associated inherited disorder requiring specific management.

Conclusion: This case highlights that unexplained electrolyte disturbances in adolescents with type 2 diabetes should not be overlooked, as they may reveal an associated condition such as Gitelman syndrome. Early recognition is essential to ensure appropriate multidisciplinary management and optimise both electrolyte and glucose control.

P 4

Silent Deficiency, Visible Deformity: A Case Report of Severe Rickets in a Toddler

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Background: Rickets is a skeletal disorder caused by defective bone mineralization resulting in soft bones, skeletal deformities, and impaired growth in children. While the condition can result from deficiencies in vitamin D, calcium, or phosphate, nutritional rickets due to vitamin D deficiency remains a significant global health issue. Infants who are exclusively breastfed without vitamin D supplementation, have darker skin, are born prematurely, or live in areas with limited sunlight are particularly vulnerable.

Case Presentation: We report a 2.5-year-old girl presenting with progressive bowing of the legs since birth, with worsening after the onset of independent walking. She was born at term, exclusively breastfed, and had no history of vitamin D supplementation or dairy intake. A positive family history of childhood leg deformities was noted. Physical examination revealed bilateral genu varum, thickened wrists and ankles, and short stature. Laboratory investigations revealed severe vitamin D deficiency (25-hydroxyvitamin D: 19.9 nmol/L, ref. range: 50-250 nmol/L), secondary hyperparathyroidism, hypocalcemia, hypophosphatemia, and elevated alkaline phosphatase, with no evidence of renal phosphate wasting. Radiographs showed metaphyseal cupping and osteopenia. The patient was treated with daily oral cholecalciferol for 4 months, followed by daily maintenance therapy. Dairy intake was also encouraged to increase calcium intake. Over a two-year period, the patient demonstrated full clinical and biochemical recovery, with significant improvement in leg alignment and normalization of laboratory markers.

Discussion: Although family history raised suspicion of a hereditary component, the clinical and biochemical profile supported the diagnosis of vitamin D deficiency-induced nutritional rickets. The absence of renal phosphate wasting and the resolution of symptoms following supplementation further validates this conclusion.

Conclusion: This case underscores the critical role of environmental and nutritional factors in the development of rickets and highlights the need for adherence to current recommendations for vitamin D supplementation in infants. In Switzerland and internationally, a daily intake of 400 IU vitamin D is recommended from the first days of life in breastfed infants, extending to 12 months, with 600 IU/day advised thereafter.

P 5

Benign but Deceptive: A Case of Van Neck-Odelberg Disease Masquerading as Malignancy

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Background: Van Neck–Odelberg disease (VND) is a rare, benign, and self-limiting condition of skeletal maturation, historically described as a form of aseptic osteonecrosis, characterized by symptomatic enlargement of the ischiopubic synchondrosis (IPS). Clinical presentation and non-specific imaging features can mimic stress fractures, osteomyelitis, or malignant bone tumors, posing a diagnostic challenge.

Case Presentation: A 9-year-old girl presented with acute atraumatic right-sided hip pain and limping gait, without fever or relevant medical history. Examination revealed painful and limited hip abduction, flexion, and internal rotation. Inflammatory parameters were normal, and sonography demonstrated a small hip joint effusion, leading to the diagnosis of coxitis fugax and treatment with non-steroidal anti-inflammatory drugs (NSAIDs). Over the following 13 days, symptoms worsened and became bilateral, prompting extended diagnostic workup. Radiographs showed mild bilateral IPS swelling, while magnetic resonance imaging (MRI) revealed left-sided bone marrow edema and contrast enhancement. Given the progressive symptoms and imaging findings, a malignant bone tumor was suspected, however, extensive inflammatory, immunologic, and bone metabolism studies were unremarkable. Biopsy was not pursued and a diagnosis of VND was established. Conservative treatment with NSAIDs and physiotherapy resulted in complete clinical recovery at 3-month follow-up.

Discussion: Fusion of the inferior pubic and ischial rami is mostly asymptomatic, occurs earlier in boys than in girls, with a median age of around 10 years, and is often asymmetrical, likely due to uneven mechanical stress related to leg dominance. In rare cases, IPS enlargement can cause atraumatic hip or groin pain and limping, which is then referred to as VND. Radiographic and MRI findings typically show IPS enlargement with bone marrow edema, however, these findings are nonspecific and overlap with those of stress fracture, infection, or neoplasia. Fibrous bridging within the IPS is an uncommon but specific MRI feature. Awareness of VND and careful interpretation of imaging and laboratory findings are essential to avoid unnecessary invasive procedures.

Conclusion: VND should be considered in children presenting with atraumatic hip pain and suspicious IPS imaging findings. Recognition of this benign entity allows appropriate conservative management and prevents misdiagnosis of more serious pathology.

P 6

An atypical presentation of a 5-year-old boy with nephrotic range proteinuria and cold agglutinin hemolytic anemia

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Background: Cold agglutinin hemolytic anemia (CAHA) is a rare autoimmune hemolytic anemia mediated by complement activation, and commonly associated in children with infections, autoimmune diseases, or lymphoproliferative disorders. Kidney involvement is uncommon and usually manifests as an acute kidney injury secondary to hemoglobinuria and/or microvascular lesions. Nephrotic-range proteinuria has not been previously reported in association with CAHA.

Case presentation: We describe a 5-year-old boy who presented with anemia (Hb nadir 32g/l), jaundice, and upper airways symptoms with fever and macrohematuria. The initial differential diagnosis included hemolytic uremic syndrome, glomerulonephritis, acute papillary necrosis, or hemolytic anemia of an alternative etiology. Laboratory investigations demonstrated hemolytic anemia with elevated lactate dehydrogenase, indirect hyperbilirubinemia, undetectable haptoglobin, and a direct antiglobulin test positive for complement C3d. Peripheral blood smear demonstrated red cell agglutination in the absence of schistocytes. Positive cold agglutinin testing supported the diagnosis of cold antibody-mediated autoimmune hemolytic anemia (secondary CAHA). Renal evaluation revealed nephrotic-range proteinuria (urinary protein/creatinine ratio 3347mg/mmol), hemoglobinuria and the absence of urinary red blood cells, with preserved renal function. Urinary N-acetyl-β-D-glucosaminidase levels were initially elevated, while urine protein electrophoresis demonstrated an increased level of urinary albumin and excluded monoclonal gammopathy. Supportive management with red blood cell transfusion and intravenous corticosteroids resulted in clinical improvement and a progressive decrease in proteinuria, with stable renal function during follow-up.

Conclusion: This case highlights a rare kidney manifestation of CAHA, suggesting that complement activation and intravascular hemolysis may induce transient glomerular permeability changes and tubular toxicity, resulting in nephrotic-range proteinuria. Therefore, physicians should consider the diagnosis of CAHA in the presence of nephrotic range proteinuria and hemolytic anemia. Awareness of this potential association may facilitate appropriate renal evaluation and management in pediatric patients with CAHA.

P 7

Persisting Acute Cerebellar Ataxia in Infancy: A Rare Presentation of Neuroblastoma

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Introduction: Acute cerebellar ataxia (ACA) is a frequent reason for emergency consultation in children with various causes. Although many cases are self-limited, ACA may occasionally reveal serious underlying conditions like paraneoplastic syndrome. Opsoclonus–myoclonus-ataxia syndrome (OMAS) is a rare and severe condition classically associated to neuroblastoma, which is most diagnosed in early childhood, with a median age at diagnosis around 18 months. However, when ataxia occurs in isolation, without opsoclonus or myoclonus, neuroblastoma may not be readily suspected, potentially delaying diagnosis.

Case report: A 13-month-old girl with no significant medical history was admitted for subacute onset of ataxia evolving over two weeks. She displayed progressive gait instability, truncal ataxia, action tremor and head tremor during visual fixation. She had no recent infection, toxic exposure, no trauma or neurodevelopmental regression. Neurological examination revealed isolated cerebellar ataxia but normal eye movement or other focal deficits. General examination and vital signs were normal. Initial workup, including blood tests and non-contrast brain MRI, were unremarkable. A diagnosis of post-infectious ACA was initially considered. The persistence of symptoms for one week led to consider a paraneoplastic syndrome. Abdominal ultrasound revealed a heterogeneous, vascularized right adrenal mass, suggestive of neuroblastoma. The patient was transferred to the pediatric oncology unit, where further investigations showed no evidence of metastatic disease on whole-body MRI and PET-DOTATOC, and lumbar puncture excluded infectious involvement. Surgical resection of the neuroblastoma and corticosteroid as OMAS treatment were initiated with an improvement of neurological symptoms.

Discussion: This case illustrates a neurological presentation of neuroblastoma limited to ACA. Neuroblastoma is classically associated with OMAS, an immune-mediated paraneoplastic disorder, in which ataxia often represents an early sign and typically progresses to the full clinical syndrome. Presentations remaining limited to isolated ataxia are uncommon and may delay recognition of an underlying neuroblastoma. In young children presenting with persistent acute ataxia beyond 72 hours, in the absence of trauma or recent infection, an underlying neuroblastoma should be considered. Early diagnosis is crucial given the risk of long-term neurodevelopmental sequelae.

P 8

Unwitnessed Button Battery Ingestion in a 16-month-old girl: A Hidden Danger with Serious Consequences

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Introduction: Button battery ingestion (BBI) is an increasing health risk in the pediatric population. Most cases occur in children under six years, and unwitnessed ingestions often result in delayed diagnosis and severe complications. We present the clinical course, diagnosis, and management of a 16-month-old girl with an unwitnessed BBI.

Case presentation: A 16-month-old girl presented to the emergency department with a five-month history of feeding difficulties beginning at solid food introduction. The family reported refusal to eat solid foods. Repeated swallowing attempts, retching, and vomiting after solid food intake, followed by inspiratory stridor, were observed. Feeding difficulties and vomiting had worsened over the previous ten days, otherwise the child was clinically well. A barium swallow examination was planned, the

initial fluoroscopy revealed a 20 mm, round, metal-dense foreign body with a double ring sign, suspicious for a button battery, in projection on the proximal esophagus with adjacent edema, tracheal displacement, and filiform narrowing. The CT angiogram showed no evidence of additional complications, such as vascular injury, esophageal perforation, fistulas, or mediastinal free gas. Esophagoscopy in an interdisciplinary setting revealed an impacted foreign body enclosed in a pocket-like structure in the proximal esophagus with consecutive luminal narrowing. Removal proved difficult and was achieved after several attempts using rigid esophagoscopy. The foreign body was identified as a 20 mm button battery, the ingestion was not observed. A nasogastric tube was placed, and antibiotics were given for 72 hours. A barium swallow on postoperative day four showed no complications, allowing initiation of a soft diet and discharge the next day. In the further course, the patient developed esophageal luminal narrowing at the level of the removed foreign body, requiring two balloon dilatations.

Conclusion: Unwitnessed BBI can present with feeding difficulties, refusal of solid foods, dysphagia with retching, coughing, and vomiting after food intake, and respiratory signs such as inspiratory stridor. These warning signs warrant prompt assessment, even in prolonged or intermittent courses. Accurate evaluation of feeding difficulties in infants is essential to diagnose dysphagia and consider foreign body ingestion. Early recognition of foreign body ingestion enables timely intervention to prevent delayed diagnosis and severe complications.

P 9

Stevens-Johnson Syndrome: Knowing How to Think About It

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Introduction: Stevens-Johnson syndrome (SJS) is a rare disease that affects approximately 2 cases per million people per year. It is a severe hypersensitivity reaction of the skin. Medications, particularly anti-epileptics, are the most common causes. The diagnosis is usually obvious with the appearance of initial lesions and clinical syndrome. Treatment is mainly supportive.

Observation: An 8-year-old boy who had been treated for epilepsy for a year with Depakine. Three weeks after the introduction of another anti-epileptic drug, lamotrigine, the child developed a prodrome combining a feeling of malaise, fever, headaches and keratoconjunctivitis. Suddenly, purpuric macules appeared on the face, trunk and limbs. These lesions merged into large blisters and detached over a period of three days at pressure points, exposing a painful, erythematous, oozing dermis. Laboratory tests were normal.

Discussion: The diagnosis of SJS is clinical. It can be confirmed by histology. It carries a high risk of infection, multiple organ failure and even death. With early treatment, our patient had a favourable outcome.

Conclusion: SJS is a very serious acute dermatological disease, mainly caused by the use of high-risk medications. Epidermal necrolysis is very rare and is a life-threatening emergency.

P 10

Influenza's Cherry on Top: A Case Report of Influenza A-Associated Epiglottitis in Children

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Since the introduction of Haemophilus influenzae type B vaccination, acute epiglottitis has become a rare condition. However, pathogens not covered by current vaccination strategies may lead to similar presentations.

We report the case of a healthy, vaccinated 8-month-old male who presented to the emergency department (ED) on day 2 of a febrile illness with cough and rhinorrhea. He was diagnosed with an upper respiratory tract infection and discharged. On day 4, persistent fever, vomiting, watery diarrhea and markedly decreased oral intake led to referral back to the ED by his pediatrician. On admission, the patient appeared ill, febrile and tachycardic, with normal blood pressure and moderate dehydration. Physical examination revealed an erythematous oropharynx with bilateral tonsillar hypertrophy without complications, mild cough without respiratory distress, and irritability without meningeal signs. Laboratory investigations showed normal inflammatory markers and electrolytes and no evidence of organ dysfunction. Rapid testing was positive for influenza A. Due to persistent inability to tolerate oral intake despite intravenous fluids, he was admitted with a presumed diagnosis of infectious gastroenteritis in the context of influenza A and oseltamivir was initiated.

On day 6, he revealed to be asthenic, with a hoarse voice and a laryngeal cough without associated stridor, prompting initiation of an oral dose of dexamethasone. On the same day, due to persistent apathy and apparent photophobia, a lumbar puncture was performed, followed by the initiation of empiric meningitis-dose ceftriaxone. On day 7, the patient acutely deteriorated, developing inspiratory stridor, drooling, and respiratory distress. He struggled to find a comfortable position and kept his neck in hyperextension. Nasofibroscopy revealed acute epiglottitis without abscess formation and preserved airway patency. Urgent endotracheal intubation was required, and the patient was transferred to the pediatric intensive care unit. He was successfully extubated on day 10 and showed gradual clinical improvement.

This case shows the importance of maintaining a high index of suspicion for epiglottitis in vaccinated children presenting with stridor during the winter season, highlights an atypical gastrointestinal-predominant presentation of influenza A, and emphasizes the need for close monitoring and repeated clinical reassessment due to the risk of secondary deterioration.

P 11

"Juvenile Myasthenia Gravis: A Challenging Initial Diagnosis – Case Report"

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Introduction: Juvenile myasthenia gravis (JMG) is a rare autoimmune disorder of the neuromuscular junction in childhood. In toddlers, heterogeneous clinical presentation and fluctuating

symptoms often make early diagnosis challenging. We report a severe case of previously unrecognized JMG, highlighting the importance of considering this diagnosis in cases of fluctuating but progressive weakness.

Case presentation: A previously healthy 2-year-old girl presented repeatedly to the pediatric emergency department for recurrent falls despite recently prescribed corrective glasses. Medical history revealed a fluctuating but progressive regression of motor, social, and verbal skills over the past two months. Associated manifestations included new left-sided ptosis with divergent strabismus, food selectivity and chewing/swallowing difficulties. Neurological examination revealed fatigability, facial hypomimia with bilateral ptosis and poor social interaction, with marked variability between examinations. Initial investigations, including brain MRI and metabolic screening, were unremarkable. Electroneuromyography (ENMG) demonstrated a pathological decrement on repetitive nerve stimulation, suggestive of JMG. Detection of serum anti–acetylcholine receptor antibodies further supported the diagnosis. Because of the risk of life-threatening complications during acetylcholinesterase inhibitor (AChEI) initiation, the patient was transferred to the pediatric intensive care unit. She developed acute respiratory failure consistent with myasthenic crisis and pneumonia. Insufficient improvement and need for non-invasive ventilation required additional intravenous immunoglobulins and corticosteroids, resulting in rapid clinical improvement. Four weeks later, as AChEI and prednisone therapy was still ongoing, motor function and feeding had normalized. Azathioprine was introduced as a relay therapy after several months.

Conclusion: This case highlights the diagnostic challenges of JMG in young children. Early symptoms may be misleading and attributed to benign ophthalmological conditions. Limb weakness may be subtle or absent at presentation, the disease initially manifesting through fluctuating ocular or bulbar symptoms. Early recognition is essential to prevent potentially life-threatening complications such as myasthenic crisis. Clinical diagnosis is supported by ENMG and response to AChEI. With timely diagnosis and appropriate treatment, the prognosis of JMG is generally favorable.

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Gayet-Wernicke encephalopathy: an exceptional pathology in pediatrics

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Introduction: Gayet-Wernicke encephalopathy (GWE) is a disorder characterized by acute onset confusion, nystagmus, partial ophthalmoplegia, and ataxia due to thiamine deficiency. The diagnosis is mainly clinical. The disorder may resolve with treatment, persist, or degenerate into Korsakoff psychosis.

Observation: A 5-year-old boy, born at full term, referred to our specialist consultation for growth retardation. The clinical examination revealed severe failure to thrive. Furthermore, we noted a divergent strabismus, exophthalmos of the left eye with ptosis. The ophthalmological examination showed paralysis of the adduction of the left eye with limitation of elevation. The fundus was normal. Cerebral angio-MRI showed an appearance suggestive of GWE. Furthermore, the IGF1 level was low with a GH peak at 7 ng/ml during stimulation tests and the bone age corresponded to 2 years.

Discussion: The diagnosis of hypovitaminosis B1 is confirmed by the spectacular and favorable response to thiamine with disappearance of the signs of deficiency. The little one was immediately put on parenteral vitamin B1 as replacement therapy as well as multiple water-soluble vitamins with dietary intake of thiamine. Furthermore, his GH deficiency was treated according to consensus recommendations.

Conclusion: GWE is an exceptional pathology in pediatrics. Early diagnosis as well as urgent treatment are necessary to restore this deficiency.

P 13

Morbid obesity revealing a rare genetic disease

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Introduction: Prader-Willi syndrome (PWS) is a rare genetic disease characterized by hypothalamic-pituitary dysfunction associated with major hypotonia during the neonatal period. In childhood, the main problems are the appearance of hyperphagia with the risk of morbid obesity, learning difficulties and behavioral disorders. It concerns one case in 25,000 births.

Observation: A boy aged 15, from a non-consanguineous marriage. Referred to our specialist consultation for the management of severe obesity. Parents report the notion of hyperphagia with absence of satiety. The clinical examination revealed: almond-shaped eyes, thin upper lip and drooping corners of the mouth with abdominal obesity as well as impuberism. Furthermore, we note a metabolic syndrome retained according to the IDF 2007 criteria. The rest of the biological and hormonal assessment was without abnormality. Abdominal ultrasound was normal. The genetic study was able to confirm the diagnosis.

Discussion: Today there is consensus among experts on the fact that the diagnostic suspicion of PWS is clinical (criteria of Holm et al. from 1993, revised in 2001) and its confirmation is genetic. It is due to an abnormality of chromosome 15 (15q11-q13). These genetic abnormalities are often accidental and sporadic and familial recurrence is very rare.

Conclusion: PWS requires global and multidisciplinary care. The use of growth hormone has transformed the quality of life of these children. The metabolic syndrome in our patient constitutes a real vascular risk factor and its management must involve healthy eating behaviors as well as physical activity.

P 14

An unusual thrombosis revealing a rare metabolic disease

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Introduction: Homocystinuria due to cystathionine-beta-synthase (CBS) deficiency is a rare abnormality of methionine catabolism. The diagnosis is suspected on the increase in plasma total homocysteine (Hcyt) and plasma methionine (Met). The diagnosis is confirmed by looking for bi-allelic mutations in the CBS gene.

Observation: A 14-year-old boy from a consanguineous marriage with no history. 48 hours before his admission, he presented 02 episodes of convulsions in an afebrile context. The clinical examination revealed a disturbed neurological examination**:** drowsiness, motor aphasia, left facial paralysis, paralysis of the left 6th cranial pair and left hemiplegia. Furthermore, a marfanoid appearance was noted. Brain CT came back in favor of venous thrombosis (VT) of the sagittal sinus complicated by an edematoushemorrhagic infarction. We note hyper-Hcyt at 340 µmol/L, homocystinuria at 140 µmol/L with a high level of (Met). The rest of the assessment was normal, notably the vitamin dosage.

Discussion: Patients with CBS deficiency present a spectrum of clinical manifestations, ranging from asymptomatic to severe

forms with multi-system involvement. The most common symptoms essentially affect 4 types of organs: the eye, the brain, the bone and the vascular system. The phenotype and severity of the disease are essentially defined by the degree of response of the CBS deficiency to vitamin B6 which is the co-factor of the CBS enzyme. It is established in the literature that early diagnosis and treatment make it possible to avoid the usual complications of the disease, if compliance with treatment is good. Interest in neonatal screening.

Conclusion: The Hcyt dosage must be part of the thrombophilia assessment with a genetic analysis when faced with a picture of unusual thrombosis at an unusual site in a young subject. Management of VT often involves long-term anticoagulant treatment to prevent further thromboses.

P 15

Severe Failure to Thrive: If It Is Not Only About Calories

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Background: Failure to thrive (FTT) is common and represents a symptom rather than a diagnosis. It is typically defined as weight for height below the 5th percentile (P) or sustained decline across two major percentiles of weight or height. Causes include inadequate caloric intake, malabsorption, improper metabolism, increased losses, and excessive energy expenditure.

Case Report: A 12-month-old male infant was referred for severe FTT with a body weight of 6.25kg (P<0.01, Z-3.73), height of 68cm (P0.03), head circumference of 44.1cm (P0.88) and weight for height at P0.28. He was born at term with normal anthropometric measurements (around P50). Following the first week of life, a continuous decline in growth was observed despite intensive multidisciplinary nutritional support. At admission, caloric intake remained as low as 50kcal/kg/d, with restrictive and selective food intake. Aside from that, the medical history was unremarkable, except for constipation since the age of 10 months. He had no gastrointestinal or allergic symptoms, polyuria or polydipsia. Neurodevelopment was age appropriate. Physical examination showed a malnourished infant with mild abdominal distension but was otherwise normal. Laboratory testing revealed severe hypochloremic, hypokalemic metabolic alkalosis with hyponatremia and urinalysis pointed in the direction of renal salt loss. A sweat test was negative and diuretic use as well as gastrointestinal losses were ruled out. Genetic testing showed compound heterozygous pathogenic variants in the CLCNKB gene, confirming the diagnosis of Bartter syndrome type 3. Nutrition and electrolyte supplementation through a nasogastric tube and parenteral were gradually increased up to 95kcal/kg/d, sodium 11mmol/kg/d, potassium 5mmol/kg/d, chloride 16mmol/kg/d. Significant weight gain was only observed after initiation of NSAID therapy, leading to rapid catch-up in growth.

Conclusion/Discussion: In Bartter Syndrome type 3, the pathogen CLCNKB gene encodes the CIC-Kb channel in the distal convoluted tubule and impairs the renal chloride reabsorption. It typically presents in late infancy or early childhood with FTT, polyuria and polydipsia, salt craving, constipation, and hypotonia. This case highlights renal salt-wasting as a rare but clinically relevant cause of FTT, even without classic presentation. Early recognition is crucial, as targeted treatment can result in rapid and substantial improvement in growth.

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Wolf-Hirschhorn syndrome: severe short stature and growth hormone deficiency

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Introduction: Wolf-Hirschhorn syndrome (WHS) is a rare congenital disorder occurring in approximately 1/50.000 births, with a female predominance. It results from the hemizygous deletion encompassing the 4p16.3 region. The typical craniofacial phenotype is described as a "Greek warrior helmet appearance."

Observation: A 5-year-old boy is brought to the pediatric endocrinology consultation for short stature. He was born at term to a non-consanguineous couple with intrauterine growth restriction. Follow-up for epilepsy and treatment for 2 years. The clinical examination revealed a particular craniofacial phenotype, namely: a wide nasal saddle, microcephaly, a high forehead and a prominent glabella, hypertelorism, a nose with straight and parallel edges, a thin upper lip and corners. drooping, a small chin and micrognathia. Examination of the genitals reveals hypospadias with cryptorchidism. In addition, there is mental retardation, poor language and severe growth retardation. Bone age corresponded to a delay of 3 years. The rest of the physical examination was unremarkable apart from a hemangioma. IGF1 levels were low with GH peaking at 7 ng/ml during stimulation tests. The brain MRI was without abnormality.

Discussion: For our patient, the genetic study was carried out by objectifying: 46, XY ish dell (4) (p16.3p16.3) (WHSCR-) thus confirming the diagnosis. Genetic counseling is desirable. Paraclinical exploration in search of other associated malformations returned normal. Given the severe short stature with confirmed GH deficiency, treatment was initiated.

Conclusion: The diagnosis of WHS is based on physical examination and confirmed by molecular genetics or cytogenetic analysis. Most cases are sporadic, but an unbalanced translocation can be inherited from a parent with a balanced rearrangement. Treatment is symptomatic and requires a multidisciplinary approach.

P 17

From Severe Infection to a Multisystem Disorder: When Recovery Fails in a Previously Healthy Child

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Background: In children, an unusually severe infection with incomplete recovery should prompt reconsideration of the underlying diagnosis.

Case presentation: We herein describe a previously healthy girl, born at term after an uneventful pregnancy and normal early development. At the age of two years, she presented with a severe Influenza A infection complicated by sepsis and sudden profound encephalopathy, requiring intensive care and ventilation. Brain MRI showed bilateral leptomeningeal enhancement without structural brain lesions. Cerebrospinal fluid analysis revealed mildly elevated lactate without pleocytosis. The acute course was characterised by multisystem involvement affecting metabolic, hepatic and renal function. Initial

metabolic investigations were non-diagnostic. Recovery was slow and incomplete. Over the following years, the girl showed persistent respiratory and gastrointestinal symptoms, reduced exercise tolerance, failure to thrive with recurrent weight loss and fatigability. Coeliac disease was diagnosed and treated with a gluten-free diet, with only partial symptomatic improvement and no sustained catch-up growth. In parallel, chronic pulmonary disease evolved with cough and recurrent lower respiratory tract infections, later characterised as non-cystic fibrosis bronchiectasis. Recurrent stress-related hyperlactataemia and elevated alanine levels were documented. Brain MRI spectroscopy later demonstrated an intraventricular lactate peak. In this context, the cumulative clinical and biochemical findings resulted in a high mitochondrial disease score. Extensive investigations, including respiratory chain enzyme analysis in muscle and fibroblasts and trio exome sequencing from blood, remained unremarkable. Ultimately, only targeted mitochondrial DNA analysis from stored skeletal muscle tissue revealed a single 4.4 kb deletion (m.10539-14941del, heteroplasmy 72%), establishing the diagnosis of Single Large-Scale Mitochondrial Deletion Syndrome (SLSMDS).

Conclusion: This case illustrates that failure to recover from a severe infection, combined with progressive multisystem features and a high mitochondrial disease score, should raise suspicion of an underlying mitochondrial disorder. Tissue-specific genetic analysis may be required to uncover the diagnosis. SLSMDS are rare, leading to clinically heterogeneous conditions that may present in childhood with evolving, initially non-specific multisystem manifestations and long diagnostic delays.

P 18

Refractory Iron Deficiency Revealing Collagenous Gastritis in a Child

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Background: Collagenous gastritis is a very rare disease (2: 100 000) occurring in the context of refractory iron deficiency, particularly in young patients without classical digestive symptoms. It is characterized by subepithelial collagen deposition and presents in pediatric and adult forms, the latter often associated with collagenous colitis and autoimmune diseases. The pathophysiology remains poorly understood, and no effective treatment has been established to date.

Case Report: A 10-year-old girl has been followed in hematology since February 2024, initially for pancytopenia with mild thrombocytopenia, mild leukopenia (without neutropenia), and severe hypochromic microcytic anemia with poor regeneration (minimum Hb 45 g/L). This was associated with severe iron deficiency of unknown origin (03/09/2024). An IgA deficiency was incidentally discovered (05/09/2024). The patient presented with intermittent chronic abdominal pain, without transit disturbances or rectal bleeding. Iron deficiency was confirmed with plasma iron 4.0 µmol/L, ferritin 9.0 µg/L, and transferrin saturation 0.06. Hematological values showed Hb 45 g/L, hematocrit 31%, MCV 74 fL, MCH 20.9 pg, reticulocytes up to 62.2 G/L, RDW up to 27.4%, thrombocytopenia (min. 140 G/L), and mild neutropenia (min. 1.66 G/L), both resolving spontaneously. Renal and hepatic tests were normal, with no hemolysis. Viral serologies were negative except for parvovirus IgG positivity. Vitamin B12 and folate were not assessed. Celiac disease workup was uninterpretable due to IgA deficiency, with negative serology. Hemoglobinopathies were excluded. Gastroscopy (January 2026) revealed diffuse nodularity, erythema, and hyperemia of the gastric body and antrum, with focal duodenal atrophy. Biopsies showed lymphoplasmacytic infiltration, thick subepithelial collagen bands, and superficial erosions, consistent with collagenous gastritis. Helicobacter pylori and celiac disease were excluded. The patient remains on iron supplementation with partial response. PPIs were introduced post-endoscopy, based on the macroscopic findings. Other therapeutic options (gluten-free diets) may be considered, although no standard treatment is validated.

Conclusions and Key Points: This case underlines the importance of considering collagenous gastritis in refractory iron deficiency and confirms the key role of using upper endoscopy and biopsy. Further studies are needed to improve understanding and management of this rare disease.

P 19

When pediatric acute abdomen needs a deeper glance at renal function

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Background: Acute abdominal pain in children is frequent and encompasses a wide spectrum of age-dependent etiologies, ranging from benign self-limiting conditions to severe causes. Identifying severely affected patients remains a clinical challenge. In children with nephrotic syndrome spontaneous bacterial peritonitis (SBP) due to ascites, hypoproteinemia and impaired immune function represents a potentially life-threatening complication. Nephrotic syndrome is the most common first manifestation of pediatric glomerulopathy.

Case Study: A 6-year-old girl presented to the pediatric emergency department with severe abdominal pain and bilateral leg edema. Clinical examination showed markedly reduced general condition with a distended abdomen, bilateral pretibial and periorbital edema, fever (40°C), tachycardia (150/min), oxygen saturation of 97% and hypertension (131/90 mmHg). Laboratory findings revealed initially a C-reactive protein of 98 mg/L and a procalcitonin of 74 ng/mL. Abdominal ultrasound demonstrated moderate ascites, while computed tomography excluded other causes of acute abdominal pain. Urine albumin-to-creatinine and protein-to-creatinine ratio peaked at 1277 mg/mmol and 2766 mg/mmol, respectively. Sepsis due to SBP as a complication of a nephrotic syndrome was diagnosed. In the beginning, a favorable clinical course was observed on antibiotic and corticosteroid therapy. Persistent proteinuria despite corticosteroid therapy, led to the diagnosis of steroid-resistant nephrotic syndrome. A treatment with tacrolimus was initiated. Subsequent renal biopsy resulted in focal segmental glomerulosclerosis.

Summary: Edema, a hallmark of nephrotic syndrome, was a key clinical finding suggesting the medical etiology for acute abdominal pain in this case. Only upon request, the family reported about swollen eyelids starting a few weeks ago. Urinalysis, in combination with fever and ascites, ultimately led to the correct diagnosis.

Conclusion: In children presenting with acute abdominal pain and edema, nephrotic syndrome should be considered as an underlying condition. As a complication of nephrotic syndrome, SBP represents an important etiology of pediatric acute abdomen. Early recognition allows prompt initiation of antibiotic and corticosteroid therapy and may prevent further deterioration or unnecessary surgical interventions. This case underlines the importance of thorough assessment for accurate diagnosis.

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Enteric duplication cysts: a rare diagnosis in the newborn

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Introduction: Enteric duplication cysts are rare congenital malformations, with an estimated incidence of approximately 1 in 4,500 live births. They are most commonly diagnosed during early childhood. Neonatal presentation may be misleading and varies according to location, as these lesions can occur at any level of the gastrointestinal tract. The most frequent forms are intestinal, and some may be life-threatening in the event of obstructive complications. Definitive treatment consists of surgical resection.

Case report: We report the case of a 12-day-old female infant, born at term after an uncomplicated pregnancy, with no abnormalities detected on antenatal ultrasounds, who presented to the paediatric emergency department with bilious vomiting associated with failure to thrive. On clinical examination, the infant was in good general condition, alert and active. Abdominal palpation revealed a mass in the right flank. Abdominal ultrasound identified a cystic lesion suggestive of an enteric duplication cyst (ileal vs. colonic). Abdominal MRI further characterized the lesion as a duplication cyst of the ascending colon with mass effect.

Discussion: Enteric duplication cysts may present early with signs of intestinal obstruction, particularly in the neonatal period. The absence of antenatal diagnosis does not exclude this condition. Clinical examination combined with imaging plays a key role in guiding the diagnosis and excluding differential diagnoses, such as ovarian or biliary cysts. Early recognition allows appropriate management and reduces the risk of complications.

Conclusion: This case highlights the importance of considering an enteric duplication cyst in newborns presenting with bilious vomiting associated with a palpable abdominal mass. Prompt and multidisciplinary evaluation is essential to optimize prognosis.

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Recognizing Juvenile Myoclonic Epilepsy in Adolescents: Epidemiology, Clinical Features, Diagnostic Pitfalls, and the Essential Role of Targeted History-Taking

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Background: Juvenile Myoclonic Epilepsy (JME) accounts for 5–10% of epilepsies and typically starts between 12 and 18 years. It is characterized by bilateral myoclonic jerks, mainly on awakening, that are usually isolated for months to years and then associated with generalized tonic–clonic seizures (GTCS) or less frequently with absence seizure. Sleep deprivation, stress, and alcohol are common triggers. JME is frequently underdiagnosed because subtle myoclonic jerks are overlooked or not actively investigated, leading to diagnostic delay.

Case Report: Between December 2025 and January 2026, two 17-year-old boys with similar presentations were admitted to our emergency department. The first presented with a GTCS during nocturnal awakening. Days earlier, he had consulted for facial trauma after a fall. Clinicians were falsely reassured by a previous diagnosis of stress-related fasciculations, and the episode was not initially recognized as a likely hallmark of JME. Targeted history later revealed months of sudden upper limb jerks with objects dropping and transient knee buckling, mainly on awakening or when tired. The second patient presented with a second episode of GTCS one year after a first event. Current GTCS was preceded by upper limb jerks and lower limb loss of tone. In this situation too, detailed history revealed that the myoclonic jerks had been occurring for three years. Both had normal brain MRI in their past medical record and the second patient had a previously normal EEG performed far from the ictal event.

Management and Outcome: Targeted EEG performed within days confirmed the diagnosis, revealing generalized interictal spike-and-slow-wave discharges with preserved background activity in both cases. Treatment with levetiracetam resulted in good seizure control.

Conclusion: These cases highlight the key role of detailed history-taking and targeted questioning for myoclonic symptoms in adolescents presenting with GTCS. Routine awake EEG has limited sensitivity (73%), whereas sleep EEG may reach 100%, with abnormalities prominent during sleep–wake transitions. Brain MRI is not routinely required, as no anomaly is expected. Active questioning about subtle awakening myoclonic jerks is essential to prevent diagnostic delays averaging 3.5–8 years and to ensure appropriate lifelong therapy.

P 22

A complex bleeding: hemoptysis and epistaxis as manifestations of a congenital arterial fistula

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Introduction: Respiratory tract bleeding in children is mainly represented by epistaxis and is usually related to self-limiting conditions such as upper respiratory infections, nasal trauma, or foreign body aspiration. By contrast, hemoptysis is rare and may arise from coagulopathy, cystic fibrosis, pulmonary arteriovenous malformations, or infections like tuberculosis. In this report, we describe an exceptional case of massive hemoptysis in an infant resulting from a bronchopulmonary arterial fistula.

Case: A 10-month-old infant with no significant medical history was admitted after experiencing four episodes of hemoptysis, two of which being accompanied by epistaxis, resolving spontaneously within a few minutes and one episode of hematemesis. These events occurred in the context of a dry cough and nasal congestion persisting for the past 10 days. The family sought care at our pediatric emergency department. Upon admission, he was hemodynamically stable. At the first clinical exam, he presented with dried blood in the nasal cavity, without other significant findings. Blood tests showed moderate anemia (9,9 g/dL) with no signs of coagulopathy and the chest X-ray was normal. In the absence of identifiable nasal lesion on ENT fiberoptic examination, a lower respiratory tract origin was suspected. The patient received nebulized tranexamic acid. He was then hospitalized for observation and subsequently experienced 2 other episodes of bleeding, with a 2 g/dL drop in hemoglobin. Urgent bronchoscopy revealed a lesion on the bronchial mucosa of the right lower bronchus with active bleeding. Hemostasis was achieved by packing, and the patient received a transfusion of erythrocyte concentrate. The patient was admitted in the pediatric intensive care unit for invasive ventilation. A thoracic CT scan suggested the presence of a collateral artery originating from the right subclavian artery, identified as the bleeding source. Angiography revealed the presence of an arterio-arterial fistula between the right bronchial artery and the

postero-basal subsegmental pulmonary artery of the right lower lobe. The patient successfully underwent embolization.

Discussion: Congenital vascular malformations of the airways may manifest through recurrent epistaxis and hemoptysis. In patients presenting with unusual manifestations, keeping in mind these pathologies is essential in early diagnosis. Timely interventions are in fact critical to prevent life-threatening complications.

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A pediatric case of spots and stumbles

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Background: Acute cerebellar ataxia (ACA) is the most common cause of acute ataxia in children and is usually a benign, self-limiting, postinfectious autoimmune phenomenon. Differentiation between acute postinfectious cerebellar ataxia (APCA) and acute infectious cerebellitis (AIC), which has significantly higher morbidity and mortality, remains challenging. Varicella-zoster virus (VZV) is a notable causative agent.

Methods: Case report and literature review.

Case Report: A previously healthy, VZV-unimmunized 7-year-old boy developed acute progressive gait disturbance, impaired fine motor skills, vomiting and headache on day 7 of an acute VZV infection with fever and uncrusted vesicular rash. Neurological examination revealed severe progressive truncal and limb ataxia, symmetric intention tremor and saccadic eye movements. Cranial MRI was unremarkable. Cerebrospinal fluid (CSF) analysis showed mild mononuclear pleocytosis and positive VZV PCR. Due to the severity of symptoms and VZV detection in CSF intravenous steroid and antiviral treatment were initiated along with supportive care including physiotherapy. The patient recovered fully within 3 weeks.

Discussion: This case highlights the difficulty of distinguishing AIC from the more common APCA. Older age and early onset of severe and progressive cerebellar symptoms during an active VZV infection accompanied by headache, vomiting and fever favor AIC and should prompt further investigations. Here normal MRI findings favor APCA whereas VZV detection in CSF support AIC. Rapid recovery may reflect early treatment of AIC or underlying APCA. Acute disseminated encephalomyelitis was unlikely due to absence of encephalopathy, extra-cerebellar signs and MRI abnormalities.

Conclusion: Most ACA cases represent self-limiting APCA. Careful history taking and clinical assessment are essential to identify red flags suggestive of AIC and to prompt further investigations. MRI and CSF findings may help guiding treatment choices. Early diagnosis and treatment of AIC are crucial due to its high morbidity and mortality.

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SARS-CoV-2 reinfection and risk of Multisystem Inflammatory Syndrome in Children: A case-control study

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Background: Multisystem Inflammatory Syndrome in Children (MIS-C) is a severe post-infectious inflammatory complication of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that predominantly affects children aged 6 to 12 years. While the initial waves of the pandemic saw notable MIS-C cases, recent studies have documented a declining incidence across subsequent waves, coincident with rising reinfection rates. The objective was to determine whether the risk of MIS-C differs following a primary SARS-CoV-2 infection compared with subsequent reinfections.

Method: A retrospective, multicenter, international, matched case-control study was conducted from September 1, 2021 to April 30, 2022. Cases with MIS-C were recruited from twelve tertiary hospitals in France and two university hospitals in Switzerland. Eligible cases were children younger than 18 years who met the 2020 World Health Organization case definition for MIS-C and had laboratory evidence of SARS-CoV-2 infection. Cases were matched 1: 1 by age, sex, and epidemic period to control patients with laboratory-confirmed acute SARS-CoV-2

infection. Patients previously vaccinated against SARS-CoV-2 and those without consent were excluded. Primary exposure was SARS-CoV-2 reinfection versus first infection. The primary outcome was the comparison between the association of reinfection and MIS-C versus the association of reinfection and acute SARS-CoV-2 infection, assessed within matched pairs using McNemar's test to estimate a matched odds ratio. Prespecified sensitivity analyses used conditional logistic regression.

Results: The matched cohort included 180 patients with MIS-C (median [IQR] age, 106 [62-136] months) and 180 matched controls with SARS-CoV-2 infection (median [IQR] age, 72 [48-108] months). No MIS-C cases had a documented reinfection, whereas 3.9% (7/180) of controls did. The proportion of reinfections differed between groups (McNemar χ^2 = 5.142; P= .023; matched OR, 0.067; 95% CI [0.004-1.167]; P = .064). In sensitivity analyses using conditional logistic regression, reinfection was associated with 81.7% lower odds of MIS-C compared to a first infection (aOR, 0.183; 95% CI [0.027-1.234]; P=.093).

Conclusion: MIS-C was associated chiefly with a first SARS-CoV-2 infection, with reinfections appearing to carry a lower risk. This study highlights important public health impications, suggesting the protectice role of natural immunity against severe post-infectious diseases.

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Parental attitudes about Lyme borreliosis in Switzerland

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Introduction: Lyme borreliosis (LB), a bacterial infection caused by various genospecies of Borrelia burgdorferi sensu lato complex, is transmitted to humans through the bite of infected Ixodes spp ticks and is the most common tick-borne disease in Europe1,2. LB affects persons of all ages. Among cases in children, the 5-9 age stratum (or other strata spanning that age range) was consistently found to contribute the highest proportion of cases3. However, data about how respondents with children perceive their children's risk of LB is not well described. In 2022, we surveyed adults with children in 20 European countries to describe their knowledge about LB and level of concern about their children contracting LB4. This abstract presents the results of the survey for respondents in Switzerland.

Methods: We used an existing survey panel to conduct an online survey of adults aged 18-65 years old who reported having children, with recruitment quotas on age, gender, and region. The survey included questions about LB knowledge, tick exposure, and outdoor activities. We conducted descriptive analyses with weighting to adjust for the complex survey design.

Results: Of 560 respondents with children, 98% were aware of ticks and 63% were aware of LB. Among respondents aware of ticks, 46% reported that their child had been bitten by a tick, with 75% of these bites reportedly occurring within the past year. Among those aware of ticks and LB, 53% were concerned or very concerned about their child contracting LB, 44% believed their child was at high or very high risk of contracting LB, and 52% felt confident that their child could avoid exposure to ticks by using prevention measures such as bug spray and long pants. Respondents reported that their children spent an average of 8 hours per week doing outdoor activities during April through November.

Discussion: In Switzerland, respondents with children are concerned about their children's risk of developing LB. Since children spend a lot of time outdoors and do not regularly use prevention measures, it is deemed important to address the risk for contracting LB and to mitigate this public health concern.

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To swab or not to swab? The role of Kingella kingae PCR in an afebrile limping toddler

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Background: Afebrile limping in toddlers is a common reason for emergency department consultation. In Romandy, oropharyngeal PCR for Kingella kingae (KK) is recommended to support the diagnosis of osteoarticular infection (OAI) in children under 4 years of age. However, interpretation of this test remains challenging, as illustrated by this clinical case.

Case presentation: An 18-month-old child presented to the emergency department with an afebrile limp and refusal to bear weight after a low-energy fall. Clinical examination showed localized distal tibial tenderness without swelling or joint limitation. Initial radiographs were considered normal and laboratory tests showed no evidence of an inflammatory response. According to the local algorithm, an oropharyngeal swab for KK-PCR was performed. At a 48-hour reassessment, the limp persisted without fever or clinical deterioration, and laboratory tests remained normal. Ultrasound performed to search for joint effusion suggested a possible subperiosteal lesion despite negative initial radiographs. Conservative management with analgesia and outpatient follow-up was chosen. At the orthopaedic review 10 days later, radiographs revealed a periosteal reaction confirming the fracture of the distal tibia. The KK-PCR was positive but was considered clinically irrelevant for this particular case, as the clinical findings were inconsistent with infection and supported a traumatic diagnosis.

Discussion: This case illustrates the difficulty in integrating the KK-PCR result into the algorithm of afebrile limping when OAI is not proven. A positive test may mislead clinicians toward OAI. Asymptomatic KK oropharyngeal carriage is frequent in this population, particularly in children attending daycare facilities. Furthermore, the test exposed the patient to unnecessary invasive investigations and increased healthcare costs. This case report challenges the routine indication of oropharyngeal KK-PCR in afebrile limping children. Further studies are required to assess the impact of KK-PCR in this algorithm.

Conclusion: In afebrile limping toddlers with a low pre-test probability of infection, clinicians should be aware that routine use of oropharyngeal KK-PCR may be positive even in the absence of OAI, while increasing costs and leading to unnecessary invasive investigations. This report underscores the need to assess the impact of KK-PCR in this algorithm.

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Vaccine Immunity Against Pneumococcus in Children With Cochlear Implants

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Background: This study aims to assess whether Swiss guidelines for pneumococcal vaccination in children with cochlear implants are followed and whether they elicit adequate pneumococcal vaccine immunity.

Methods: We performed a retrospective analysis at the Western Switzerland University Cochlear Implants Center, reviewing data between January 2009 and December 2023. Vaccination records and serotype-specific pneumococcal IgG concentrations were extracted from computerized medical records.

Results: Fifty children were included, with a median implantation age of 1.5 years. In children <2 years old, 82% (27/33) were up to date with routine pneumococcal vaccination (3 doses of the 13-valent pneumococcal conjugate vaccine administered at 2, 4 and 12 months), yet only 56% (15/27) achieved protective pneumococcal seroprotection. In contrast, among children ≥2 years of age, 24% (4/17) received both the age-appropriate routine schedule and the additional recommended dose of 13-valent pneumococcal conjugate before implantation, and all of these (100%) showed protective seroprotection. An overall decline in seroprotection was observed within 5 years postvaccination, particularly around 5 years of age. Vaccine-induced immunity differed by serotype; serotypes 6B, 14 and 19 elicited higher antibody levels, whereas serotypes 4, 9V and 18C produced lower responses. Notably, children 2–5 years of age tended to exhibit lower overall pneumococcal immunity.

Conclusions: Our findings support the proactive administration of an additional pneumococcal vaccine dose at the time of planning cochlear implant surgery for children ≥2 years old. In addition, periodic monitoring of serotype-specific pneumococcal antibody levels (every 5 years) is recommended to determine the need for booster vaccinations.

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Tick-Borne Encephalitis with stroke-like symptoms in a fully vaccinated adolescent

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Background: In Switzerland, approximately 100–120 cases of tick-borne encephalitis (TBE) are reported annually, with a substantial proportion occurring in children and adolescents: 40.6% aged 6–11 years and 37.8% aged 12–17 years.[1] Vaccination is strongly recommended from age three years onward.2 Over the past 20 years vaccination rate among children has increased up to 50% completing the primary three-dose series.3 Complete vaccination provides high protection against disease resulting in more than 90% effectiveness and lasting up to ten years.3 Nevertheless, a minority of fully vaccinated children demonstrate that vaccine breakthrough can occur, posing challenges for clinical recognition and public health communication.4 An austrian study showed calculated field effectiveness (FE) against severe disease lower in the age 1-16 years (87%) than in ≥17 years (>94%), but rules out that vaccinated individuals are at a higher risk of developing severe TBE.5

Case presentation: A healthy, fully-vaccinated 14-year-old boy presented with a newly onset unsteady gait, after 4 days fever up to 40.6 °C, dizziness, and frontal headache. Neurological examination revealed ataxia and a tendency to fall to the left, as well as right-sided hemiparesis. A right-sided central facial palsy developed during first evaluation. Initial cCT-scan and laboratory results were unremarkable. These symptoms fluctuated during hospitalisation, leading to the suspicion of a cerebrovascular disorder. The cMRI ruled out a vascular pathology showing hyperintense lesions in the left thalamus, the posterior limb of the internal capsule, and adjacent white matter, with lesser involvement of the caudate nucleus, putamen, and left hippocampus. CSF analysis revealed an elevated cell count (128/µL, predominantly mononuclear) and mildly increased protein levels (498 mg/L), with negative viral PCR Panel testing. Initial empiric intravenous ceftriaxone therapy was discontinued after exclusion of bacterial infection. Subsequent blood serology indicated an acute TBE infection. At present, the patient is clinically improving and doing well.

Conclusion: This patient shows that TBE can occur in fully vaccinated patients and may present with fluctuating, stroke-like symptoms. TBE should be considered in children with focal neurological deficits in endemic areas, regardless of vaccination status, using MRI and serology for diagnosis. Data for Switzerland with lower coverage of vaccination for FE are needed.

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When tuberculosis goes beyond the lungs: a paediatric case of constrictive pericarditis, musculoskeletal and abdominal involvement

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Background: Tuberculosis (TB) is a relevant global health issue in paediatric populations affecting 1.3 million children worldwide. Although pulmonary disease predominates, disseminated TB with cardiac and musculoskeletal involvement is uncommon in immunocompetent paediatric patients and poses significant diagnostic and therapeutic challenges, requiring a high index of clinical suspicion.

Case description: We report the case of a 15-year-old male who migrated from Eritrea to Switzerland, presenting with chronic cough, intermittent dyspnea, night sweats, fatigue and a progressive atraumatic swelling of the right elbow. The patient was oligosymptomatic from a cardiovascular perspective, with persistent tachycardia and asymmetric thoracic expansion. Imaging demonstrated extensive pleuro-pulmonary TB and right elbow arthritis with intramuscular abscesses; constrictive pericarditis with reduced biventricular systolic function was incidentally detected during cardiac evaluation. Microbiological diagnosis was established by detection of pansensitive Mycobacterium tuberculosis in respiratory samples (sputum GeneXpert and cultures) and material from percutaneous drainage of the right elbow cold abscess. Additional findings included cholestatic liver dysfunction and reduced pancreatic elastase suggesting abdominal involvement. The clinical picture was further complicated by a long-standing malunion of an

untreated femoral fracture, causing limping and reduced mobility. Antitubercular therapy with HRZE was initiated and extended to 12 months due to osteoarticular involvement, combined with corticosteroids for pericarditis. Given the patient's oligosymptomatic status, young age and absence of pericardial calcifications, a multidisciplinary team opted for conservative management, avoiding pericardiectomy and ensuring close cardiological follow-up. Progressive clinical improvement was observed under therapy.

Conclusion: This case underscores the complexity of disseminated tuberculosis in paediatrics, with rare cardiac involvement in an immunocompetent patient. Young age, preserved compensatory capacity and reduced mobility may explain the paucisymptomatic presentation. Tuberculous pericarditis should be considered even when cardiac symptoms are mild. In the absence of calcification and when inflammatory constriction is suspected, conservative management may be effective, avoiding high-risk pericardial surgery.

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HSV-induced NMDA antibody encephalitis: A rare occurrence

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Introduction: N-methyl-D-aspartate (NMDAr) receptor encephalitis was first described in 2007 by Josep Dalmau. The post-herpetic encephalitis (HE) development of anti-NMDA receptor antibodies leading to autoimmune encephalitis (AIE) is a very rare occurrence.

Observation: An 18-month-old female infant, born to non-consanguineous parents, was included. She was born at term with good primary adaptation, was up-to-date on her vaccinations, had good psychomotor development, and no significant family history of NMDA. She was referred to our center after receiving three weeks of IV acyclovir. Clinical examination revealed cognitive impairment, a decreased level of consciousness, and abnormal movements such as dyskinesia. CSF analysis revealed moderate pleocytosis with an absence of HSV antigen and the presence of anti-NMDAr antibodies. EEG showed diffuse slowing. Brain MRI revealed diffuse white matter abnormalities. The patient was started on a course of corticosteroids with intravenous globulin therapy.

Conclusion: The association between HE and IE with anti-NMDAr antibodies is rare; only a few cases have been reported in the literature. Management is multidisciplinary. The prognosis depends on the early diagnosis and the therapeutic response.

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Kingella kingae endocarditis complicated by embolic stroke and cerebral edema requiring decompressive craniectomy in a 9-month-old child

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Introduction: Kingella kingae (K. kingae) primarily affects children aged 6-48 months, typically causing osteoarticular infections. While endocarditis is a recognized manifestation, embolic stroke secondary to K. kingae endocarditis is rarely reported in infants.

Case Presentation: A 9-month-old healthy child presented with fever and general decline. Initial examination revealed right hemiparesis and suspicion of right hemineglect. Suspecting meningitis, cerebrospinal fluid was collected and analysed. Antibiotic therapy was initiated. CT-scan imaging showed ischemic left middle cerebral artery stroke with thrombosis, unfortunately beyond the time window for thrombolysis. Cerebral embolism was suspected. Echocardiography revealed moderate regurgitation and lesions suspect of vegetation on the mitral valve. The probable cause of the stroke was attributed to embolism from left heart endocarditis. Since no hemocultures were collected prior to antibiotic therapy, etiology of endocarditis was investigated in cerebrospinal fluid and K. kingae was detected by PCR. Despite therapy with cefotaxime, metronidazole, and dexamethasone, the patient developed progressive neurological deterioration. A second CT-scan on day 6 showed stenosis of left posterior communicating artery, expansion of the ischemic zone with mass effect and signs of brain herniation, leading to urgent decompressive craniectomy. PET CT-scan didn't show osteoarticular damage. Blood cultures collected after the start of antibiotics remained sterile. The patient received 4 weeks of cephalosporin treatment along with angiotensin-converting enzyme (ACE) inhibitors and diuretics for blood pressure control and cardiac management.

Outcome: With intensive rehabilitation, the patient has been demonstrating ongoing neurological improvement, though right arm hemiparesis persists. Ophthalmologic examination reveals probable right homonymous hemianopsia. Echocardiography continues to show moderate mitral regurgitation, normal left ventricle dimension and systolic function.

Conclusion: This case highlights the importance of clinical suspicion for K. kingae in young children with invasive infections and the potential for life-threatening cardioembolic complications. Despite detection of K. kingae only in cerebrospinal fluid, this remains the most probable cause of this patient's endocarditis. Early recognition, antibiotherapy, and neurosurgical intervention were crucial for patients' survival.

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Common symptoms, uncommon diagnosis

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Background: Abdominal tuberculosis is the sixth most common site of extra pulmonary tuberculosis. Due to its nonspecific gastrointestinal symptoms mimicking other common gastrointestinal diseases, it often leads to misdiagnosis and delayed treatment, therefore increasing the risk of complications. Consequently, it is important to increase awareness of this pathology.

Case description: A 14-year-old male, originally from Somalia and living in Switzerland for almost 1 year, presented in the emergency room with an acute onset of severe abdominal pain in the upper quadrants associated to vomit and anorexia. Clinical evaluation revealed hypotension (84/54 mmHg) and moderate dehydration, with subsequent parenteral rehydration of the patient. The abdominal clinical examination demonstrated a painless mass in the right upper quadrant. Laboratory exams showed an increased CRP (100mg/l), hypochromic and microcytic anaemia and leucopenia. An acute pancreatitis was excluded due to normal pancreatic enzymes and absence of pancreatic inflammatory signs in abdominal echography. Abdominal imaging showed multiple abdominal lymphadenopathies highly suspicious of lymphoma. The IGRA test was positive. Lymph nodal biopsies were taken that showed necrotizing granulomatous lymphadenitis and PCR resulted positive for M. tuberculosis complex. Urine analysis and lung X-ray were negative. The patient was finally diagnosed

with abdominal tuberculosis and a tubercolostatic treatment was initiated.

Discussion: This clinical case highlights the ability of abdominal tuberculosis to mimic lymphoproliferative disease on imaging studies, emphasizing the importance of considering other aetiologies in the differential diagnosis of suspected abdominal malignancy. Abdominal pain, vomiting, and anorexia are common symptoms that overlap with many common paediatric conditions. Maintaining a high index of suspicion for abdominal tuberculosis, particularly in patients from endemic areas or with relevant risk factors, is essential to avoid misdiagnosis and unnecessary invasive procedures. Early recognition and timely treatment are crucial for favourable outcomes and reducing possible complications such as intestinal obstruction, bowel perforation, intra-abdominal abscess formation and in severe cases miliary tuberculosis.

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The "Upside Down" of Pediatric Tuberculosis: Paradoxical Reaction — A Case Report

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A 2-year-old boy was admitted for suspected pulmonary tuberculosis (TB). He had presented many weeks of intermittent productive cough and wheezing, unresponsive to bronchodilators and inhaled corticosteroids, and recurrent low grade febrile episodes. He was presumably taking isoniazid prophylaxis for the last 5 weeks following contacts with a family member diagnosed with active tuberculosis. However, preventive therapy was started late, and adherence was suboptimal due to frequent vomiting. On admission, the child was clinically stable, with neutrophilic leukocytosis (11.2 G/L) and CRP 11 mg/L. Chest X-ray (CXR) showed bilateral mediastinal lymphadenopathy. The diagnosis of tuberculosis was supported by documented exposure and positive PCR for Mycobacterium tuberculosis on gastric aspirate. Triple oral antituberculous (aTB) therapy with isoniazid, rifampicin, and pyrazinamide was initiated with pyridoxine supplementation. After confirmation of adequate treatment adherence, the patient was discharged on home based directly observed therapy and coordinated outpatient follow-up. Over the next 2 months, clinical deterioration was observed with persistent cough and changes in lung auscultation between supine and upright positions. CXR revealed increased mediastinal lymphadenopathy, with suspicion of left bronchial compression. Bronchoscopy revealed a left endobronchial partially obstructive lesion, highly suggestive of granulomas. Control cultures were negative. Triple aTB treatment was prolonged for 4 more weeks and systemic corticosteroid therapy was added for a presumptive diagnosis of paradoxical reaction (PR) causing bronchial compression. Clinical and radiological improvement were subsequently observed within 2 weeks, with complete recovery at 4 weeks.

Discussion and Conclusion: PR during aTB therapy, defined as clinical or radiological worsening of pre-existing lesions or the appearance of new lesions despite appropriate treatment and good adherence, are increasingly recognized in pediatric TB. This immune-mediated phenomenon may involve lymph node enlargement and be mistaken for treatment failure, drug resistance, or disease progression. It may lead to unnecessary diagnostic procedures or therapeutic changes. Awareness of PR, even in immune-competent patients, is therefore crucial to avoid misinterpretation of radiological findings and unnecessary modification of therapy. Close multidisciplinary follow-up is essential to ensure appropriate management.

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Peripheral Facial Palsy and Headache: A Pediatric Case of Lyme Neuroborreliosis

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Lyme neuroborreliosis occurs in approximately 10–15% of patients with Lyme borreliosis in Europe and is most commonly associated with Borrelia garinii [1]. In children, it mainly presents as acute peripheral facial nerve palsy and/or lymphocytic meningitis, accounting for nearly 90% of pediatric cases [2–4]. Diagnosis relies on inflammatory changes in the cerebrospinal fluid (CSF) together with the presence of Borrelia-specific antibodies in CSF, as isolated serum serology has limited diagnostic value [1, 2, 5].

An 8-year-old girl presented with a right-sided peripheral facial nerve palsy. History revealed frontal headaches evolving over two weeks, controlled by paracetamol but recurring at night when omitted, without associated neurological or visual symptoms. Asthenia and a subfebrile state were reported. Medical history included recurrent herpes labialis and a tick bite during summer 2025, without erythema migrans or arthralgia.

Neurological examination showed a flaccid right peripheral facial palsy involving the entire hemiface, with positive Bell's and Souques' signs. No meningeal signs or systemic abnormalities were noted. Initial blood tests showed negative HHV serologies and Borrelia IgM, with positive Borrelia IgG. Due to persistent headaches, lumbar puncture was performed and revealed lymphocytic meningitis. The patient was treated with intravenous ceftriaxone followed by oral doxycycline, with rapid clinical improvement.

Confirmatory immunoblot testing for Borrelia IgM and IgG was negative. However, CLIFA serology showed positive IgM and IgG. CSF analysis by CLIA revealed markedly elevated IgG and IgM levels, and CSF CXCL13 was significantly increased (>800 pg/mL), exceeding diagnostic thresholds. These findings confirmed Lyme neuroborreliosis.

In patients presenting with peripheral facial palsy associated with headaches, neuroborreliosis should be considered. A serology with negative IgM but positive IgG does not exclude an active infection.

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A Silent Crisis: A Pediatric MOGAD-ADEM Case to Remember

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Background: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) is a rare autoimmune demyelinating disorder of the central nervous system, primarily affecting children and young adults. Clinical manifestations include optic neuritis (ON), transverse myelitis (TM), acute disseminated encephalomyelitis (ADEM), and cerebral cortical encephalitis (CCE).

Case description: We report a previously healthy 4-year-old boy who presented with dysphagia, mutism, and motor deficits

rapidly progressing to tetraparesis and seizures. Magnetic resonance imaging (MRI) revealed multifocal T2 hyperintensities affecting supratentorial and infratentorial regions. Anti-MOG antibody titers were markedly elevated in the serum (1: 320, reference: <1: 10) but were not detectable in the cerebrospinal fluid (CSF), which showed only mild mononuclear pleocytosis. After initial treatment with high-dose intravenous methylprednisolone and immunoglobulins (IVIG) clinical deterioration including focal to bilateral tonic-clonic seizures and progressive lesions in the MRI, were observed. Therapy was escalated with plasmapheresis, after which gradual neurological improvement occurred following a short period of hyperactive delirium. At discharge after 17 days, the patient was symptom-free and steroids were gradually tapered. At 12-month follow-up, no relapses were observed and anti-MOG antibody titers declined to 1: 10.

Discussion: This case presents a severe instance of MOGAD-ADEM in a child with bulbar involvement and rapid progressive central motor symptoms. In children, ADEM and ON are the most common MOGAD phenotypes (each 41%), followed by TM (12%) and CCE (5%), whereas adults predominantly present with ON (56%). MRI is essential for diagnosis, typically showing large lesions in the supratentorial white matter, cortex, deep gray nuclei, and thalamic and basal ganglia, occasionally mimicking leukodystrophy. The diagnosis is supported by the presence of anti-MOG antibodies in the serum, which are rarely detectable in the CSF. Acute attacks are treated with high-dose steroids, and in severe cases, IVIG and plasma exchange may be required. Prognosis is generally very good, with most cases achieving near complete recovery, however, maintenance therapy may be required in cases of severe residual deficits or relapsing episodes.

Conclusion: This case highlights the fulminant yet reversible nature of pediatric MOGAD-ADEM, the importance of early diagnosis, and therapeutic options.

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Case report: Trisomy 5P

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Complete trisomy 5p, resulting from mirror duplication of the entire short arm of chromosome 5, is among the rarest autosomal trisomies, with fewer than 20 cases reported worldwide. Its phenotypic spectrum – marked by craniofacial dysmorphism, profound hypotonia, congenital heart defects, and life-threatening respiratory failure – remains incompletely defined despite prenatal diagnostic advances, posing substantial challenges for counselling and management.

Case presentation: We report the case of a female infant diagnosed prenatally with complete trisomy 5p following cytogenetic identification of a supernumerary derivative chromosome 5 with mirror duplication of the entire short arm. Pregnancy was complicated by severe polyhydramnios. At birth, the patient exhibited profound hypotonia and severe respiratory distress requiring immediate resuscitation and prolonged ventilatory support. Dysmorphic features, congenital heart defects, extensive central nervous system malformations with obstructive hydrocephalus, diaphragmatic hernia with diaphragmatic paralysis, feeding difficulties, and chronic respiratory insufficiency were documented. In view of the severe multisystem involvement and anticipated poor prognosis, goals of care were redirected toward a palliative approach through shared decision-making with the family. At 8 months of age, the patient remains alive with significant neurodevelopmental impairment and recurrent respiratory infections.

Discussion: This case broadens the phenotypic spectrum of complete trisomy 5p, particularly by detailing severe neuroanatomical abnormalities and diaphragmatic involvement, features only rarely described in prior reports. The clinical course illustrates the challenges of prognostic counselling, decision-making regarding life-sustaining treatments, and long-term care planning in ultra-rare chromosomal disorders with profound morbidity.

Conclusion: Each additional observation of complete trisomy 5p contributes essential information on phenotypic variability, survival, and complications. This report provides clinically relevant data for counselling and supports the need for systematic case aggregation and collaborative research to guide prognosis and optimise management for affected patients and their families.

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From Sedation to Participation: Early Mobilization in the PICU Through a Multidisciplinary Lens

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Introduction: Over the past decade, declining mortality in pediatric intensive care units (PICUs) has shifted focus toward preventing PICU-acquired morbidities, including weakness, delirium and agitation. Immobility is a key modifiable risk factor associated with multi-organ dysfunction, delayed recovery, and long-term impairment in quality of life (1).

Case Report: We report the case of an 11-year-old girl with polytrauma following a ski accident. Injuries included bilateral lung contusions and lacerations, left-sided hemopneumothorax with rib fractures, thoracic spinous process fractures (T2–T6), posterior right hip dislocation, and fractures of the scapula and clavicle. The patient required intubation, chest drainage, vasopressor support, and prolonged mechanical ventilation with two failed extubation attempts. Despite the severity of her injuries, early mobilization was initiated on hospital day 3 with bedside activities while the patient was awake and intubated. Mobilization was performed twice daily through close interdisciplinary coordination. Following successful extubation, the patient was mobilized out of bed standing on day 15.

Discussion: The ICU Liberation movement seeks to shift critical care culture away from deep sedation and immobility toward care that enables patients to remain as awake, interactive, and mobile as safely possible. The ABCDEF bundle, developed by the ICU Liberation Collaborative, provides a structured framework for this approach, with early mobility as a central component. In pediatric patients, early mobilization remains underutilized due to resource and time constraints, safety concerns, restrictive sedation practices, and limited patient ability or motivation to cooperate (1). This presentation emphasizes the collaborative efforts of physicians, nurses, physiotherapists, the patient, and her family, focusing on how these barriers were successfully overcome. Perspectives and challenges from all parties involved were explored through structured interviews, offering insight into key facilitators of early mobilization in pediatric critical care.

Conclusion: This case demonstrates that early mobilization in a critically ill pediatric polytrauma patient is safe and feasible when supported by optimized sedation strategies, interdisciplinary teamwork, and strong patient engagement.

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Effect of Long-Term Sepiapterin Treatment on Dietary Phenylalanine Tolerance in Patients with Phenylketonuria: Interim Results from the APHENITY Extension Study

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Introduction: In patients with phenylketonuria (PKU), a phenylalanine (Phe)-restricted diet can adversely affect growth, nutrition and health-related quality of life. Therefore, diet liberalization is an important treatment goal. Sepiapterin (PTC923) is a novel oral treatment in development for PKU. The phase 3 APHENITY study (NCT05099640) evaluated sepiapterin in a broad PKU population. Here, interim results from the ongoing open-label extension (NCT05166161) are reported.

Methods: The extension includes participants who have completed APHENITY and newly recruited participants who have not previously participated in a PTC-sponsored phase 3 trial; planned treatment duration is ≥12 months. Participants with mean blood Phe levels <360 µmol/L during Month 1 of the extension study underwent a 26-week dietary Phe tolerance assessment, during which changes in prescribed Phe were implemented, and blood Phe levels and dietary Phe consumption (from 3-day diet records every 2 weeks) were assessed. Other participants continued sepiapterin treatment, and gradual diet liberalization was optional if diet was stable with blood Phe levels <360 µmol/L for two consecutive months.

Results: As of September 2, 2024, 169 participants had received sepiapterin (median age, 14.0 years [min, max: 0.2, 55.0]). Overall, 102 participants had mean blood Phe levels <360 µmol/L during Month 1 and underwent 26 weeks of dietary Phe tolerance assessments. Nearly all participants (97%) increased their dietary Phe intake at any time point, with a significant increase from baseline to Weeks 25–26 ($p<0.0001$). Overall, 66% of participants reached their age-adjusted recommended daily protein intake allowance, whilst no longer requiring protein substitutes; 73% doubled and 34% tripled their Phe intake from baseline. All participants on protein substitutes at baseline were able to decrease this by at least 50% at Weeks 25–26. The incidence of treatment-related adverse events (AEs) in all participants was 29%; the most common were headache (8%), diarrhea (8%), discolored feces (4%), vomiting (3%) and fatigue (2%). Three participants (2%) discontinued treatment due to treatment-related AEs (constipation and nausea [n=1], increased bleeding tendency [n=1], headaches [n=1]); there were no treatment-related serious AEs.

Conclusions: Interim results of the APHENITY extension study demonstrate the potential for meaningful liberalization of the highly restrictive diet in a broad range of patients with PKU.

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Sepiapterin Treatment and PKU-QOL Outcomes in Children, Adolescents and Adults with PKU: Results From the Dietary Phenylalanine Tolerance Subgroup in the APHENITY Long-Term Extension Study.

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Introduction: The PKU-QOL is a well-validated disease-specific questionnaire capturing health-related quality of life (HRQoL) aspects important to patients with PKU. Here, we report HRQoL data in sepiapterin-treated participants with PKU from the APHENITY extension study (NCT05166161).

Methods: Primary outcomes of the study include long-term safety and dietary Phe tolerance, with a secondary outcome of HRQoL assessed using the PKU-QOL. PKU-QOL assessments were conducted at 6-month intervals using age-appropriate questionnaires (Child, Adolescent or Adult), validated in the participants' local language. Twenty-four domains were evaluated, considering items common across the questionnaires for all participants aged ≥9 years. Scores are reported for the dietary Phe tolerance subgroup after 1 year of sepiapterin treatment.

Results: As of September 2024, 169 participants were enrolled, of whom 102 participated in the dietary Phe tolerance assessment during the initial 7 months of the study. Of those, 72 participants were aged ≥9 years (range, 9–54 years). Between 55 and 57 participants reported baseline PKU-QOL assessments, depending on the module(s). After 1 year of sepiapterin treatment, improvements were seen in 21/24 domains, with significant improvements ($p<0.05$) in nine domains (estimated as least-squares mean absolute changes from baseline [95% CI]). For example, for "PKU Symptoms", sepiapterin treatment resulted in marked reductions in severity of slow thinking (−12.9 [−19.572, −6.228]; p=0.0002) and lack of concentration (−10.8 [−19.025, −2.652]; p=0.01). For "PKU in General", a reduction in emotional impact (−8.3 [−13.457, −3.131]; p=0.0019) represented a key driver toward reduction in overall PKU impact scores (−5.7 [−9.889, −1.530]; p=0.0079). Reductions in the impact of protein substitutes on family (−4.8 [−9.179, −0.416]; p=0.0322) along with the social impact of dietary protein restriction (−9.1 [−13.191, −5.038]; $p<0.0001$) across two different modules, were especially meaningful, linking a more liberalized diet to improved HRQoL.

Conclusions: Key domains regarding PKU symptom burden and impact severity across four modules of the PKU-QOL demonstrated meaningful and durable improvements after 1 year of sepiapterin treatment in participants in the dietary Phe tolerance subgroup aged ≥9 years.

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Sepiapterin Responsiveness Over 14 Days in Children and Adults with Phenylketonuria: Pooled Results from Three Phase 3 Clinical Trials

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Introduction: The efficacy and safety of oral sepiapterin were assessed in three international Phase 3 studies: APHENITY (NCT05099640), the APHENITY Extension Study (NCT05166161) and AMPLIPHY (ISRCTN79102999). This analysis assessed the (1) overall response rates to sepiapterin treatment over 14 days, and (2) the time for participants to have a sustained response following treatment initiation with sepiapterin, in APHENITY, the APHENITY Extension Study and AMPLIPHY.

Methods: A total of 298 children and adults with uncontrolled PKU (blood Phe ≥360µmol/L) in APHENITY (n=156), the APHENITY Extension Study (n= 60) and AMPLIPHY (n= 82) underwent a 14-day, open-label response test with sepiapterin (up to 60 mg/kg/day). Blood Phe levels were measured at baseline (Days –1 and 1 pre-dose) and at three time points during the first 14 days of sepiapterin treatment (APHENITY and the APHENITY Extension Study: Days 5, 10 and 14; AMPLIPHY: Days 7, 10 and 14). To assess individual sepiapterin responsiveness, mean blood Phe values from the three post-treatment time points were compared with the mean value of the two predose time points. Participants were considered responsive to sepiapterin treatment if they achieved a mean reduction in blood Phe concentration of ≥15% from baseline over the first 14 days of treatment.

Results: Overall, 77.2% of participants (230/298) were classified as responsive to sepiapterin treatment with a reduction from baseline in blood Phe of ≥15% in the first 14 days of treatment in APHENITY (n=114), the APHENITY Extension Study (n=47) and AMPLIPHY (n=69). Of these participants, 87.8% (202/230) achieved a reduction from baseline in blood Phe levels of ≥30% in the first 14 days of treatment. Among those classified as responsive (n=230), mean (SD) blood Phe levels decreased from 728.6 µmol/L (292.8 µmol/L) at baseline to 304.2 µmol/L (226.7 µmol/L) over the first 14 days of treatment, representing a mean (SD) absolute reduction of 424.4 (221.0) µmol/L and a mean (SD) percent reduction of 58.7% (20.3%). Among participants who achieved a sustained reduction in blood Phe levels from baseline of ≥15% (n=222) and ≥30% (n=190), the median and 90th percentile times to response were 5.0 and 8.0 days for both.

Conclusions: Most participants enrolled in the Phase 3 APHENITY and AMPLIPHY studies and the APHENITY Extension Study achieved a sustained response to sepiapterin within 14 days.

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The Swiss Red Blood Cell Disease Registry (RBCR) – an Introduction

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Introduction: Hereditary Red Blood Cell Diseases (RBCD), including sickle cell disease, thalassemia, Diamond–Blackfan anemia, and other rare red blood cell disorders, are chronic conditions often manifesting in early childhood and associated with substantial morbidity. Due to migration and improved survival, the number of affected children and spectrum of diseases in Switzerland are rising. However, national epidemiological data and harmonized long-term care strategies are lacking. A nationwide registry is therefore intended to systematically capture demographics, disease characteristics, treatments, complications, and outcomes from childhood through adulthood, and to support transition of care, and facilitate clinical research.

Methods and analysis: The Swiss Red Blood Cell Disease Registry (RBCR) is a nationwide, prospective, non-interventional patient registry designed to (1) document the epidemiology of pediatric and adult RBCD in Switzerland, (2) longitudinally capture clinical course, complications, and treatment outcomes, and (3) generate real-world evidence to support standardized care and future interventional studies. The RBCR is designed to be multicenter and intends to add further Swiss treatment centers in the future. Data are collected as part of routine clinical care using REDCap®, a secure electronic case report. The RBCR includes information on demographics, genetic and laboratory data, transfusion requirements, disease-related complications, pharmacological therapies, and curative approaches such as hematopoietic stem cell transplantation and gene therapy. Analyses will primarily be descriptive, with exploratory correlation analyses to identify disease modifiers and outcome determinants. We expect to include approximately 300-500 patients by end of 2027.

Ethics and disclosure of results: The RBCR is conducted in accordance with the Declaration of Helsinki and approved by the responsible cantonal ethics committees. It received support from the Swiss Society of Pediatric Hematology and Oncology (SSPHO) and the Swiss Red Blood Cell Network of the Swiss Society of Hematology (SSH). Funding support is received via competitive and non-competitive industry grants, Results will be published through national and international scientific meetings, peer-reviewed publications, and collaboration with patient advocacy networks, aiming to improve lifelong care and outcomes for children and adults with RBCD.

P 42

Recurrent urinary stones revealing a rare genetic disorder

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Introduction: Primary hyperoxaluria type 1 (PH1) is a rare genetic disorder characterized by an initial accumulation of calcium oxalate in the kidneys. Over time, these deposits can lead to a progressive decline in glomerular filtration rate (GFR) and progression to chronic kidney disease and systemic oxalosis. The prevalence of PH1 varies from 1 to 3 per 1,000,000. PH1 accounts for 85% of cases.

Case Study: A 20-month-old female infant, born to non-consanguineous parents, presented with a history of recurrent kid-

ney stones. Clinical examination revealed global growth retardation. Baseline laboratory tests were normal except for vitamin D deficiency. Abdominal and pelvic ultrasound revealed nephrocalcinosis. Morphological analysis of the stone showed it to be composed of calcium oxalate monohydrate. Analysis of blood and a 24-hour urine sample confirmed hyperoxaluria-hyperoxalemia. Ophthalmological examination and echocardiography were unremarkable.

Comment: Diagnostic confirmation of PH1 can be achieved through genetic testing (AGXT gene). Early diagnosis allows for appropriate management to slow the decline in renal function. Fortunately for our patient, the therapeutic trial with pyridoxine was positive.

Conclusion: PH1 is a rare genetic disease with autosomal recessive inheritance. Genetic counseling is available. The prognosis is linked to early management and therapeutic response.

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Griscelli Syndrome Type II: A Disorder not to be Overlooked

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Introduction: Griscelli syndrome type 2 (GS2) is a rare, autosomal recessive genetic disorder. It is characterized by partial oculocutaneous albinism associated with variable cellular immunodeficiency. It is caused by a mutation in the Rab27A gene located on chromosome 15q21.

Case Study: A 9-month-old male infant, born to non-consanguineous parents, had one deceased sibling in infancy. He was hospitalized for recurrent bronchopulmonary infections. Clinical examination revealed a distinctive physical appearance with silver-gray hair, depigmented eyebrows, and a fair complexion. He also exhibited good growth and normal psychomotor development. Laboratory tests, blood smears, and baseline immunological assessment were normal. Examination of the hair structure under a light microscope is currently underway.

Discussion: The diagnosis of GS2 is straightforward. It must be made early, before the onset of macrophage activation syndrome, which is often fatal without an allogeneic bone marrow transplant. The absence of giant intracytoplasmic granules on the blood smear ruled out Chediak-Higashi syndrome.

Conclusion: GS2 is a rare genetic disease. A definitive diagnosis can be made using molecular biology techniques. This allows for genetic counseling and enables the planning of a bone marrow transplant, the only curative treatment. Prenatal diagnosis is possible.

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Sudden deafness in a young girl reveals an extremely rare disease

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Introduction: Cogan's syndrome (CS) is a rare autoinflammatory or autoimmune disease of unknown origin characterized by interstitial keratitis (IK) and audiovestibular dysfunction. Approximately 300 cases have been reported to date. It primarily affects young adults. Cases in affected children are sporadic.

Case study: A 14-year-old girl, followed in ophthalmology for persistent keratitis, presented with fever, headache, and sudden deafness that appeared after 6 months. The clinical examination was unremarkable except for the auditory and ocular involvement. Baseline laboratory tests, as well as infectious and immunological workups, were normal except for an inflammatory syndrome. Brain imaging was normal. Audiograms and auditory brainstem response (ABR) tests revealed severe bilateral sensorineural hearing loss. The child was started on corticosteroids.

Discussion – Conclusion: The diagnosis of CS is primarily clinical. Diagnosis aims to rule out infections (mainly syphilis and Lyme disease) and relies on a good response to corticosteroid treatment. No test can definitively confirm the diagnosis, although laboratory tests, audiograms, and imaging can be helpful in supporting it and ruling out other possible causes.

P 45

McCune-Albright Syndrome: A Rare Disorder

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Introduction: McCune-Albright syndrome (MAS) is characterized by fibrous dysplasia (FD), café-au-lait spots, and precocious puberty (PP). It is a rare disease, with a prevalence estimated between 1/100,000 and 1/1.000.000. Activating somatic mutations in the GNAS gene, located on chromosome 20q13 and encoding the α subunit of the Gsα regulatory protein, are responsible for this condition.

Observation: A 6-year-and-5-month-old girl was referred by her primary care physician for precocious puberty. She was 122 cm tall and weighed 23 kg. Clinical examination revealed S2 with developed, pigmented labia and P2 pubic hair. The blood tests showed an E2 level of 75 pg/ml with undetectable gonadotropins. Pelvic ultrasound showed a stimulated uterus with polycystic ovaries. A single, irregular café-au-lait spot was noted on the right flank. Bone age was advanced by one year. Thyroid function tests and androgen levels were normal. Treatment with an aromatase inhibitor was initiated.

Discussion: The diagnosis is generally clinical. The evaluation of patients with MAS should be guided by knowledge of all possible manifestations and by appropriate investigations. Genetic testing is possible but not always available.

Conclusion: MAS is a rare disease. Genetic counseling should be offered, although MAS is not hereditary. Malignant transformation of DF lesions is rare and probably occurs in less than 1% of cases.

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Syncope during sports in an adolescent as the first presentation of Wolff Parkinson White Syndrome

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Background: Syncope in adolescents is usually benign due to reflex syncope. However, syncope during exercises may indicate a cardiac disorder associated with increased risk of sudden cardiac death (SCD). One extremely rare cause of cardiogenic syncope is Wolff–Parkinson–White syndrome (WPW-S). It has a prevalence of 1-2: 1,000 people and estimated risk of SCD 1: 1,000 WPW patients-years. Consequently the risk of SCD due to WPW-S in the population is 1-2: 1,000,000 people-years.

Case Presentation: We report a 15-year-old female with a first-ever episode of palpitations and immediate syncope during exercises. The episode suggested a cardiogenic origin: sudden forward fall, facial trauma (severe chin wound), open eyes during the 10 seconds event, absence of prodrome, post-event confusion. On admission, she was hemodynamically and neu-

rologically stable. Resting electrocardiography revealed ventricular pre-excitation, confirming the unexpected diagnosis of WPW-S. Continuous cardiac rhythm monitoring showed no arrhythmias. Beta-blocker therapy was initiated, the patient remained without symptoms during hospitalization. She is awaiting an electrophysiological study and radiofrequency ablation as definitive treatment for WPW-S and the risk of SCD.

Conclusion: This case underscores the importance of a detailed anamnesis to recognize a cardiogenic syncope in adolescents with exertional loss of consciousness. It highlights the diagnostic value of basic complementary studies, such as electrocardiography, in identifying an arrhythmic etiology. In patients with WPW-S at risk of SCD, beta-blocker therapy is an interim management until perform an electrophysiological study and radiofrequency ablation as curative treatment.

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Why do families attend pediatric emergency departments for ambulatory care?

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Introduction: Pediatric emergency departments (EDs) in Swiss hospitals are experiencing a continuous increase in patient numbers. A substantial proportion of these visits are classified as non-urgent. In parallel, shortages in pediatric primary care providers (PCPs) are expected to worsen in the coming years. This study aimed to investigate the reasons for ambulatory consultations at pediatric EDs, assess parental perception of urgency, and describe families' attachment to pediatric primary care.

Methods: Children under 16 years residing in the canton of Zurich were eligible. The survey was conducted between January and March 2024. Participants were recruited from a previous conducted quality assurance study at the EDs of the participating hospitals (n = 989, University Children's Hospital Zurich, City Hospital Zurich, Cantonal Hospital Winterthur). In total, 130 parents of children who had received outpatient care at the pediatric EDs were surveyed by telephone regarding their reasons for the ED visit and their use of outpatient pediatric healthcare services. Medical urgency was classified according to the Australasian Triage Scale, with triage scores 1–3 considered urgent and 4–5 non-urgent.

Results: Overall, 71.3% of consultations were classified as medically non-urgent, while 83.8% of parents perceived the visit as an emergency. Most consultations (71.5%) occurred outside regular PCP office hours. Most families (96.9%) reported having a PCP, and 90% regularly attended well-child visits. Most parents (89.2%) indicated that their pediatrician was their preferred first point of contact in case of acute illness, and 58.5% had already sought medical advice prior to visiting the ED. Overall satisfaction with PCP was high (93.8%); however, satisfaction regarding appointment availability was markedly lower (73.1%).

Discussion: Despite a high rate of enrolment with PCPs, most families presented to pediatric EDs with non-urgent conditions. The marked discrepancy between parental perception of urgency and non-urgent medical triage scores highlights a mismatch between parental concern and objective medical urgency. This may reflect limited parental health literacy as well as structural constraints in outpatient pediatric care, particularly restricted availability. A better understanding of families' needs and expectations is essential to develop care models that suit them – particularly in times of declining PCP availability.

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E-FAST: A Game-Changer in Rapid Diagnosis of Pediatric Splenic Injury

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Introduction: Isolated splenic injury is the most common form of blunt abdominal trauma in children. The patient's outcome depends critically on the speed and accuracy of diagnosis. Early integration of extended focused assessment with sonography for trauma (E-FAST) can be life saving, even in clinically stable patients.

Clinical Case: An 11-year-old girl fell from a galloping horse at 15: 30 while wearing a protective vest. She landed on her left side and was initially able to walk but soon developed sharp left-sided abdominal pain. There was no history of head trauma, vomiting, neurological deficit, or hemodynamic instability. After assessment at a peripheral hospital, she was transferred to a tertiary pediatric emergency department, arriving at 17: 30. Vital signs on arrival were stable: blood pressure 139/65 mmHg, heart rate 109 bpm, oxygen saturation 98% on room air, and respiratory rate 22/min. Primary survey findings were unremarkable. On secondary examination, her abdomen was soft but diffusely tender, with pronounced pain over the left flank. Emergency physicians performed an E-FAST using a routine portable ultrasound device, which revealed free fluid in the left flank and pouch of Douglas. These findings prompted an urgent formal ultrasound by the radiology team, confirming a grade IV splenic laceration with approximately 50% parenchymal devascularization and no active bleeding. The patient was admitted to the pediatric intensive care unit at 20: 15 less than three hours after arrival, for non-operative management and close observation.

Clinical Lessons and Conclusion: This case highlights the pivotal role of E-FAST as a quick, accessible, and reliable instrument in the early detection of intra-abdominal injury in children. When used efficiently by emergency physicians, it bridges the gap between clinical suspicion and definitive diagnosis, expediting expert management even in hemodynamically stable trauma patients.

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Conservative Management of Acute Non-Traumatic Mediastinitis in Children: A Case Series

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Acute non-traumatic mediastinitis is a rare and potentially life-threatening condition in childhood, and management strategies remain poorly standardized. Pediatric literature is less extensive than that of the adult population and is limited mostly to case reports and small case series. Pediatric mortality appears to be lower (<10%) than in adults (15-40%), but the rarity of this condition is associated with a risk of delayed diagnostic. Once the diagnosis is established, management remains a matter of debate. Rapid initiation of antibiotics targeting pathogens of deep neck infections, and including MRSA coverage in high-incidence settings, is clearly recommended. However, indications for surgical versus conservative management remain poorly defined: most reported cases were managed surgically and, to our knowledge, only three were fully treated conservatively.

We describe four pediatric cases of acute non-traumatic mediastinitis all managed successfully with conservative management only. The patients aged from 8 months to 10 years old presented with variable clinical manifestations and severity. The first two patients were diagnosed with descending necrotizing mediastinitis (DNM): the primary focus was pharyngitis in one case and severe viral croup with acute respiratory failure in the other. The first patient was complicated by secondary respiratory failure and the second by possibly toxin-like syndrome. The third case presented with varicella and scarlet fever-like rashes but no identified primary focus, complicated by multi-organ involvement (AST/ALT 2x the normal value, respiratory insufficiency, signs suggestive of disseminated intravascular coagulation) secondary to a probable toxic shock syndrome. The fourth case presented with fever without focus and shoulder pain. Because of the suspicion of an osteoarticular infection, an MRI was performed: the examination revealed no abnormalities on both shoulders but signs of mediastinitis. Three patients developed secondary pleural effusions, two of whom required pleural drainage. None had necessitated surgical drainage. All patients were managed conservatively with prolonged antibiotic therapy (3 to 9 weeks) and achieved complete recovery without sequelae. These cases suggest that, in carefully selected pediatric patients, a conservative, antibiotic-based approach can be both safe and effective.

P 50

Early clinical experience with a standardized protocol for ABO incompatible heart transplantation in children

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Case history: A male infant with a congenital heart defect developed end-stage heart failure requiring mechanical circulatory support at 7 months after two complex surgeries in early infancy. He was listed for heart transplantation for 5 months without a suitable offer. Therefore, a protocol for ABO incompatible heart transplantation including training and equipment was established in our hospital and matching criteria subsequently expanded to include ABO-incompatible donors. Seven days thereafter a donor organ of ideal quality and size accepted (blood group recipient O, donor A). Pre-transplant testing revealed a low anti-A1 isoagglutinin titer (1: 1) but suspected donor specific HLA antibodies (DQ2 MFI 6467, DR1 MFI 5410). Pre-operative plasma exchange was therefore undertaken, and transplantation proceeded uneventfully. Postoperatively, blood group and HLA antibodies remained low and pre-transplant DSA were interpreted as passively acquired. The patient recovered well with excellent graft function now 4 months post transplant.

Discussion: There is a window of opportunity in childhood during which an ABO-incompatible heart transplantation can be safely performed since ABO blood group antibodies are absent in newborns and develop later during infancy. This concept has been used since 1996, and with careful preparation ABOi transplants have equally good short- and longterm outcomes as ABO-compatible heart transplants. Crucial to the success is a standardized protocol, training and equipment as well as close multidisciplinary collaboration among pediatric cardiology, cardiothoracic surgery, perfusion services, nephrology, transfusion medicine, anesthesia, and intensive care teams.

Conclusion: Successful ABO incompatible heart transplantation was implemented in a 12 month old patient at the University Children's Hospital in Zürich without periprocedural or short-term complications. Factors contributing to success were institutional support, meticulous preparation and a combined team effort.

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Teaching Residents to apply Evidence in daily Practice: the Pediatric Evidence Assessment Series

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Evidence-based medicine (EBM) grounds clinical decisions with the best available scientific evidence aiming to improve patient safety, treatment effectiveness, and healthcare equity. EBM should be practiced by pediatricians across all levels of healthcare and is therefore a core learning objective of pediatric postgraduate training. Within the set of competency and outcome based learning objectives for Swiss medical students and faculties (PROFILES framework), this competency corresponds to the CanMEDS role of the Scholar. The Pediatric Evidence Assessment (PEA) series was developed by the pediatric emergency department in Bern as a structured, practice-oriented seminar to provide trainees with a systematic approach to formulating clinical questions, critically appraising the literature, and synthesizing evidence into clinically meaningful conclusions.

All pediatric trainees, working at the Pediatric Emergency Medicine (PEM) Department of Bern are eligible to participate. In an interdisciplinary seminar series developed and held by an information specialist and a PEM clinician scientist, trainees chose a clinical question, originating out of their daily practice. In a step by step approach, they transform the clinical topic into a researchable question using the PICO framework and conduct a targeted (non-exhaustive) literature search. Trainees receive guidance and continuous mentoring on their topics, searching principles, input on how to leverage AI-assisted tools, and tools to critically appraise the literature. At the end of the series, relevant publications (approximately 4–10) are selected, thematically summarized, and referenced according to evidence level. The final search strategy and results are presented discussed and evaluated at a monthly PEM staff meeting. The PEA, with the best evaluation (evaluation criteria: methodological rigor, relevance to PEM, quality of the slides (e.g., clarity, readability, design) , presentation delivery and engagement with the audience, overall) by the audience, is awarded a small prize by the department.

The PEA enables trainees to transform clinical questions into search strategies, appraise currently available evidence efficiently and critically and translate results back into their day to day practice. It is an effective educational tool to promote EBM competencies in pediatric training. It enhances future pediatricians' ability to integrate recent evidence into clinical practice.

P 53

Uncommon side effects due to a common cold: Inhaled Salbutamol as premedication causing acute toxicity

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Background: Salbutamol is widely used across various clinical settings and generally considered safe; however, its adverse effects may occur more frequently than commonly recognized.

We report a case of severe adverse drug reaction following salbutamol inhalation in an 11-year-old patient undergoing elective endoscopy. This case highlights the potential toxicity of β2-agonists and questions the routine prophylactic use of inhaled β2-agonists prior to sedation in pediatric patients without asthma who present with mild symptoms of a respiratory tract infection (RTI).

Case Presentation: An otherwise healthy 11-year-old girl was scheduled for elective esophagogastroduodenoscopy. Due to a mild upper airway infection, she received 800 µg of inhaled salbutamol and xylometazoline nasal spray in addition to routine oral midazolam prior to anesthesia. Shortly after administration, the patient developed persistent tachycardia (heart rate 160 bpm) that did not resolve with induction or maintenance of anesthesia (propofol, ketamine). Following emergence, she reported mild palpitations and blurred vision. Electrocardiography revealed corrected QT prolongation (>480 ms) and left anterior fascicular block. Arterial blood gas analysis indicated lactic acidosis (lactate 7.8 mmol/L), pH 7.30, and hypokalemia (potassium 2.8 mmol/L). Serial monitoring showed gradual normalization of lactate and potassium levels. The heart rate spontaneously returned to baseline within 8 hours and the electrophysiological changes disappeared without intervention.

Conclusion: Inhaled β2-agonists can cause clinically significant metabolic and electrophysiological disturbances in pediatric patients at conventional doses. This case emphasizes the importance of recognizing β2-agonist toxicity in periprocedural settings where prophylactic administration is common. The risk–benefit profile of routine salbutamol premedication in children with mild RTI requires further investigation, as existing evidence does not consistently demonstrate a clear clinical benefit.

P 54

Parasitic Infections Presenting with Extra-Intestinal Symptoms in Migrant Children: Three Illustrative Cases and a Pragmatic Algorithm

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Parasitic infections are frequent among children seeking asylum in Switzerland, and current recommendations include routine administration of a single dose of albendazole upon arrival. However, this strategy does not provide reliable coverage for all parasitic infections, which may therefore remain undiagnosed, particularly when clinical presentations are atypical. This case series illustrates relevant clinical presentations of parasitic infections in this population and challenges in diagnostic evaluation related to social and cultural factors.

The first patient was a 10-year-old Ukrainian boy whose blood count showed persisting eosinophilia (1.25 G/l) 2 months after receiving one dose of albendazole. Anthropometric measurements showed growth on the 5th percentile for weight and height. Stool microscopy revealed Trichuris trichiura and Giardia lamblia infection. After adequate treatment, eosinophilia resolved, and the patient showed catch-up growth with height reaching the 29th percentile.

The second patient was a 4-year-old Ukrainian girl presenting with repeated episodes of wheezing and hypereosinophilia (2.44 G/l). Serology and stool examination showed Giardia lamblia and Strongyloides spp infection. Strongyloidiasis might also explain her respiratory symptoms due to its pulmonary passage.

The third patient was a 15-year-old Afghan boy with treatment refractory iron-deficiency anemia and eosinophilia (0.78 G/l). A first stool examination did not find helminth ova and repeated stool examination was refused by the patient. A 3-day treatment with albendazole was proposed for coverage of hookworms and Trichuris trichiura. Eosinophilia and anemia resolved after albendazole treatment.

These cases highlight that parasitic infections in migrant children may present with non-digestive manifestations such as growth restriction, anemia, and wheezing, with eosinophilia as a key unifying clue. Increased clinical awareness of these presentations is essential to avoid delayed diagnosis. We propose a pragmatic diagnostic and treatment algorithm that integrates clinical features, laboratory findings, and sociocultural factors influencing access to and acceptance of diagnostic steps, aiming to support timely and culturally appropriate management.

P 55

Severe Stridor in a Child With Autism Spectrum Disorder: A Case of Bacterial Tracheitis

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Introduction: Stridor is a frequent reason for pediatric emergency department visits, most commonly caused by viral laryngotracheitis with a favorable prognosis. Bacterial tracheitis is a rare but potentially life-threatening condition that may present with severe stridor and poor response to standard therapy. Early diagnosis is challenging, particularly in children with neurodevelopmental disorders. We report a case of bacterial tracheitis in an 8-year-old child with autism spectrum disorder (ASD).

Case Presentation: An 8-year-old child with ASD presented with a 24-hour history of febrile dyspnea. On examination, the patient had severe respiratory distress with a silent chest and inspiratory stridor. There was no prior history of asthma or suspected foreign body aspiration. Initial treatment with inhaled bronchodilators for presumed lower airway obstruction resulted in minimal clinical improvement. Persistent stridor prompted administration of nebulized epinephrine. Venous blood gas analysis was within normal limits, and initial laboratory investigations demonstrated a mild inflammatory response (CRP 25 mg/L). Despite hospitalization with hourly nebulized adrenaline and intravenous corticosteroids, clinical response was limited. A trial of non-invasive ventilation was attempted but poorly tolerated and discontinued due to ASD, complicating clinical evaluation and treatment adherence. Given persistent severe respiratory distress, empirical intravenous amoxicillin–clavulanate was initiated for suspected bacterial tracheitis. The patient's condition deteriorated with sustained high fever, persistent stridor, and rising inflammatory markers (CRP 175 mg/L after 12 hours). Nasofibroscopy revealed severe tracheal inflammation with purulent secretions. Endotracheal intubation was required, and the child was transferred to a pediatric intensive care unit. Streptococcus mitis was isolated from respiratory samples. The patient was successfully extubated after three days and completed a 10-day course of amoxicillin-clavulanate, with transition from intravenous to oral therapy, resulting in a favorable outcome.

Conclusion: This case highlights the importance of considering bacterial tracheitis in children with severe stridor unresponsive to standard croup therapy. A high index of suspicion and early escalation of care are crucial, particularly in patients with neurodevelopmental comorbidities.

P 56

Evaluating the Landscape of and Measures to Improve Health Communication at the Childrens Hospital of Central Switzerland

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Background: Effective health communication is essential for coordinated, patient-centred hospital care. This quality improvement study evaluated staff's perceived quality of health communication between all hospital personnel and with families, examined the use and perceived effectiveness of communication tools, and assessed the availability and usefulness of communication training at the Childrens Hospital of Central Switzerland. The aim was to highlight actionable areas for improvement, in order to establish targeted interventions and improve health communication across all disciplines.

Methods: A questionnaire was distributed to all hospital staff between January and February 2025 (N = 752). In total, 388 staff participated, 255 completed the survey, and 233 of these responses were included in the evaluation. Statistical analyses were limited to medical staff, which was defined as including all professions directly involved with patient care (nurses, physicians, paramedical staff, diagnostic staff, and therapists). Communication quality was assessed in three domains: within the same care group, between the primary care group and other hospital professionals (including external or private practice physicians and physicians from other specialties not involved in immediate patient care), and communication with patients and families. Additional items addressed communication channels used and communication training, as well as perceived need for improvement in these areas. 47 free-text comments were collected and analysed qualitatively.

Results: Overall perceived quality of communication across all subcategories was good, with no significant and actionable differences between sex-, age-, experience-, or profession-groups. However, respondents reported several barriers to effective communication. Key findings included a perceived need for expanded practical training, overload resulting from multiple communication channels, uncertainty about staff roles, a lack of clear protocols, reduced mutual respect associated with hierarchical structures, and time constraints.

Conclusions: Medical staff perceived relevant deficits in hospital communication across professional and patient-related interfaces. Targeted quality improvement measures addressing communication training, organisational culture, rationalisation of communication channels, and time-related constraints may improve communication quality and support patient care.

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From Evidence to Practice: Deimplementation of Routine Gastric Residual Volume Monitoring in Neonatal Care

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Background: Routine gastric residual volume (GRV) monitoring persists in many neonatal units despite over a decade of evidence indicating little clinical benefit and potential harm. Avoiding routine GRV measurements has been associated with earlier attainment of full enteral feeding, improved weight gain, and potentially shorter hospital stay without increasing the risk of necrotising enterocolitis (NEC). This evidence–practice gap represents a common healthcare challenge. We therefore introduced a deimplementation strategy to align routine practice with current evidence.

Methods: A unit-wide guideline introduced on 1 December 2025 replaced routine GRV monitoring with selective assessment based on predefined safety criteria: extreme prematurity (<28 weeks), clinical signs of feeding intolerance or NEC, postoperative gastrointestinal surgery, and abnormal gastric aspirates during nasogastric tube position verification. Developed in collaboration with neonatal nursing staff and supported by pragmatic strategies, including a concise checklist informed by Smarter Medicine – Choosing Wisely Switzerland. Routine data were extracted from EPIC and analysed for two corresponding seven-week periods (1 July–19 August 2025 and 1 December 2025–19 January 2026). All neonates receiving enteral feeds via a gastric tube in non-intensive neonatal care were included. Primary outcomes were the proportions of enteral meals with GRV measurement and gastric aspirate assessment.

Results: A total of 150 neonates were included (pre-implementation n=103; post-implementation n=47). Sex distribution was similar between groups (male: 53/103 vs 22/47). Mean postnatal age was higher post-implementation (6.0 days [SD 15.1] vs 2.2 days [SD 6.2]), while gestational age was comparable (35.7 weeks [SD 3.4] vs 36.2 weeks [SD 3.9]). The proportion of enteral meals with GRV measurement decreased from 12.2% to 2.7% (mean difference -9.5 percentage points, 95% CI -11.1 to −8.0; p <0.001), representing a marked reduction. Gastric aspirate assessments declined from 27.7% to 15.4% (mean difference -12.3 percentage points, 95% CI -15.0 to -9.5; p <0.001).

Conclusion: Deimplementation of routine gastric residual volume monitoring was feasible in our neonatal setting and was associated with a substantial reduction in low-value care. Our findings suggest that evidence-informed practice changes can be incorporated into routine neonatal care when supported by pragmatic clinical tools and team-based collaboration.

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Orbital myositis revealing TRAb negative Graves' disease: an exceptional situation

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Introduction: Graves' disease (GD) is an autoimmune hyperthyroidism characterized by the presence of TSH receptor antibodies (TRAb) present in 95% of cases. GD is the most common cause of exophthalmos, which is unilateral in 15% of cases, and falling within the framework of Graves orbitopathy (GO). GO concerns half of patients with GD. The presence of GO is very rare in patients with negative TRAb.

Observation: This is a 12-year-old girl, with no previous history, who consulted for a right unilateral exophthalmos, of sudden onset, associated with pain. On ophthalmological examination of the right eye, visual acuity remained at 10/10. Examination of the appendices showed conjunctival hyperemia localized nasally, axile exophthalmos, and painful limitation of abduction. The fundus examination was without abnormalities. Ophthalmological examination of the left eye was normal. The general examination did not show any associated extra-orbital clinical signs. Cranioorbital MRI revealed myositis of the right medial rectus muscle. The etiological assessment (inflammatory, immunological and infectious) was negative. The thyroid assessment returned in favor of TRab negative hyperthyroidism. Thyroid ultrasound was normal. Thyroid scintigraphy showed homogeneous hyperuptake. The GO was treated with IV bolus corticosteroids then oral relay and a step down. After 4 weeks of monitoring, the evolution was favorable under treatment.

Conclusion: A minimal assessment should be considered in the event of any unilateral exophthalmos in order to exclude a tumoral, inflammatory process or lymphoma. However, GO must be considered in the face of any exophthalmos, and the thyroid assessment must be complete. Lymphoma can mimic GO, by infiltrating the oculomotor muscles, which may be its only manifestation. An orbital fixation in PET-CT points towards this etiology. Idiopathic intra-orbital inflammation syndrome remains the main differential diagnosis. In our patient, we retained the diagnosis of GD based on scintigraphy and hyper-FT4 evidence although the TRAbs were negative. These patients likely have low TRAb concentrations, which may be difficult to measure with current assay methods.

P 59

Behind Infantile Flaccid Paralysis: A Serious Cause Not to Be Overlooked

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Introduction: Neuroblastoma (NB) is a malignant tumor of the neural crest cells that give rise to the sympathetic nervous system. It accounts for approximately 10% of solid tumors in children under 15 years of age, with an annual incidence of about 1 in 70,000 children in this age group.

Case Study: A 9-month-old male infant with no significant past medical history and a history of incomplete vaccination was admitted to the emergency department for management of flaccid paralysis with areflexia, suggestive of Guillain-Barré syndrome. Lumbar puncture, LDH, and blood tests were normal. Both stool cultures were negative. A spinal MRI was performed, revealing a neurogenic tumor mass in the right anterior paravertebral region with extensive intraspinal extension, suggestive of an hourglass-shaped NB. Urinary catecholamine levels, a bone marrow aspirate, and MIBG scintigraphy will be essential. The patient was rapidly transferred to a specialized center for urgent, multidisciplinary care, including neurosurgery and pediatric oncology.

Discussion: In 90% of cases, NB is diagnosed before the age of five. The clinical presentation is highly variable. Therapeutic management in our patient is an emergency due to the neurological deficits, which can become irreversible at any time, hence the importance of urgent spinal cord decompression.

Conclusion: NB is a highly polymorphic tumor. Its treatment depends on the stage, age, biological factors, and operability. Despite significant diagnostic and therapeutic advances, it remains a serious tumor in certain forms, justifying continued research.

P 60

Recurrent Pancreatitis Revealing a Rare Genetic Disorder

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Introduction: Low phospholipid-associated cholelithiasis (LPAC) is characterized by the association of mutations in the ABCB4 gene and low biliary phospholipid levels with symptomatic and recurrent gallstones. It is a rare condition in pediatrics.

Case Study: A 12-year-old girl with a family history of cholecystectomy (her mother underwent cholecystectomy at age 29) and a personal history of cholecystectomy at age 10 following symptomatic gallstones was admitted for management of her fifth episode of acute pancreatitis. Baseline laboratory tests revealed lipase levels 10 times the normal value and hypertriglyceridemia. Liver Doppler ultrasound revealed a characteristic appearance with multiple foci of comet-tail artifacts related to intrahepatic bile duct microlithiasis.

Discussion and Conclusion: Once a diagnosis of LPAC is confirmed, curative or prophylactic treatment with ursodeoxycholic acid should be initiated early to prevent the occurrence or recurrence of the disease and its complications.

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Organic aciduria revealing vitamin B12 deficiency

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Introduction: The neurological manifestations of vitamin B12 deficiency are polymorphic; they can occur in isolation or be associated with hematological syndrome. We report a case of vitamin B12 deficiency revealed by methylmalonic acidemia (MMA).

Observation: A 9-month-old infant, born to a third-degree consanguineous couple, was born at term with good primary adaptation. The child was admitted for neurological distress. Clinical examination revealed**:** a deteriorated general condition, a coma scored 8/15 on the Glasgow Coma Scale for Children, and dyspnea without any apparent cause. Further investigation revealed megaloblastic anemia, severe decompensated metabolic acidosis with hyperammonemia. Vitamin B12 levels in the mother and child, as well as metabolite testing (MMA and homocysteine), confirmed vitamin B12 deficiency.

Conclusion: Vitamin B12 deficiency is rare in infants but can be observed in newborns and young breastfed infants of mothers with vitamin B12 deficiency. If left unidentified and untreated, it can lead to developmental delays or permanent neurological damage.

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Cayler's Cardiofacial Syndrome: know how to think aout it

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Introduction: Cayler Cardiofacial Syndrome (CCFS) is a rare condition. It is characterized by the combination of facial asymmetry when crying and conotruncal heart defects. In the majority of carriers, it is secondary to a microdeletion of the long arm of chromosome 22 (22q11.2). The worldwide prevalence is estimated to be between 1/4500 and 1/10000 live births.

Observation: A 7-month-old female infant, born at 36 weeks' gestation vaginally to a non-consanguineous couple with good primary adaptation, was followed in pediatric surgery for anal atresia. She was admitted for management of an anoxic episode. Clinical examination revealed right-sided facial asymmetry when crying with ptosis, hypertelorism, and small ears. The echocardiogram showed Tetralogy of Fallot. The rest of the workup to look for other malformations was normal.

Conclusion: CCFS is a rare genetic disorder. Prenatal diagnosis is possible. Genetic counseling is important. Management is multidisciplinary. The prognosis is variable and depends on the severity of the disease.

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Reversible Cerebral Vasoconstriction Syndrome: Not Just Another Bad Migraine

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Background: Reversible cerebral vasoconstriction syndrome (RCVS) is characterised by recurrent thunderclap headaches and reversible multifocal narrowing of the cerebral arteries. Although readily recognized in adults, RCVS remains uncommon in children and may be underdiagnosed. Diagnosis and management are challenging because of the limited literature on this cerebrovascular disorder in paediatrics.

Case presentation: A previously healthy 12-year-old boy presented with repetitive episodes of sudden-onset occipital headaches over a 72-hour period, accompanied by photophobia, vomiting, and autonomic symptoms, along with severe systemic hypertension documented at the Emergency Room. Neurological examination was unremarkable. Urgent brain magnetic resonance imaging (MRI) was performed and detected irregularities of the arteries of the Circle of Willis. These findings prompted the admission of the child for surveillance and further work-up. Subarachnoid haemorrhage was ruled out by a lumbar puncture. Transcranial Doppler ultrasound confirmed multifocal arterial narrowing and repeated MRI showed progressive moniliform narrowing of multiple intracranial arteries suggestive of RCVS. During the hospitalisation, the patient developed transient right-sided hemiparesis and dysarthria with complete resolution despite the occurrence of new ischemic foci detected by MRI. A treatment with nimodipine was initiated due to the persisting headaches and hypertension, resulting in rapid symptoms and blood pressure control, along with gradual normalisation of intracranial velocities and calibre on serial imaging. There was no history of exposure to recognized triggers of RCVS. Extensive biological work-up was inconclusive for any underlying systemic disorder. The patient exhibited full recovery.

Conclusion: We call attention to the importance of not attributing headache in children only to migraine, and of considering other cerebrovascular diagnoses, when red flags are present. Recurrent thunderclap headaches in children should prompt urgent neurovascular imaging to reach the correct diagnosis. RCVS requires repeated imaging, careful haemodynamic monitoring, and multidisciplinary collaboration between emergency physicians, neurologists, and radiologists, are essential for accurate diagnosis and optimal follow-up. Early recognition and management are crucial to prevent ischaemic or haemorrhagic complications and are associated with favourable neurological outcomes.

P 64

When the swim training turns toxic: chlorine gas exposure at a public swimming pool

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Introduction: Chlorine gas is a highly reactive and toxic respiratory irritant that poses significant health hazards through accidental or intentional exposure. Widely used as an industrial chemical and household disinfectant, chlorine intoxication can occur in various settings, including improper mixing of cleaning products, mishandling of swimming pool chemicals…We report two cases of 15-year-old adolescents who developed dyspnea and hypoxia following accidental exposure to chlorine gas caused by a malfunction of a swimming pool pump during a training session, resulting in the liberation of chlorine gas into the air. They developed severe symptoms after approximately 1–2 minutes of exposure and were transferred to the pediatric emergency department (PED).

Cases: The first patient had a known history of exercise-induced asthma. She immediately developed a cough and burning sensation of the upper airway. She received salbutamol and 100% O2 from prehospital providers. At the PED, she was hemodynamically stable but tachypneic with suprasternal and scalene retractions. Lung auscultation revealed decreased air entry on the right, diffuse bilateral crackles. Skin and eyes decontamination was performed. O2 therapy was continued with nebulized salbutamol/ipratropium bromide and IV methylprednisolone. Chest XR demonstrated right upper lobe atelectasis with diffuse pulmonary infiltrates.Although an initial clinical improvement was observed, the patient rapidly deteriorated, prompting transfer to the intensive care unit for non-invasive ventilation (NIV). Bronchodilator therapy and systemic corticosteroids were continued for three days, and NIV was discontinued after four days. Then the clinical course was favorable, with planned pneumology follow-up. The second patient, presented with an oxygen saturation of 91%, a respiratory rate of 42 breaths/min, dyspnea, and a sensation of throat discomfort. Management was similar to the first patient. Favorable clinical evolution and discharged after 24 hours of observation.

Conclusion: Chlorine inhalation can induce acute inflammation of the upper and lower airways, respiratory failure may occur immediately, subacutely or in multiple stages. Early recognition, supportive care and close monitoring are essential to prevent severe respiratory complications, and long-term management can be sometimes necessary because of the risk of obstructive-type bronchial hyperreactivity or a restrictive pulmonary disease

P 65

When worsening is not relapse: corticosteroid withdrawal after complicated otogenic infection

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Background: Acute otitis media complicated by mastoiditis can progress to intracranial involvement, including meningitis and epidural abscesses. It may result in cranial nerve deficits, especially in cases of petrositis. Management includes intravenous (IV) broad-spectrum antibiotics and surgical intervention. In selected cases, adjunctive corticosteroids (CS) are used to control inflammation. Clinical deterioration shortly after apparent improvement could raise concern for infectious relapse or progression and represents a diagnostic and therapeutic challenge.

Case report: A 16-year-old patient presented with complicated right-sided acute otitis media evolving to mastoiditis with bacterial meningitis, cranial nerve VI and VII palsies, and radiological evidence of petrous apex involvement with an associated epidural abscess. Empiric IV ceftriaxone and metronidazole were initiated, followed by right mastoidectomy, tympanic paracentesis and 2 mg/kg/day for 48h of IV methylprednisolone. The clinical course was rapidly favorable, with near-complete resolution of neurological and systemic symptoms. At Day 4, shortly after CS discontinuation, the patient developed sudden secondary clinical deterioration with headache and asthenia. Urgent brain MRI was performed to exclude infectious progression or cerebral venous thrombosis. It revealed new signs of meningitis and pyoventriculitis not seen on the initial imaging. These findings were possibly related to delayed radiological changes, correlating with early clinical signs of meningitis. In the absence of microbiological documentation at that time, antibiotherapy was temporarily escalated to cefepime. The patient rapidly improved, with complete symptom resolution within 48 hours. Subsequent PCR analysis identified Streptococcus intermedius susceptible to the initial antibiotics. This allowed antibiotic de-escalation to ceftriaxone. The final diagnosis for the secondary deterioration was CS withdrawal syndrome.

Conclusion: In children and adolescents treated for complicated otogenic infections, secondary neurological deterioration does not necessarily indicate infectious relapse or radiological progression. CS withdrawal syndrome should be considered when symptoms recur after abrupt discontinuation of CS in the setting of improving inflammatory markers and stable imaging. Awareness of this could indicate a gradual decrease in CS dosage to prevent unnecessary investigations and inappropriate escalation of antibiotherapy.

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Thoracic discomfort and fatigue in a young child: an atypical presentation of diabetic ketoacidosis

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Background: Diabetic ketoacidosis (DKA) remains a frequent and potentially life-threatening initial manifestation of diabetes mellitus in young children. The nonspecific presentation of diabetic ketoacidosis frequently delays diagnosis, underscoring the importance of structured physician education to improve early symptom recognition and consideration of DKA in the differential diagnosis.

Case description: A 4-year-old boy presented to our Children's Permanence (Swiss Medi Kids, Winterthur) with thoracic discomfort and fatigue. Symptoms had progressed over a few days and were accompanied by reduced oral intake and mild pollakiuria. There was no history of fever, vomiting, or diarrhoea. On our examination, the patient showed a reduced general condition, an increased work of breathing, while oxygen saturation remained normal. No abnormalities at the neurological examination were observed. Laboratory investigations revealed severe hyperglycaemia (plasma glucose 20 mmol/L), metabolic acidosis (pH 7.28, bicarbonate 6.6 mmol/L, base excess −20 mmol/L), hyponatremia (Na+ 127 mmol/L), elevated anion gap (12 mmol/L) associated to a marked glucosuria and ketonuria, confirming the diagnosis of new-onset diabetes mellitus with DKA. The patient was then admitted to hospital for metabolic stabilization and initiation of insulin therapy. Following clinical improvement, structured diabetes and nutritional education was provided to the parents. Although initially challenging due to the patient's young age, repeated counselling and initiation of continuous glucose monitoring improved caregiver understanding. At discharge, the patient was in good general condition, and showed no abnormal findings on physical examination.

Conclusion: This case underscores the importance of considering diabetes mellitus and DKA in young children presenting with nonspecific symptoms such as fatigue and thoracic discomfort. Multidisciplinary inpatient management, early caregiver education, and the use of modern glucose monitoring technologies are key to achieving safe transition to outpatient care in newly diagnosed paediatric diabetes.

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MOG antibody-associated encephalitis induced by Mycoplasma pneumoniae infection: case report.

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Background: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) is a group of inflammatory disorders caused by immune dysregulation leading to IgG antibodies targeting myelin oligodendrocyte glycoprotein in the central nervous system. Mycoplasma pneumoniae infection has recently been described as a potential trigger. We report a pediatric case.

Case report: A 12-year-old boy presented with a two-week history of fever, cough, and mild headache. Blood tests showed moderate CRP elevation and leukocytosis, and chest X-ray revealed left basal pneumonia. Nasal swab PCR was positive for Mycoplasma pneumoniae. Despite azithromycin treatment, he developed lethargy and gait instability. Blood gas and brain CT were normal, but neurological deterioration required transfer to a tertiary ICU. Brain MRI showed white matter abnormalities compatible with acute disseminated encephalomyelitis, prompting high-dose intravenous corticosteroids. His condition worsened to coma, and repeat MRI revealed widespread cortical diffusion-restricting lesions. Anti-MOG antibodies were positive. Treatment was escalated to plasmapheresis, intravenous immunoglobulins, and tocilizumab. The patient gradually improved but required rehabilitation for spastic quadriplegia and dysarthria. Three months later, he was ambulatory and returned to school, with ongoing recovery.

Discussion: Few cases of Mycoplasma pneumoniae-associated MOG encephalitis have been reported. Proposed mechanisms include cytokine dysregulation, immune cross-reactivity

between mycoplasmal antigens and myelin components, and vascular inflammation. Diagnosis relies on evidence of infection, positive MOG-IgG, and characteristic MRI findings. Standard treatment includes corticosteroids, IVIG, and macrolides; severe cases may benefit from early immunosuppressive escalation. Long-term follow-up is required due to relapse risk.

Conclusion: Although primarily a respiratory pathogen, Mycoplasma pneumoniae can cause severe neurological complications and should be considered in encephalitis.

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Multifocal osteomyelitis in a child with sickle cell disease

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Background and importance: Children with sickle cell disease (SCD) are at increased risk of severe bacterial infections and osteoarticular complications. Differentiating bone infarction from osteomyelitis remains challenging, as both may present with fever, bone pain, and non-specific imaging findings. Diagnostic delay may lead to sepsis, extensive skeletal involvement, and abscess or fistula formation.

Case presentation: We report the case of an 11-year-old boy with homozygous sickle cell disease (HbSS) and a history of recurrent vaso-occlusive crises, admitted to Geneva University Children's Hospital. He presented with progressive multifocal bone pain involving the right humerus and left knee, following four weeks of intermittent fever despite several courses of intravenous antibiotics administered in Nigeria. On admission, the patient was septic, with swelling and erythema of the right elbow and left knee. Blood workup revealed severe anemia and markedly elevated inflammatory markers. Brain MRI and funduscopic examination showed no evidence of septic emboli, and echocardiography ruled out endocarditis. Whole-body MRI revealed multiple osteomyelitis foci associated with extensive bone infarctions of the long bones and several thoracic vertebrae. Given previous hospitalization in Nigeria and digestive colonization with extended-spectrum-beta-lactamase (ESBL)-producing Klebsiella pneumoniae, empirical therapy with meropenem and vancomycin was initiated. Vancomycin was discontinued after negative results for Gram-positive bacteria. Amikacin was added after five days for synergistic effect in the context of insufficient source control. Bone biopsies identified ESBL-producing Klebsiella pneumoniae and Enterobacter cloacae as the causative agents.

Conclusion: This case highlights the diagnostic complexity of multifocal osteomyelitis in children with SCD, particularly when associated with bone infarctions. Persistent fever and multifocal limb, back, or joint pain in children with SCD should prompt early assessment for potential multifocal osteomyelitis. Empirical antibiotic regimens should consistently cover Gram-negative pathogens, especially in patients with recurrent vaso-occlusive crises, which are known to lead to intestinal barrier dysfunction and subsequent bacterial translocation. Additionally, empirical therapy should always take into account local antimicrobial resistance patterns in regions where the patient resides or has recently stayed.

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When the chest speaks, sometimes it's the liver that speaks out

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Introduction: Hepatoblastoma is the most frequent pediatric liver malignancy, accounting for 1% of all pediatric malignancies. It usually occurs before the age of 3 years and commonly presents as a painless abdominal mass. Thoracic involvement is most often related to pulmonary metastases or mediastinal lymph node disease. Primary thoracic symptoms as an initial presentation are rare and may delay diagnosis.

Case presentation: We report the case of an 8-year-old patient presenting with a 3-day history of left lower chest pain, worsened by movements and breathing, irradiating in the left upper abdomen. The pain had a sudden onset while playing with her brother without trauma or physical effort. No digestive symptoms were initially reported. On physical examination, a firm, irregular and tender mass measuring 8 × 15 cm was palpated in the left hypochondrium and flank, extending slightly beyond the midline. Both the patient and her parents described the abdominal contour as unchanged.

Investigations: Laboratory tests revealed a mild elevation in inflammatory parameters, hepatic enzymes, alkaline phosphatase and gamma-GT. Alfa-1-foetoprotein was markedly elevated at 295000 kU/L. Coagulation studies were normal. The CT scan revealed a large expansile lesion of the left hepatic lobe with extension into segment IV, measuring 7 × 15 × 16 cm (transverse × anteroposterior × craniocaudal) with cystic and necrotic components, displacing adjacent structures, staging PRETEXT III multifocal with caudate lobe involvement and negative annotation factors otherwise.

Management and outcome: The patient was transferred to a tertiary pediatric surgery center for biopsy that confirmed a fetal hepatoblastoma. Neoadjuvant chemotherapy was initiated, followed by a complete surgical resection with left hepatectomy and adjuvant chemotherapy.

Conclusion: This case illustrates an atypical presentation of hepatoblastoma in terms of initial thoracic symptoms. It emphasizes that chest pain in children should prompt a thorough clinical examination, including abdominal assessment. Significant abdominal pathology may remain unnoticed by patients and families, reminding clinicians that when the chest speaks, the liver may be the underlying cause.

P 70

Knowledge, Perceived Harms, and Reasons for Use of Disposable Electronic Cigarettes Among Youth: A Qualitative Study in Switzerland

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Background: Disposable electronic cigarettes (DEC) have rapidly gained popularity among adolescents and young adults (AYA), raising public health concerns related to nicotine dependence, exposure to potentially harmful substances, and environmental impact. While motivations for e-cigarette use have

been explored, little is known about how AYA specifically perceive and use DEC, particularly within a changing regulatory context such as Switzerland.

Objectives: This qualitative study aimed to explore AYA's knowledge, perceptions of harm, and motivations related to DEC use, using a developmental lens to better understand vulnerabilities specific to this life stage.

Methods: Eight focus groups were conducted between October and December 2022 with 51 participants aged 14-25 years living in the Swiss cantons of Vaud and Valais. Discussions were held via videoconference, transcribed and anonymized. Data were analyzed using an thematic analysis approach, with triangulation among researchers to minimize the risk of bias.

Results: Participants demonstrated widespread familiarity with DEC but limited and often imprecise knowledge regarding product composition and nicotine content. Perceptions of harm were heterogeneous and frequently ambivalent. DEC use was primarily described as driven by experimentation, peer dynamics, identity construction and transgression rather than by nicotine effects, although nicotine addiction was often described as a consequence of use. Accessibility and marketing features such as flavors, design, and social media visibility appeared central to product appeal. Differences in cantonal legislation did not clearly translate into differences in perceptions or reported behaviors.

Conclusions: DEC use among AYA reflects both developmental vulnerabilities and the influence of targeted marketing strategies. Regulatory approaches focusing solely on age restrictions are unlikely to be sufficient. Effective prevention should address product design, marketing and packaging practices, as well as information transparency, while actively engaging youth in their development. Further research on vaping-related harms is needed to inform healthcare professionals, and ongoing surveillance of DEC and tobacco-derived product use following the ban will be essential to guide future regulatory adaptations.

P 71

Oral hygiene behavior and knowledge on prevention of infective endocarditis in transition-aged adolescents with congenital heart disease

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Background and Aim: To ensure appropriate cardiac follow-up care throughout the lifespan, adolescents and young adults (AYA) with congenital heart disease (CHD) are getting transferred from pediatric to adult care. Ideally, this transfer is embedded into a long-term transition process supporting AYA on their journey to adulthood and independence. For example, it includes gaining knowledge on common complications such as infective endocarditis (IE), a possibly life-threatening bacterial infection of the heart. Individual factors such as the presence of neurodevelopmental impairments may be associated with IE knowledge. We aim to describe the level on IE knowledge in transition-aged AYA with CHD.

Methods: In total, 90 CHD patients (M = 17.9 years [SD = 1.3]) completed the Leuven Knowledge Questionnaire–CHD and the Health Behavior Scale–CHD, to assess IE knowledge and dental hygiene behaviors, respectively. Clinical data was extracted from patient charts. Proportions were described in percentages and subgroups were compared using Chi-square tests.

Results: Overall, only 55.6% of AYA recognized the correct definition of IE and only 46.7% of those indicated its most characteristic symptom. The proportion of AYA knowing the definition of IE was lower in AYA with (mild) intellectual disability (25%, 2/8) than in those without intellectual disability (58.5%, 48/82, p <0.001). There was no difference between AYA with other types of neurodevelopmental impairments (e.g., ADHD) and those without any impairments (p = 1). 79.2% of AYA were aware about the importance of good oral hygiene. Self-reported oral hygiene was mostly good with 83.7% of AYA indicating to brush their teeth at least twice daily and 88.3% having visited the dentist within the past year. Only 11.8% of AYA indicated to use dental floss regularly.

Conclusions: Despite only half of AYA recognizing the definition of IE and its characteristic symptom, most still indicated to know about the importance of good oral hygiene. This was reflected in self-reported behaviors, with an exception in the use of dental floss. Psychoeducation on IE remains important, especially during transition, as patients become increasingly autonomous and manage their disease more independently. AYA with intellectual disabilities need special support and their understanding of IE should be fostered in suitable ways, to maximize their autonomy and health-competence.

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Nursing strategies and tools to support treatment adherence in adolescents with asthma

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Introduction: Adolescence is a high-risk period for poor treatment adherence among young people with asthma, due to developmental, identity-related, and psychosocial challenges. Non-adherence is associated with poor disease control and increased healthcare utilization. Nurses play a central role in therapeutic education, identification of barriers to adherence, and support toward self-management. This literature review aims to identify effective nursing strategies and to propose clinical tools derived from the literature to support treatment adherence in adolescents with asthma.

Methods: A literature review was conducted using the PubMed database with MeSH terms and Boolean operators. Studies published between 2015 and 2025 focusing on adolescents aged 12 to 20 years with asthma were included. Nine studies were retained following a rigorous selection process. The analysis was guided by Meleis' Transitions Theory to explore nursing support during the transition toward autonomous disease management.

Results: Four main themes emerged: (1) fragile asthma control related to symptom normalization and irregular treatment adherence; (2) insufficiently supported transition toward autonomy; (3) effective nursing strategies based on age-appropriate communication, exploration of adolescents' representations, motivational interviewing, and individualized therapeutic education; and (4) the relevance of digital health tools when integrated into a structured therapeutic relationship. Based on these findings, three nursing tools were developed to support clinical practice: a pocket nursing guide, anursing transition protocol, and an educational checklist for adolescents. These tools aim to structure assessment, therapeutic education, and support toward self-management.

Conclusion: Non-adherence to treatment among adolescents with asthma results from complex and interacting factors.

Nurses play a key role in supporting the transition toward autonomous disease management. The development of structured nursing tools appears essential to improve treatment adherence and to support the quality of pediatric care.

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Pediatric Migration Health: a holistic and regional approach to newly arrived asylum-seeking children in the Canton of Vaud

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Introduction: In 2025, the Canton of Vaud reached a milestone in healthcare equity for newly arrived asylum-seeking children (0–15 years) through the full territorial deployment of the Pediatric Migration Consultation (MiP). By removing geographical and linguistic barriers, the MiP provides care access for this vulnerable pediatric population.

Objectives: Using anonymous socio-demographic data, we describe a medical evaluation framework for asylum-seeking children. The model aims to promote health equity through integrated clinical and social assessments, preventive medicine and early-access psychiatric intervention.

Methods: A descriptive analysis examines quantitative data regarding consultation volume, types of care, and the demographic profile of the children. The MiP operates via a decentralized, multidisciplinary model across 5 regional sites (Aigle, Vevey, Morges, Lausanne, Yverdon) to ensure accessibility across the Canton of Vaud. The entry check-up consists of 2-6 "pediatrician-nurse-interpreter" consultations. Specialized care includes a "psychiatrist-pediatrist" co-consultation model for psychological needs, while complex medico-social cases are managed through integrated collaboration with social workers and schools.

Results: In 2025, 539 children (aged 0–15) were evaluated with 284 completing a full entry assessment. Patients originated from 18 countries, primarily Ukraine (51%), Afghanistan (18.3%), and Turkey (10.3%). Data show a balanced age distribution (0-4 yrs: 21%, 4-8 yrs: 29%, 8-12 yrs: 26%, 12-15 yrs: 24%). For the 284 children who underwent the full assessment, evaluations covered clinical history, migration journey, vaccination status and mental health needs. Following Swiss Society of Pediatrics guidelines for migrant children, vaccinations and blood screenings were systematically offered. Over 2/3 of patients were scheduled for psychological co-consultations. This systematic evaluation improved the identification of health needs, optimized resources and reduced emergency room visits for psychosomatic issues. To confirm these outcomes, a more rigorous and comprehensive analysis is required.

Conclusion: Through its unique holistic and networked approach, the MiP has become an indispensable resource for the Canton of Vaud. It ensures healthcare equity, optimizes clinical care, facilitates integration into the Swiss healthcare system, and provides specialized expertise for all newly arrived asylum-seeking children aged 0 to 15.

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The "More Is Better" Misconception: Vitamin D Overdose in a 4-Year-Old Child

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Vitamin D supplementation is widely perceived as safe and beneficial; however, excessive intake may result in severe complications, particularly in young children. We describe a previously healthy 4-year-old boy presenting with progressive fatigue, polyuria with nocturia, constipation, and reduced activity with increased sleep over several weeks. Clinical evaluation revealed arterial hypertension; electrocardiography demonstrated ST-segment shortening, consistent with hypercalcemia. Bilateral conjunctivitis was noted as an incidental finding. Laboratory investigations demonstrated severe hypercalcemia (4.71 mmol/L), markedly elevated serum 25-hydroxyvitamin D concentrations (1226 nmol/L), and increased serum creatinine, suggestive of acute kidney injury. Urinalysis showed leukocyturia without bacterial growth. Renal ultrasonography revealed bilaterally enlarged, echogenic kidneys and no evidence of urinary tract obstruction. History revealed prolonged daily administration of high-dose vitamin D (20.000 IU/day) combined with vitamin K, along with additional calcium- and magnesium-containing supplements, for approximately two months, initiated without medical supervision for presumed immune support. Additional non-prescribed alternative substances had been administered concurrently. Given the severity of metabolic derangements and renal involvement, the patient was referred to a university hospital for specialized management. This case highlights the potential risks associated with unsupervised high-dose vitamin D supplementation in early childhood.

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Convulsive seizure or opioid intoxication? Diagnostic pitfalls in a 16–month–old

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Introduction: Opioid intoxication is an emerging public health issue in pediatrics, particularly among toddlers at risk of accidental ingestion. Clinical manifestations can be nonspecific and mimic other acute neurological disorders. In Switzerland, from 2000 to 2019, opioid–related poisoning calls to the Swiss National Poisons Information Centre increased by 177%, predominantly involving tramadol and oxycodone (PubMed link: https://pubmed.ncbi.nlm.nih.gov/36090669/). We report the case of a 16–month–old child with vomiting and abnormal chewing movements, illustrating the diagnostic challenges of opioid intoxication in early childhood.

Case description: A previously healthy 16–month–old child presented to the emergency department with repeated vomiting since the morning of admission. Parents also noted intermittent abnormal chewing movements. During observation, the patient developed reduced consciousness (Glasgow Coma Scale 7–10/15), bilateral non–reactive miosis, and bradypnea. This constellation strongly suggested opioid intoxication, and intravenous naloxone was administered, producing partial and transient improvement in alertness. Subsequently, the patient experienced a generalized convulsive seizure with hypertonia of all four limbs, ocular deviation, and trismus. Initial toxicology screening was negative for opioids, delaying confirmation of the diagnosis. Further comprehensive toxicological analysis later identified tramadol and gabapentin, confirming mixed drug ingestion. Brain MRI and cerebrospinal fluid analysis excluded encephalitis or intracerebral hemorrhage.

Conclusion: Opioid intoxication in young children may present atypically with seizures or abnormal movements, often resembling acute neurological emergencies. A negative initial toxicology screen does not rule out exposure; therefore, repeat or extended testing is essential when clinical suspicion remains high. Early recognition and prompt administration of naloxone remain crucial to prevent morbidity and support accurate diagnosis.

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Recurrent atraumatic limp in a child: when transient synovitis isn't so transient

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Introduction: An atraumatic, afebrile limp in children is a common presentation that often raises concern for transient synovitis, early inflammatory arthritis, or subacute infection. Recurrent episodes involving large joints, particularly after viral illnesses, warrant careful evaluation to exclude evolving systemic or autoimmune disease.

Case Report: A 7-year-old child presented to the emergency department with right hip pain following a recent viral infection. There was no history of trauma or fever. The child had experienced four similar episodes affecting the hips over the previous two years. Physical examination revealed right hip tenderness and limited range of motion. Laboratory studies, including inflammatory markers, were within normal limits. POCUS demonstrated a right hip effusion. The findings were reassuring against acute infection or malignancy, but early inflammatory disease could not be excluded. Given the recurrent large-joint involvement, early juvenile idiopathic arthritis was considered. Pediatric rheumatology consultation prompted testing for antinuclear antibody (ANA), rheumatoid factor, HLA-B27, and Lyme serology – all of which were negative. In the absence of fever, systemic inflammation, or chronic joint changes, recurrent transient synovitis was deemed the most likely diagnosis. The patient was treated with nonsteroidal anti-inflammatory drugs and scheduled for follow-up in pediatric rheumatology.

Conclusion: This case underscores the importance of comprehensive evaluation in children presenting with an atraumatic limp. Although recurrent transient synovitis is typically benign, repeated large-joint involvement should prompt vigilance for early inflammatory or infectious arthritis.

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Paediatric Tick-Borne Encephalitis Despite Completed Vaccination: Two clinical cases

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Tick-borne encephalitis (TBE) is a potentially severe viral infection of the central nervous system and is endemic in many parts of Europe. As no specific antiviral treatment is available, vaccination remains the most effective preventive measure. Although TBE vaccines are highly efficacious, breakthrough infections may occur for reasons that are not yet fully understood. Identifying paediatric TBE vaccine breakthrough infections is essential for timely diagnosis, appropriate management, and follow-up.

We report two cases of fully vaccinated paediatric patients who developed TBE, consistent with secondary vaccine failure. These two female patients, 9 and 14-years old, were both exposed in tick-endemic areas and presented with biphasic febrile disease course.

The first patient had gastrointestinal symptoms one week prior to admission with repeated vomiting on an empty stomach, headache and intermittent strabismus. Brain MRI showed mild bilateral supratentorial leptomeningeal enhancement. Cerebrospinal fluid (CSF) analysis revealed pleocytosis (240 cells/µL, 57% polymorphonuclear cells). Borrelia burgdorferi serology was negative. TBE serology showed serum IgG >3,000 U/mL and IgM 41.4 U/mL. TBE NS1 serum IgG antibodies were positive. At one-month follow-up, neurological symptoms had largely resolved, with mild behavioral changes such as irritability.

The second patient presented with progressive headache, vomiting, bilateral leg weakness, dizziness, diplopia, and has a slight fever for 5 days. MRI showed diffuse supra- and infratentorial leptomeningeal enhancement. CSF analysis demonstrated pleocytosis (346 cells/µL, 90% mononuclear cells). B. burgdorferi serology was negative, cerebrospinal fluid CXCL13 was borderline positive, and the TBE serology revealed serum IgG >3,000 U/mL and IgM 21.7 U/mL. TBE NS1 IgG serum antibodies were initially negative but became positive after four months. Clinical deterioration with radiculomyelitis on repeated MRI prompted high-dose corticosteroid therapy, leading to gradual improvement. At 1.5-year follow-up, the patient had largely recovered, with only occasional exercise-induced paresthesia.

These cases emphasize that TBE should be considered in vaccinated children presenting with compatible symptoms in endemic regions. Vaccination status alone should not exclude the diagnosis, as laboratory findings may differ from those in unvaccinated patients and provide important diagnostic clues.

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Beyond the Tropics: Recognising Arboviral Infections in the Paediatric Traveller

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Introduction: Arboviral infections are no longer confined to tropical latitudes. With climate change, global mobility, and the expanding range of Aedes mosquitoes, viruses such as dengue, chikungunya, Zika, Yellow Fever, and West Nile virus now pose significant diagnostic challenges in temperate regions, including Europe. In children, these illnesses often manifest with vague, flu-like symptoms, making early detection tricky, especially in non-endemic settings. Understanding how to identify and differentiate them is becoming an essential skill for paediatricians everywhere.

Case Description: A previously healthy child presented with an acute febrile illness following travel to a tropical region. Symptoms included high fever, intense headache, retro-orbital pain, myalgia, arthralgia, a generalised rash, and mild haematological abnormalities. The overlapping clinical picture prompted consideration of several arboviral infections. Using a visual comparative approach, key clinical and laboratory clues were examined to distinguish between dengue, chikungunya, Zika, Yellow Fever, and West Nile virus, framing a structured pathway for clinical reasoning and diagnosis.

Conclusion: Arboviral infections are increasingly encountered beyond traditionally endemic regions and are becoming more relevant in paediatric practice in Europe, including Switzerland. As their epidemiology continues to evolve, these infections will progressively need to be incorporated into the differential diagnosis of acute febrile illnesses in children. Visual and structured diagnostic tools may support clinicians in improving early recognition and differentiation of these emerging infections.

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Severe imported *Plasmodium falciparum* malaria in an adolescent in Switzerland

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Introduction: Malaria remains a global health problem and is encountered in non-endemic countries as an imported infection. *P. falciparum* is the most frequently identified species and responsible for most life-threatening cases. In children, the clinical presentation may be non-specific, which can delay diagnosis and recognition of severe forms[1].

Case study: A 15-year-old boy recently migrated from Cameroon presented to the pediatric emergency department with a two-day history of intermittent fever, chills, headache, fatigue and loss of appetite. Physical examination revealed fever and signs of dehydration without focal findings. Laboratory tests showed early hepatic dysfunction with hyperbilirubinemia, mildly prolonged INR, thrombocytopenia, elevated inflammatory markers, and mild anemia. Rapid malaria antigen testing was positive, and microscopy confirmed *P.falciparum* infection with 1% parasitemia. Due to the presence of hepatic dysfunction which is included in the severity criteria, and clinical deterioration, the patient was transferred to the ICU of a tertiary pediatric center. Intravenous artesunate and a cautious fluid strategy were initiated. Norepinephrine was required for fluid-refractory shock and was discontinued the following day. Empiric antibiotic therapy was administered because of possible bacterial co-infection. After stabilization and a rapid reduction in parasitemia, treatment was switched to oral antimalarial therapy. The patient improved clinically and was discharged without complications.

Discussion: Malaria should be considered in any febrile child returning from endemic regions. Although severe disease occurs in a minority of cases, early recognition of severity criteria, including cerebral malaria, acute kidney injury, respiratory failure, circulatory shock, hepatic dysfunction, metabolic acidosis, hyperlactatemia, hypoglycemia, jaundice, severe anemia, gastrointestinal/retinal hemorrhage, macroscopic hemoglobinuria and hyperparasitemia, is crucial, as deterioration may occur rapidly. These criteria guide decisions regarding outpatient management or the need for ward or ICU admission [2].

Conclusion: Prompt recognition of severe disease and appropriate triage remain key determinants of outcome in pediatric malaria.

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P 80

Hidden for Years – Seen in Seconds: From Chronic Pain to Surgical Emergency

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Introduction: Acute abdominal pain accounts for about 10% of pediatric emergency visits, although only 7–14% of cases require urgent operative or medical interventions. Identifying children at risk of intestinal ischemia remains challenging, particularly when clinical examination and laboratory tests are non-specific. Delayed diagnosis of internal hernias may result in bowel necrosis and significant morbidity.

Case Presentation: A 14-year-old boy presented to the ED with acute onset of diffuse, severe abdominal pain. He reported a four-year history of recurrent abdominal pain episodes occurring one to two times per week, previously investigated with exclusion of coeliac disease and inflammatory bowel disease. The current episode was markedly more intense, requiring repeated opioid administration with limited relief. On admission, he appeared unwell and hypertensive. Physical examination revealed a soft abdomen with diffuse tenderness and preserved bowel sounds. Laboratory tests including lactate were within normal ranges. Abdominal ultrasound showed free intraabdominal liquid and mesenterial fat stranding without an identifiable cause. Given the severity of the symptoms and abnormal ultrasound findings, an urgent abdominal CT scan was performed revealing a left-sided incarcerated paraduodenal hernia with radiologic signs of small bowel malperfusion. The patient was immediately transferred to a tertiary pediatric surgery center and underwent emergency surgery the same day. Intraoperatively, the left paraduodenal hernia was confirmed and additionally revealed a 180° small bowel volvulus. Prompt surgical management allowed complete bowel preservation. Postoperative recovery was uneventful, and the patient remained symptom-free at 3-month follow-up.

Discussion: This case highlights the critical impact of early CT scan and timely surgical intervention in preventing bowel ischemia and resection in pediatric patients. Normal laboratory results and non-specific ultrasound findings should not delay escalation of imaging when clinical severity is present. Internal hernias, although rare in children, must be considered in cases of recurrent or acute-on-chronic abdominal pain. Early recognition and rapid surgical management of internal hernias are essential to optimize outcomes and preserve intestinal viability in children.

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Serum sickness–like reaction: a case report

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We report the case of a previously healthy 13-year-old girl who presented to the emergency department with an acute, intensely pruritic rash evolving over two days. The eruption began as erythematous plaques on the elbows and rapidly spread to the lower limbs, followed by facial involvement with perioral, labial, and palmoplantar edema. Within 48 hours, she developed target-like urticarial lesions, abdominal pain, bilateral arthralgia, and deterioration in general condition requiring hospitalization.

Laboratory investigations revealed leukocytosis, elevated C-reactive protein levels, and persistent mild proteinuria, without hepatic involvement. The patient remained hemodynamically stable throughout her hospital course. Her medical history was unremarkable, with no known allergies or prior drug exposure. She had received a first-ever dose of meningococcal B vaccine (Bexsero) 15 days before symptom onset.

Based on the clinical presentation and laboratory findings, a diagnosis of serum sickness–like reaction was established. Treatment with systemic corticosteroids (prednisolone 1 mg/kg/day for 5 days) combined with antihistamines resulted in rapid clinical improvement. A brief recurrence of target-like urticarial lesions was observed during the course. Overall, the presentation was consistent with a systemic serum sickness–like reaction, possibly triggered by vaccination or a concomitant viral infection, with mild renal involvement.

This case highlights the variable clinical presentation of serum sickness–like reactions in pediatric patients and underscores

the importance of prompt recognition and appropriate clinical and laboratory follow-up. Although extremely rare, post-vaccination triggers should be considered, and a reporting procedure to Swissmedic is currently ongoing.

P 82

Rare case of a seronegative ocular Myasthenia in a 3 year old boy

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Pediatric myasthenia gravis is a rare condition in children, and isolated ocular manifestations in young children have been described only in a few cases in the literature.

We report the case of a 3-year-old boy who initially presented with fluctuating left-sided ptosis, worsening in the evening, and suspected diplopia. In the course the ptosis became persistent and predominantly left-sided, and he developed an impairment of ocular motility, also mainly affecting the left side. Based on these symptoms, ocular myasthenia gravis was suspected.

Further diagnostic workup revealed normal findings on brain MRI and no detectable myasthenia-associated antibodies (AchR-Antibodies; MUSK-Antibodies; Titin-Antibodies; Ganglioside-Antibodies; LRP4-IgG; CXCL13; VGCC-anti-P/Q-type-calcium-channel; VGCC-anti-N-type-calcium-channel). Neurophysiological examination suggested a generalized neural inflammation. Exome sequencing targeting mitochondrial disorders and congenital myasthenic syndromes showed no pathological findings. Therapeutic trials with intravenous immunoglobulins (Privigen) and pyridostigmine (Mestinon) did not lead to clinical improvement. Eventually, treatment with corticosteroids was initiated, resulting in a noticeable improvement of clinical symptoms.

This case highlights that ocular myasthenia gravis should be considered even in the absence of positive immunological findings, as early initiation of appropriate therapy may lead to clinical improvement. Furthermore, it underlines the need to collect more pediatric cases to better understand ocular myasthenia in young children and to improve diagnostic strategies and prognostic assessment.

P 83

An uncommon association of autoimmune polymyositis in a child with localised scleroderma

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Background: Juvenile localised scleroderma (morphea) although seldom is the predominant form of scleroderma in children and is rarely associated with systemic disease. Autoimmune juvenile polymyositis is a rare inflammatory myopathy causing proximal muscle weakness and fatigue, without skin disease, and may lead to pulmonary or gastrointestinal complications. Diagnosis is guided by clinical scores, MRI, muscle biopsy and auto-antibody testing. Disease severity guides treatment, usually combining high-dose glucocorticoids with glucocorticoid-sparing immunosuppressive therapy. We present a 5-year old girl with a rare combination of localised scleroderma and severe auto-immune polymyositis.

Case report: A 5-year-old girl with localised scleroderma en coup de sabre of the right supra-orbital region, treated with methotrexate (15mg/m2) for 2 years, presented with a 2-month history of progressive lower limb pain and severe muscle weakness affecting daily activities. Clinical examination showed marked proximal weakness (C-MAS 30/52, MMT 50/80), positive Gower's sign and diffuse muscle tenderness, without skin or nailfold changes. Muscle enzymes were elevated (CK 2300 U/L, LDH 579 U/L, AST 169 U/L, ALT 102 U/L). Whole-body MRI revealed severe, diffuse and symmetrical polymyositis involving all limb, neck, trunk, intercostal and abdominal muscles. Auto-antibody testing comforted the auto-immune polymyositis diagnosis, with positivity for anti-NXP2 (associated with severe muscle disease) and anti-PM/Scl100 antibodies. Muscle biopsy showed minimal inflammatory changes. There was no megacapillaries on capillaroscopy. Pulmonary function tests were normal, but CT scan showed ground-glass opacities. Cardiac assessment was normal. There was no evidence of gastrointestinal involvement. Other causes of myositis were excluded. Given disease severity, she was treated with high-dose intravenous glucocorticoids followed by oral tapering, intravenous immunoglobulins, and rituximab. As polymyositis developed during methotrexate therapy, it was replaced with mycophenolate mofetil. Treatment was well tolerated, with good initial clinical and biological response.

Conclusion: Localised scleroderma and auto-immune polymyositis are two rare disorders in children, whose association is extremely uncommon. Severe isolated muscle involvement without any other associated signs prompted extensive evaluation. Early aggressive immunosuppressive treatment led to a favourable initial outcome.

P 84

Kawasaki Disease Shock Syndrome: a case report

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Background: Kawasaki disease (KD) is an idiopathic, acute, self-limited vasculitis that predominantly affects children under 5 years of age. It represents the leading cause of acquired heart disease in the pediatric population and may result in coronary artery dilation and aneurysms, myocarditis, myocardial infarction, and sudden cardiac death. Although most patients remain hemodynamically stable during the course of the disease, an entity known as Kawasaki disease shock syndrome (KDSS) has been described, characterized by hemodynamic instability in the setting of KD. KDSS is associated with a higher incidence of cardiac and coronary involvement, as well as increased rates of resistance to intravenous immunoglobulin therapy.

Case: We report the case of a previously healthy 11-year-old boy with KDSS who presented to the pediatric emergency department with a 4-day history of fever, clinical features consistent with complete KD, and signs of shock. Laboratory investigations revealed elevated inflammatory markers associated with hepatic, renal and cardiac dysfunction. Initial echocardiographic evaluation showed no evidence of cardiac or coronary abnormalities. Hemodynamic stabilization was achieved with fluid resuscitation alone, without the need for inotropic support. The patient's clinical condition and laboratory parameters improved following treatment with intravenous immunoglobulin, corticosteroids and acetylsalicylic acid.

Conclusion: Clinicians should include KDSS in the differential diagnosis of pediatric patients presenting with prolonged fever and shock, even at atypical ages or in the absence of coronary

involvement. Prompt recognition and early treatment are essential to prevent severe complications and to optimize clinical outcomes.

P 85

Gitelman Syndrome: a case report

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Background: Gitelman syndrome is an autosomal recessive renal tubulopathy causing impaired NaCl reabsorption in the distal convoluted tubule, characterized by hypokalemia, hypomagnesemia, metabolic alkalosis and hypocalciuria. Symptoms (muscle weakness, cramps, fatigue, salt craving) are often mild and can appear in adolescence or adulthood, nevertheless the condition can have a significant impact on children's growth. Diagnosis is based on electrolytes imbalances and genetic confirmation. Management involves mainly oral supplementation and dietary adjustment. With proper treatment, prognosis is favourable.

Case presentation: A previously healthy 7-year-old girl presented with a two-day history of fever and two episodes of vomiting. No other symptoms. She has a varied diet, preferring salty foods, and experiences cramp-like pain in her calves. No family history of renal diseases. Physical examination and vital signs were normal. Blood gas analysis revealed mild metabolic alkalosis with moderate hypokalemia (pH 7.47, K+ 2.8 mmol/L). An ECG ruled out rhythm disturbances. Further tests revealed hypomagnesemia (0.65 mmol/L), hypophosphatemia (0.92 mmol/L) and hypocalciuria. A transtubular potassium gradient (TTKG) of 13 confirmed renal potassium wasting. Renal ultrasound was negative for nephrocalcinosis. Oral supplementation of potassium and magnesium was started. Based on these findings, a congenital renal tubulopathy (mainly Gitelman syndrome, eventually other variants like Bartter syndrome) was suspected. Genetic testing confirmed a heterozygous mutation in the SLC12A3 gene, confirming the suspicion of Gitelman syndrome.

Discussion: Gitelman syndrome can be mild or even undiagnosed for many years. Thorough clinical history and assessment are crucial for raising suspicion. Proper management is key for optimal growth. At the first visit, her weight was in the 4th percentile. Within 25 days of oral supplementation, her weight increased by 900g, reaching the 8th percentile. Muscle cramps disappeared.

Conclusion: Renal tubulopathy should be considered in children presenting with hypokalemia and metabolic alkalosis, as early recognition and oral supplementation can enhance growth.

P 86

Job -Buckley syndrome: a case report with moderate elevation of IgE

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Introduction: Hyper IgE syndrome (Job-Buckley syndrome) is a rare primary immunodeficiency disease characterized by the triad of elevated serum IgE (>2000 IU/ml), recurrent staphylococcal skin abscesses, and sinopulmonary infections. It is a primary phagocytic disorder associating eosinophilic dermatitis severe.

Case report: A 3-year-old male child from a non-consanguineous couple, followed since the neonatal period for a recurrent pustular eruption of the scalp and trunk with pulmonary and oral-cutaneous infections requiring several hospitalizations. Clinical examination revealed lesions of superinfected eczema, with a dentition anomaly. The tip of the nose was fleshy and the inter-alar distance was slightly increased. Chest CT scan revealed multiple pneumatocele. HIV serology was negative with hypereosinophilia and a moderate elevation of serum IgE at 174 IU/ml. STAT3 gene phosphorylation study was without abnormalities, however the immunological assessment showed LBm Switch abnormalities with a profound Th17 deficiency.

Discussion: The clinical picture presented by our patient is very suggestive of Buckley syndrome despite a serum IgE level <2000 IU/ml. In about 20% of cases, this level can decrease with age, and be within the normal range (0.1 to 90 IU/ml), without correlation to the severity of the disease. The study of phosphorylations of the STAT3 gene is necessary to confirm its dysfunction, but normal phosphorylation does not exclude the disease, given the existence of other anomalies that affect homodimerization or fixation of the STAT3 homodimer on DNA, as well as other regulatory factors of this gene, and consequently, it results in a profound Th17 deficiency (responsible for this symptomatology).

Conclusion: Job-Buckley syndrome is a rare genetic disease, associating suggestive clinical signs with a serum IgE level>2000 IU/ml, however a normal rate should not eliminate it. Treatment consists of supportive measures including lifelong prophylactic anti-staphylococcal antibiotics.

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Not just a hematoma: persistent post-traumatic cranial swelling revealing pediatric Langerhans cell histiocytosis

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Background: Langerhans cell histiocytosis (LCH) is a rare clonal disorder of myeloid dendritic cells. It can present itself with solitary bone lesions that mimic other pathological conditions.

Objective: To highlight the need for diagnostic vigilance in case of persistent cranial swelling after minor head trauma and to report an uncommon pediatric presentation of LCH.

Case report: A previously healthy 5-year-old boy presented with persistent frontal swelling two weeks after minor head trauma. The swelling appeared immediately after trauma and remained unchanged, with local tenderness and mild ipsilateral periocular edema. There was no fever, vomiting, visual changes, altered consciousness, or other neurologic symptoms. On examination, the swelling was firm, tender, non-reducible, and fixed to underlying bone, with slight erythema of the overlying skin. Neurological and abdominal examinations were unremarkable. Cranial ultrasound showed a faintly hyperechoic lesion measuring 40 × 20 mm with disruption of the outer skull table and extension toward the intracranial compartment, causing focal compression of underlying brain tissue. Given these atypical features, CT and MRI were performed, demonstrating an osteolytic lesion with soft tissue extension. Histopathology confirmed LCH with CD1a and Langerin positivity. A multidisciplinary team recommended systemic therapy according to the international LCH-IV protocol (stratum I, group 2) with intravenous vinblastine and oral prednisone.

Conclusion: Persistent post-traumatic swelling, especially when firm, tender, and unchanged, warrants investigation to exclude underlying uncommon pathologies such e.g. LCH. LCH skull lesions should be considered in the differential diagnosis

of persistent cranial swelling after minor trauma, even without systemic symptoms. Early imaging and histological confirmation are crucial for timely multidisciplinary management.

P 88

Immune thrombocytopenia following MMR vaccination in an adolescent girl: A case report.

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Background: Immune thrombocytopenic purpura (ITP) is an autoimmune disorder characterized by isolated thrombocytopenia due to immune-mediated platelet destruction. In children, ITP commonly follows viral infections. A temporal association between measles–mumps–rubella (MMR) vaccination and ITP has been observed [1].

Case Study: We report a 12-year-old girl with a history of recurrent epistaxis and menorrhagia since menarche. One week after receiving the MMR vaccine, she developed daily epistaxis with significant blood loss and gingival bleeding during toothbrushing. Laboratory tests showed severe thrombocytopenia (platelets 30×10 /L), transient leukopenia, with normal hemoglobin. Inflammatory and hemostasis parameters were normal. Serologies for CMV, parvovirus B19, EBV, and hepatitis viruses were negative. Peripheral blood smear and chest radiography excluded hematologic malignancy. Given a maternal history of systemic lupus erythematosus, autoimmune screening was performed and was negative. Urinalysis was normal. Infectious, malignant, and systemic autoimmune causes were excluded, and a diagnosis of post-vaccination ITP associated with MMR immunization was established.

Discussion: ITP is the most common acquired bleeding disorder in children and is triggered by immune stimulation. Post-vaccination ITP is rare, but significant risk increase within 6 weeks after MMR vaccination has been shown [1]. Molecular mimicry and immune dysregulation lead to antiplatelet autoantibodies. Clinically, patients present with mucocutaneous bleeding. Diagnosis is based on isolated thrombocytopenia after exclusion of secondary causes. In this case, normal inflammatory and hemostasis markers, negative infectious and autoimmune tests supported primary ITP, with recent MMR vaccination as a probable trigger. Most pediatric post-MMR vaccination ITP cases are benign and self-limited, responding well to standard therapy when needed [2].

Conclusion: Post-MMR vaccination ITP is a rare but recognized condition to consider in children presenting with acute thrombocytopenia and mucosal bleeding after recent immunization. Awareness of this association supports prompt diagnosis and appropriate management [2].

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[2] Abik M, et al. Severe immune thrombocytopenia following MMR vaccination with rapid recovery: A case report and review of literature. Int Med Case Rep J. 2020;13: 697–699.

P 89

The Mystery of the Vanishing Lung: Swyer-James Syndrome Following Suspected COVID-19 in a Child

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We report the case of a 7-year-old male who presented to the pneumology clinic after relocating from abroad. He had a history of severe respiratory infection at age 3, clinically suspected to be COVID-19-related, requiring a one-month hospitalization. Since then, he has experienced recurrent respiratory infections often accompanied by obstructive symptoms, including approximately one pneumonia episode per year. He reports exertional dyspnea with intermittent wheezing, without chronic cough or nocturnal symptoms.

Physical examination revealed asymmetrical auscultation with reduced breath sounds on the left. Spirometry demonstrated an obstructive ventilatory defect. Treatment with low-dose inhaled corticosteroids followed by oral corticosteroids was administered, without significant clinical or spirometric improvement.

Chest radiography showed increased translucency of the left lung, prompting further evaluation with chest CT. The CT revealed reduced vascularization and air trapping on the left, consistent with mosaic perfusion. These findings were suggestive of Swyer-James syndrome.

Swyer-James syndrome, also known as unilateral hyperlucent lung syndrome, is characterized by asymmetric hypovascularization and air trapping. It is typically post-infectious. Granulation tissue proliferation leads to narrowing or obliteration of small airways, with subsequent fibrosis and alveolar damage. Reduced perfusion results from fibrotic septa, increased capillary resistance, and compensatory vasoconstriction due to hypoventilation, producing the characteristic unilateral overaerated hyperlucent lung on imaging.

Adenovirus is the pathogen most commonly associated with this syndrome. To date, no published case reports have identified COVID-19 as a causative factor of Swyer-James syndrome; however, a few years after the pandemic, clinicians should be aware of this possible long-term complication.

In our patient, timely diagnosis allowed appropriate long-term management, avoiding prolonged systemic corticosteroids due to fixed obstruction on spirometry, while focusing on inhaled corticosteroids, bronchodilators, vaccination, mucolytic therapy, and antibiotic treatment when needed.

Conclusion: This case illustrates Swyer-James syndrome, possibly secondary to COVID-19 infection. Despite nonspecific clinical symptoms, characteristic radiologic findings can facilitate early diagnosis, improving disease understanding and respiratory management from a young age.

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Severe pancytopenia in a child with trisomy 21: a challenging differential diagnosis

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Background: Pancytopenia in children represents a diagnostic challenge, encompassing a broad spectrum of conditions ranging from transient and reversible causes to bone marrow failure and hematological malignancies. Clinical presentation is often non-specific, and comorbidities or communication difficulties may further complicate assessment, frequently requiring an extensive diagnostic workup.

Case: A 15-year-old girl with trisomy 21 and autism spectrum disorder was referred to our hospital for progressive asthenia and severe anemia. She had experienced marked fatigue for three months, loss of appetite with highly selective eating habits, and a 2-kg weight loss over one year. She had no diarrhea or any digestive symptoms. Clinical examination revealed pallor, tachycardia, with a new systolic murmur at 2/6. Laboratory investigations showed severe macrocytic anemia (hemoglobin nadir 61 g/l, MCV 126 fl), associated whit neutropenia at 0.89 G/l and thrombocytopenia at 33 G/l. There was no evidence of inflammatory or immune-mediated hemolysis. A profound vitamin B12 deficiency with mild folate deficiency and subclinical hypothyroidism was identified. Despite markedly elevated lactate dehydrogenase levels, findings were not consistent with a malignant tumor lysis syndrome, and viral etiologies were excluded. Bone marrow examination and flow cytometry ruled out an oncological cause and demonstrated a megaloblastic pattern compatible with vitamin B12 deficiency. The patient received a red blood cell transfusion, and parenteral vitamin B12 supplementation followed by rapid clinical and hematological improvement after a transient nadir of the other cell lines. Autoimmune pernicious anemia was ruled out based on negative intrinsic factor and parietal cell antibodies, confirmed by a normal gastroscopy. Nutritional assessment supported a dietary etiology.

Conclusion: Severe vitamin B12 deficiency can present with pancytopenia, bone marrow dysplasia, and biochemical features suggestive of malignant or inflammatory disease. In children at risk, such as those with trisomy 21 and restrictive eating behaviors, vitamin B12 deficiency should be systematically considered as part of the diagnostic evaluation of unexplained cytopenias. Prompt recognition allows appropriate treatment and leads to rapid and complete hematological recovery.

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When chest pain hides a tumor: the power of red cardiovascular flags to unmask a cardiac hemangioma in an adolescent athlete

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Introduction: Chest pain is one of the most common reasons for adolescents to consult their pediatrician. Although cardiac causes are rare, they can be life-threatening. Common non-cardiac causes of chest pain in children can be categorized as follows: musculoskeletal, respiratory, gastrointestinal, or psychogenic. An accurate history and physical examination are essential for identifying red flags that warrant urgent referral to a pediatric cardiologist.

Case report: A 16-year-old male adolescent athlete consulted his primary pediatrician for retrosternal pain occurring immediately after intense physical activity. The pain was described as a low-intensity tightness, accompanied by dizziness, lasting a few minutes, without any other cardiovascular symptoms. The adolescent was asymptomatic at rest and otherwise healthy, with a negative cardiovascular family history. The clinical examination revealed a new 3/6 systolic ejection murmur in the pulmonary focus and the ECG revealed ST-segment changes suggestive of ischemia in the anteroseptal (V1–V4/V5) and inferior (DIII, aVF) leads. He was urgently referred to our cardiology clinic and the transthoracic echocardiography showed an intracardiac mass adherent to the lateral wall of the right ventricular outflow tract with severe obstruction and dilation of the right heart chambers. The adolescent underwent cardiac surgery with resection of the mass. Histopathological analysis of the lesion demonstrated a capillary hemangioma. At one-month postoperative follow-up, the patient was asymptomatic, and physical examination, ECG, and echocardiogram were all within normal limits.

Discussion: Primary cardiac tumors are rare, with an estimated prevalence of only 0.002%–0.3% at autopsy, and approximately 75% of them are benign. Hemangiomas represent only about 5% of the cardiac benign primary tumors. They are mainly asymptomatic but can present with severe manifestations, including valvular obstruction, myocardial ischemia, heart failure, pericardial effusion, tamponade, systemic embolism, and conduction disturbances, with possible sudden death. Prognosis after surgical removal is excellent, with a low risk of recurrence. A thorough medical history and physical examination enable the pediatrician to promptly refer the patient to pediatric cardiology, preventing complications and allowing rapid recovery after surgery.

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Intestinal complications from delayed magnet ingestion diagnosis in a paediatric patient with suspected Pica

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Introduction: Abdominal pain is a common reason for paediatric emergency consultations, accounting for up to 10% of primary complaints, which causes in children are mostly self-limited. Ingestion of foreign bodies primarily affects children under the age of 6. Often, patients are initially asymptomatic and the ingestion is rarely witnessed. Severe complications can arise throughout the digestive tract depending on the type of foreign body and the patient's age, especially without timely and appropriate management. Compared to other foreign bodies, magnetic metallic beads (« buckyballs »), when ingested simultaneously, can attract each other, potentially causing intestinal necrosis, ileus, or even perforation.

Case Presentation: We present the case of an 11-year-old girl with a history of Attention Deficit Hyperactivity Disorder (ADHD) and suspected Pica syndrome, as well as untreated chronic constipation, who presented with diffuse acute abdominal pain associated with food-related vomiting. The medical history reveals several episodes of acute abdominal pain over the past

month. Despite a detailed medical history, the patient first denies any ingestion of a foreign body. The clinical course gradually evolves into that of an acute abdomen, prompting the need for additional investigations. After two non-contributory abdominal ultrasounds, a CT scan is performed, which reveals the presence of 6 metallic magnetized foreign bodies supposedly located in the sigmoid colon. No signs of perforation were observed. The patient subsequently develops fever and laboratory signs of inflammation, leading to the initiation of broad-spectrum IV antibiotics for early peritonitis. Despite intensive laxative treatment and procedures such as ano-recto-colonoscopy, the foreign bodies were not found. Surgical intervention was ultimately required. The surgery successfully removed the foreign bodies, which were located outside the intestines.

Discussion: Ingestion of magnetized metallic beads is a significant risk factor for intestinal complications, especially when diagnosis is delayed. Our patient gradually developed secondary ileus and peritonitis following a previous intestinal perforation. This case highlights the importance of a reliable medical history to timely and appropriately escalade investigations when evaluating paediatric abdominal pain,particularly when symptoms evolve or fail to improve. In such cases, reassessment of the initial differential diagnosis is essential.

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From Headache to Transient Ischemic Attacks: A Rare Presentation of Pediatric Neuroborreliosis

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Pediatric neuroborreliosis is a well-established manifestation of Lyme disease, most commonly presenting with facial nerve palsy or meningitis. Cerebral vasculitis, though very rare, has been described as a complication of neuroborreliosis. We report the case of an adolescent with cerebrovascular involvement, emphasizing the importance of early recognition in endemic areas.

Case report: A 14-year-old adolescent girl with a history of treated essential hypertension presented with a 3-month history of daily right-sided headaches, sometimes nocturnal, associated with neck pain, vertigo, and nausea. She was admitted for worsening symptoms with intermittent focal neurological deficits, including left-sided paresthesia, transient limb weakness, and possible dysarthria. Neurological examination was normal between episodes. Brain MRI and angiography revealed multifocal intracranial vasculopathy predominantly involving the posterior circulation. Given the transient nature of neurological deficits and supportive radiological findings, these episodes were considered transient ischemic attacks. Cerebrospinal fluid (CSF) analysis showed lymphocytic meningitis with elevated protein et low glucose. Serological and CSF studies confirmed neuroborreliosis, with positive Lyme serology (IgG ELISA and Western blot), intrathecal anti-Borrelia antibody synthesis and positive Lyme CSF PCR. A diagnosis of neuroborreliosis with meningitis and cerebral vasculitis was established. Intravenous ceftriaxone was administered for four weeks. Clinical outcome was favorable, with complete resolution of neurological symptoms. Follow-up MRI demonstrated marked regression of vascular abnormalities without ischemic sequelae.

Conclusion: Neuroborreliosis-associated vasculitis in children is rare but typically presents with focal neurological deficits and stroke-like symptoms, with imaging showing multifocal ischemic infarcts and arterial stenoses. Diagnosis relies on intrathecal anti-Borrelia antibody production with lymphocytic pleocytosis and exclusion of other pediatric stroke etiologies. Prompt intravenous ceftriaxone is recommended and is associated with a favorable prognosis. Complicated neuroborreliosis should be considered in any unexplained stroke or transient ischemic attack in endemic areas.

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Herniated discs: when pediatrics meets geriatrics – a case report

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Introduction: Lower back pain is a common complaint among children and adolescents, with an incidence ranging from 20 to 40 percent. While non-specific musculoskeletal pain is the most frequent cause, clinicians must remain vigilant for red flags suggesting more serious conditions and proactively investigate them. We present the case of a 14 year old male who presented to the paediatric emergency department with atypical lower limb and back pain.

Case description: A 14 years old patient presented to the emergency department with a two week history of pain in his left lower limb and back. The pain, predominantly in the left calf, was present at night and accompanied by paresthesia in the foot. The initial clinical examination revealed a positive Lasègue sign but no neurological deficits. Laboratory results showed no evidence of inflammation or hematologic malignancy, and imaging of the spine and lower limbs excluded fracture. The orthopaedic team recommended symptomatic treatment without further evaluation. The patient returned one week later with worsening pain. A repeat examination revealed a sensorimotor deficit in the L5 dermatome of the left foot, prompting a lumbar MRI, which confirmed a herniated disc at the L4–L5 level. After consultation with the neurosurgical team, conservative management was continued. Two weeks later, due to worsening pain and difficulty walking, the patient was admitted for a lumbar microdiscectomy, which led to rapid recovery.

Conclusion: This case underlines the importance of recognising red flags in adolescents presenting with low back pain, including night pain, neurological deficits, and radiating pain. Although disc herniation is rare in this age group, the presence of such warning signs alongside consistent clinical findings should prompt advanced diagnostic evaluation.

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An uncommon cause of pediatric lymphadenitis: Mandibular osteomyelitis due to Actinomyces naeslundii

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Background: Acute, suppurative lymphadenitis is common in children. Frequently isolated pathogens are S. aureus and S. pyogenes. Infections with actinomyces, gram-positive bacteria residing in the respiratory, gastrointestinal and genital tract, are rare in immunocompetent children. Whilst infections from different sites have been reported, they mostly occur in the cervicofacial area.

Case: A 7-year-old girl presented with persistent ipsilateral submandibular lymphadenitis first appearing about two weeks after an extraction of a carious lower molar. She was well, with few days of sub-febrile temperatures prior to presentation. The enlarged lymph nodes were soft and tender. The overlying skin was intact; discoloration, warmth or redness were absent. By the time of presentation, she already had two courses of antibiotics (oral amoxicillin/clavulanic acid for two weeks): at the time of tooth extraction due to local signs of inflammation, and six weeks later to treat lymphadenitis, without improvement. Hence, an MRI was performed which showed submandibular lymphadenitis, signs of local osteitis and a fistula at the region of the extracted tooth. Given these findings and minimal progression in the past weeks, and with this no urgency to re-start empiric antibiotics, the decision was made to proceed with a lymph node biopsy and exploration at the site of tooth extraction with a bone biopsy. The bone biopsy yielded Actinomyces naeslundii, which confirmed the diagnosis of chronic osteomyelitis with only minimal clinically complaints, but explaining the reactive lymphadenitis. Subsequently, a prolonged treatment course with amoxicillin was initiated and is currently ongoing.

Discussion: Whilst actinomyces are known to be associated with chronic cervicofacial infections particularly as complication of oral lesions, there are very few A. naeslundii infections in children described in the literature. Our case of actinomyces osteomyelitis associated with a carious tooth and concomitant lymphadenitis highlights the need to assess the oral cavity and dental status and inquire about past oral surgery, in particular in the case of slowly progressing, indolent lymphadenitis not responding to standard antibiotic treatment. It furthermore highlights the need for adequate sampling to determine the pathogen and extent of infection (bone vs. soft tissue vs. lymph node) to guide antibiotic choice and treatment duration, which in the case of actinomyces is over multiple months.

P 96

When a common habit leads to an uncommon complication: panaritium complicated by osteomyelitis

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Introduction: Panaritium is a common digital infection in pediatrics, usually benign with favorable outcome. However, in rare cases, it may progress to severe complications, including bone involvement. Certain common predisposing factors, such as nail biting, are often underestimated despite their association with potentially serious infections. This case illustrates the unpredictable evolution of a pediatric panaritium despite appropriate initial management.

Case description: A 12 year old girl who initially presented with a panaritium of de distal phalanx of the right index finger, occurring in the context of chronic nail biting. Despite initial management including local care, drainage and oral antibiotic therapy with co-amoxiclav 40mg/kg/day for seven days, followed by cefuroxime 250mg twice a day for seven more days, the clinical course remained unfavorable with pulp necrosis and bone exposure. A clinical and paraclinical reassessment was performed in the pediatric ER. Laboratory investigations showed no inflammatory syndrome. Finger radiography revealed findings suggestive of osteomyelitis of the distal phalanx. After consultation with orthopedic specialists surgical management was indicated, including debridement and bone sampling performed under appropriate sedation. Bone cultures identified methicillin-sensitive Staphylococcus aureus (MSSA). Empirical intravenous co-amoxiclav was administered for three days, followed by oral antibiotic therapy for one month, associated with immobilization using a Houston splint. The clinical outcome was favorable with follow-up with the specialist.

Conclusion: This case illustrates that even an apparently benign digital infection in children may evolve unpredictably despite appropriate management. It highlights the importance of maintaining clinical vigilance regarding common predisposing factors such as nail biting and ensuring regular follow-up to detect potentially serious complications early.

P 97

Pott's Puffy Tumor in Childhood: A rare but serious complication of Frontal Sinusitis

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Background: Pott's puffy tumor (PPT) is a rare but severe complication of frontal sinusitis, characterized by frontal bone osteomyelitis with subperiosteal abscess formation and potential intracranial extension. It predominantly affects adolescents and requires prompt recognition and multidisciplinary management to prevent neurological sequelae.

Case presentation: We report the case of a 13-year-old boy initially diagnosed with acute frontal sinusitis and treated with oral antibiotic. Two weeks later, he developed rapidly progressive midline frontal swelling and persistent frontal headache, without neurological deficits. Laboratory tests revealed leukocytosis and elevated inflammatory markers. Cranial computed tomography showed persistent frontal sinusitis complicated by a frontal epidural abscess and an associated subcutaneous collection, consistent with Pott's puffy tumor. Broad-spectrum intravenous therapy with meningitic-dose ceftriaxone was initiated, with empiric addition of metronidazole immediately after surgical drainage; microbiological cultures subsequently grew Streptococcus anginosus. Follow-up imaging demonstrated progression of the epidural abscess with soft tissue infiltration and a frontal cortico-subcortical hypodense area suggestive of early cerebritis, requiring repeat surgical drainage and continuation of intravenous antibiotics for a total of 3 weeks. The patient remained clinically stable throughout hospitalization, without neurological deficits or elevation of inflammatory markers. Serial imaging showed progressive improvement, allowing oral step-down therapy with amoxicillin guided by antimicrobial susceptibility testing for 2 weeks. The patient recovered fully without sequelae.

Conclusion: This case highlights the insidious presentation and potential for rapid progression of Pott's puffy tumor in adolescents, even after initial antibiotic treatment of frontal sinusitis. Early imaging, timely surgical intervention, prolonged targeted antibiotic therapy, and close multidisciplinary collaboration among pediatricians, neurosurgeons, infectious disease specialists, radiologists, and otolaryngologists are essential to ensure favorable outcomes and prevent life-threatening complications.

P 98

Pediatric dystonia: central role of the pediatrician and interprofessional collaboration for improved care

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Background: Dystonia is a movement disorder defined by involuntary and sustained contraction of muscles leading to abnormal movements or posture. It is associated with perturbations in sleep, rest, and daily activities, but its recognition and management remain challenging. Proactive identification and prevention of dystonia triggers such as infection, constipation and pain through pediatric surveillance and interprofessional collaboration are essential to improve patient quality of life.

Case report: We illustrate it with the clinical history of a 5 year-old girl known for secondary dystonia due to pantothenate kinase-associated neurodegeneration (PKAN). She developed focal right lower limb dystonia managed in outpatient setting. Following subacute worsening of dystonia in the context of viral infection, she was admitted in the pediatrics ward. Supportive measures were initiated including 1) general care with optimized hydration and sleep, 2) physical interventions with optimized sleeping and seating positioning, environmental adaptations by occupational therapists and physiotherapists, nutritional management by dietitians, and swallowing support by speech therapists, together forming essential components of multidisciplinary care, 3) pedopsychiatric support, 4) non-specific pharmacological interventions such as antipyretics and laxatives, 5) a particular focus on pain management using non-opioid and opioid analgesics, and finally 6) dystonia-specific pharmacological intervention with anticholinergics, benzodiazepines, and clonidine. Patient follow-up required daily reassessment of clinical status by nursing and medical teams. These interventions led to improvements in her quality of life and allowed the implementation of deep brain stimulation (DBS) after stabilization. In the follow-up, she required admission to the PICU for a severe infection.

Discussion: This case report highlights the central role of the pediatrician in dystonia management. Dystonia requires efficient interprofessional care and a global approach to the child, in close collaboration with family members. The pediatrician has a unique central position to coordinate optimal management and timely interventions by multiple professionals and specialists. While management of dystonia remains challenging, recent updates on consensus expert opinion provide detailed care pathways. Increased awareness and training of both medical and paramedical professionals is needed for improved dystonia care.

P 99

Hemorrhagic Cystitis as a rare manifestation of SARS-CoV-2 in a Neonate: A case report.

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Background: SARS-CoV-2 infection is mainly associated with respiratory disease, but extrapulmonary manifestations are increasingly recognized. Hemorrhagic cystitis is a rare clinical presentation [1].

Case report: A one-month-old male infant presented with high fever (>39 °C), decreased oral intake, and macroscopic hematuria. Pregnancy and perinatal history were unremarkable. He was febrile, hemodynamically stable, without respiratory symptoms. An infectious workup was performed. Urinalysis confirmed gross hematuria and urine culture excluded bacterial urinary tract infection (UTI). Renal and bladder ultrasonography were normal. A respiratory PCR panel was positive for SARS-CoV-2. Given the temporal association with SARS-CoV-2 positivity, the negative urine culture, and no evidence for other etiologies for the gross hematuria, the diagnosis of hemorrhagic cystitis is likely associated with SARS-CoV-2 infection. The patient received supportive care, with clinical improvement and resolution of hematuria. On day 3 of hospitalization, he developed a secondary UTI, which was treated with antibiotics, possibly related to prior viral urothelial injury.

Discussion: SARS-CoV-2 can affect multiple organs. Hemorrhagic cystitis is rarely described in children and is exceptional in neonates [1]. The pathophysiology is unclear, but the expression of angiotensin-converting enzyme 2 (ACE2) receptors on urothelial cells may allow direct or immune-mediated viral in-

jury. Endothelial dysfunction, inflammation, and cytokine-mediated damage may also contribute [2]. In this case, negative initial urine culture, normal imaging, and the close temporal relationship with SARS-CoV-2 infection support a diagnosis of COVID-19–associated hemorrhagic cystitis. Subsequent UTI suggests viral urothelial damage may predispose to bacterial infection.

Conclusion: Hemorrhagic cystitis may be a rare extrapulmonary manifestation of SARS-CoV-2 infection, even in neonates. COVID-19 should be considered in the differential diagnosis of macroscopic hematuria with negative urine culture to avoid unnecessary antibiotic use. Furthermore, SARS-CoV-2–related urothelial injury may predispose to secondary UTIs, requiring clinical vigilance.

[1] Tiryaki S, et al. COVID-19 associated lower urinary tract symptoms in children. J Pediatr Urol. 2022;18(5)
[2] Creta M, et al. SARS-CoV-2 infection affects the lower urinary tract and male genital system: A systematic review. J Med Virol. 2021;93(5): 3133–3142

P 100

Impact of RSV Preventive Strategies on Hospitalization for Bronchiolitis: A Comparative Observational Study at Rennaz Hospital (October 2022–April 2026)

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Introduction: Bronchiolitis caused by respiratory syncytial virus (RSV) remains a major cause of hospitalization in children under 24 months of age. During the 2023–2024 season, an observational study conducted at our institution showed a reduction in RSV-related bronchiolitis hospitalizations following the introduction of nirsevimab. In the 2025-2026 season, patients may receive either nirsevimab or with Abrysvo® (RSV maternal vaccination). This study aimed to assess the impact of these preventive strategies on the number and severity of RSV-related bronchiolitis hospitalizations at our hospital.

Methods: We conducted an observational study including all children under 24 months of age hospitalized for bronchiolitis at Rennaz Hospital between October 2022 and April 2026. Hospitalization numbers and markers of disease severity were compared between non-immunized patients and those immunized with either nirsevimab or Abrysvo®. Comparisons were made between the two seasons preceding RSV immunization availability and two seasons following its implementation. Severity outcomes included length of hospital stay, necessity of oxygen therapy and the need for transfer to the pediatric intensive care unit (PICU). In immunized patients, the interval between immunization and the onset of bronchiolitis was also analyzed.

Results: Data from the 2023-2025 seasons showed a reduction in RSV-related bronchiolitis hospitalizations following nirsevimab introduction, including children younger than 24 months of age. Preliminary results from the current study suggest a decreased number of hospitalizations compared with previous seasons. Early analyses also indicate a reduction in disease severity, reflected by shorter lengths of hospital stay and fewer transfers to the PICU. However, data collection and analyses for the most recent seasons are still ongoing, and final results are pending.

Conclusion: These real-world data suggest that RSV immunization strategies are associated with a reduction in both the number and severity of RSV-related bronchiolitis hospitalizations in children under 24 months of age. Final analyses will help clarify the contribution of infant and maternal immunization strategies and inform future RSV prevention strategies.

P 101

From tiny to big in a lap: A neonatal presentation of an overgrowth disorder

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Case report: A full-term newborn boy presents abnormalities in the upper limbs, including hypertrophy of the first three fingers of the right hand and of the first two fingers of the left hand, malrotation of both middle fingers, hypertrophy of both forearms and a soft lump on the left side of the neck. The pregnancy was marked by insulin-dependent type II maternal diabetes and PCOS. First semester ultrasounds were abnormal, revealing increased nuchal translucency. This led to choriocentesis, where karyotype and array CGH were normal. Trio exome sequencing revealed a pathogenic heterozygous variant in the F2 gene, indicating an increased risk of thromboembolic disease. In the third trimester, polyhydramnios was noted. At birth, the rest of the clinical examination was normal except for a physiological heart murmur. He underwent extensive malformation screening, including hand radiographs, and abdominal, cerebral, spinal and cervical ultrasounds, revealing vascular abnormalities in the neck and modelling defects with malpositioned fingers. Left OAE were absent. Geneticists suggest the likely diagnosis of a PIK3CA-related overgrowth syndrome, yet to be confirmed by DNA sequencing on affected tissue biopsy. Follow up will be done by orthopaedists, angiologists, geneticists and ENT specialists.

Discussion: Overgrowth syndromes are a broad spectrum of diseases, mainly caused by mutations at different levels in growth signalling pathways, often with mosaicism, resulting in variable clinical presentations. Prevalence is rare (<1/1'000'000) and some of these diseases can be identified in prenatal and neonatal period. During the first trimester screening, prenatal ultrasounds may reveal increased nuchal translucency, polyhydramnios and anatomical abnormalities. Newborns may present different phenotypes but often have excessive growth of one or more limbs (or head), lipomatous/vascular malformations and dysmorphic features. However, some may present metabolic symptoms found in common neonatal conditions and others may be mistaken for macrosomic newborns, delaying diagnosis.

Conclusion: Overgrowth syndromes are rare paediatric diseases with variable phenotypes due to genetic mosaicism, making diagnosis difficult. In addition to prenatal tests, if available, paediatricians must perform a thorough clinical examination. An extensive malformation screening should be performed for early diagnosis. Raising awareness among professionals is essential to ensure prompt management.

P 102

Beware the dormant water – Immune-Mediated Cardiac Complications of C.jejuni Infection

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An elite female skier, previously followed for mild exercise induced asthma, presented with new onset exertional dyspnea described as inspiro-expiratory "chest obstruction", unlike prior

asthma flares. She noted palpitations upon cessation of exercise, like extra flutters that triggered cough. She denied other symptoms.

She had recently been hospitalized for *C. jejuni* infection due to drinking contaminated water, with severe gastrointestinal symptoms, fever, dehydration and malaise. Current symptoms began upon resuming training after a 3-week recovery period.

Physical examination and vital signs were unremarkable.

Spirometry revealed mild obstruction with positive response to bronchodilators (FEV_1/FVC Z-score -2.27, +9.9%). ECG showed sinus rhythm, normal QRS axis and intervals, no repolarization abnormalities. Transthoracic echocardiography

demonstrated normal structure and function without valvular pathology. Maximal effort-limited cardiopulmonary exercise test revealed VO_2 peak of 39 ml/kg/min^{-1} (120% predicted) at peak HR of 201/min, without arrhythmia during incremental exercise.

Frequent ventricular extrasystoles and 3-beat run of non-sustained ventricular tachycardia occurred during exercise recovery, reproducing symptoms. A presumptive diagnosis of post-infectious myocarditis was established: low dose long-acting metoprolol was initiated. Cardiac MRI, performed greater than 3 months following onset of symptoms, demonstrated normal biventricular structure and function, no evidence of active inflammation or scar. Beta-blockers effectively reduced her subjective extrasystole burden, permitting return to training and competition.

C.jejuni infection primarily causes self-limiting gastrointestinal disease. Release of circulating toxins can cause acute myopericarditis, and delayed immune-mediated myocardial involvement due to a cross-reactive process triggered by molecular mimicry is described. Here, acute cardiac inflammation was not detected but cannot be fully excluded based on the timing of cardiac investigations. The delayed occurrence of symptoms – upon return to play 3 weeks after recovery from infection – points toward an immunologic reaction.

The occurrence of cardiac symptoms (chest pain, inappropriate exertional dyspnea, palpitations) during or after gastrointestinal illness should raise suspicion for post-infectious cardiac involvement. In competitive athletes, thorough cardiac evaluation is required to dictate a safe return to play strategy.

P 103

Could this be a stroke?

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Introduction: Pediatric stroke is rare but a significant cause of neurological morbidity. Its clinical presentation differs from adults and often creates a diagnostic dilemma. Symptoms may be sudden, progressive, or fluctuating, and the high prevalence of stroke mimics (migraine, epilepsy) frequently delays appropriate management.

Case: A previously healthy 16-year-old boy presented with dysarthria, frontal headaches, and dizziness evolving over 48 hours. Initial symptoms consisted of headaches associated with transient bilateral upper-limb paresthesia that resolved spontaneously, followed by speech and balance difficulties. A first medical evaluation led to a diagnosis of migraine with aura, and no investigations were performed. Worsening gait disturbance, intermittent dysarthria, and increasing somnolence prompted presentation to the pediatric emergency department. He was afebrile and practiced judo intensively, reporting a minor head injury four days earlier. At admission, neurological examination was normal (PedNIHSS 0), and a non-contrast brain CT ruled out hemorrhage. During observation, he developed dysarthria, right upper-limb dysmetria, balance impairment, right-sided paresthesia, and fatigable horizontal nystagmus. Stroke was suspected. Brain MRI showed multiple acute ischemic lesions involving the midbrain, pons, left thalamus, and left cerebellum. In the ICU, aspirin therapy was initiated. MRI review revealed basilar artery occlusion secondary to left vertebral artery dissection. Mechanical thrombectomy was performed 12 hours after admission. Follow-up MRI showed basilar reperfusion but a new right cerebellar lesion. Cardiac ultrasound was normal. After two months of rehabilitation, the outcome was favorable.

Discussion: Pediatric stroke often presents with fluctuating symptoms, leading to diagnostic delays and a high risk of long-term disability (≈70%). In older children, signs such as headache, vomiting, ataxia, or transient deficits may mimic migraine, epilepsy, or encephalitis. Early recognition is crucial, prognosis strongly depends on rapid diagnosis, acute treatment, and appropriate secondary prevention.

Conclusion: Posterior circulation ischemic strokes are particularly challenging to diagnose because of their fluctuating course. A normal neurological exam does not exclude stroke, even with a PedNIHSS of 0. Stroke must always be considered and urgently ruled out. Rapid access to neuroimaging is crucial to improve outcomes in pediatric patients.

SWISSPEDNET

SPN 1

"Pediatric Research in the Outpatient Setting – CoHort (PROS-CH) "– Development of a Pilot Study

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Introduction: Primary care pediatricians (PCP) take care of 90% of children's health issues. The primary care setting should thus be a key environment for investigating clinically relevant scientific questions, yet little data is collected for this purpose since PCP practices are busy with medical consultations. We aim at establishing a digital pediatric cohort developed in a participatory approach with PCP, collecting routine data to answer research questions of everyday practice.

Methods: We will collect pseudonymized routine data from PCP offices through caregivers and children attending well-child visits, using tablets connected to a central database. Caregivers will answer structured questionnaires in the waiting room, and PCP will add observations and recommendations given during the visit. A summary is generated automatically and emailed to the office safely. To build and test the PROS-CH infrastructure under real-life conditions, we are developing a pilot study collecting demographics and data on two research topics: A) self-reported stress level and stress causes among caregivers of newborns and infants and B) factors supporting early recognition of children with developmental anomalies of interaction and communication, using validated screening tools (Standardized Infant Neuro-Developmental Assessment (SINDA) and Social Attention and Communication Study – Revised (SACS-R)). Two PCP offices are participating in the development of this pilot cohort, testing feasibility of basic modules internally.

Results: Participating primary care pediatricians reported no major barriers when evaluating PROS-CH: PCP's time spent entering data in the tablet was compensated for by standardized information on the children being collected in a structured way prior to the consultation. Automatic summary generation allowed for digital integration and subsequent comparison of visits with minimal additional workload. Caregivers readily agreed to participate and appreciated being seen holistically as a care system for their children. Several PCPs expressed interest in participating in PROS-CH.

Discussion: The PROS-CH approach allows for time-efficient data collection in pediatric primary care to answer research questions of everyday clinical care. As content topics may be added or omitted, PROS-CH is scalable and can be tailored to the interests of participating pediatricians and scientists. Pilot testing of the PROS-CH infrastructure with two study questions is planned for 2026.

SPN 2

Limitations of Comprehensive Respiratory Viral Testing in Managing Young Infants With Fever

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Background: Given the high prevalence of serious bacterial infections (SBI) and the limited reliability of their clinical recognition, febrile young infants (FYI) generally undergo extensive investigations and frequently receive empiric intravenous antibiotics. The increasing use of comprehensive (multiplex) polymerase chain reaction assays detecting respiratory pathogens in nasopharyngeal samples has outpaced the limited evidence guiding their role in managing FYI. While viral test results are now often available as quickly as inflammatory markers (IM) or urinalysis (UA), their rapid turnaround in overcrowded emergency departments may bias clinicians toward attributing fever to a viral cause and overlooking SBI. To assess whether and when comprehensive respiratory viral testing contributes to risk stratification and management of FYI, we conducted a retrospective analysis of FYI at KSA Children's Hospital Aarau. Study design: Single-center retrospective cohort study of hospitalized FYI, aged ≤90 days (term-born) or ≤52 6/7 postmenstrual weeks (preterm-born), over a 5-year period. 456 infants with either a positive respiratory viral test result (regardless of diagnostic assay) or a negative respiratory viral test result obtained by comprehensive panel were included in the final analysis. Main outcomes were SBI rates overall and in specific subpopulations, stratified by viral test results. Rates were estimated assuming a binomial distribution, with confidence intervals derived from a normal approximation. Risk ratios with 95% confidence intervals were calculated using uncertainty propagation.

Results: Among 456 FYI, 70 (15.4%) had SBI, including 6 cases of bacteremia and 1 of meningitis. Infants with a positive viral test result had an SBI rate of 11.9% (42/354), including 2 cases of bacteremia, with significantly lower rates observed only in those testing positive for influenza (6%) and respiratory syncytial virus (4%). Regardless of viral test results, 93% (65/70) of SBI cases had abnormal IMs or UA. Invasive bacterial infections occurred in both virus-positive (2/354) and virus-negative infants (5/102). **Conclusions:** Comprehensive respiratory viral testing appears to have limited value for SBI risk stratification in FYI. It does not seem to support clinical decision-making or replace established risk stratification by IMs and UA. Disclaimer: These findings have been published in The Journal of Pediatrics (DOI: 10.1016/j.jpeds.2025.114882).

SPN 3

Comparison of Carbon Dioxide Control During Pressure Controlled Versus Pressure Regulated Volume Controlled Ventilation in Children (CoCo2): A Pilot Digital Randomised Controlled Trial

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Background and aims: Paediatric intensive care units (PICUs) generate rich data, yet clinical trials still depend on labour-intensive, low-resolution manual data collection. Invasive mechanical ventilation, one of the most common PICU therapies, offers an ideal use case for a digital trial. We aimed to assess the feasibility of a digital trial comparing pressure-control (PC) with pressure-regulated-volume-control (PRVC) ventilation to investigate the effect on carbon dioxide (CO2) control.

Methods: Single-centre, open-label, parallel group, randomised pilot trial conducted at the University Children's Hospital Zurich from January to September 2024. Eligible patients were

<18 years, weighed >2 kg, had an arterial line and were expected to need ≥60 min of ventilation. Exclusion criteria were cardiac shunt lesions, pulmonary hypertension and intracranial hypertension. Randomisation used a computer-generated 1: 1 sequence with stratification by age (neonates vs older). The primary feasibility outcome was adherence, defined as remaining on the assigned mode ≥80% of the time from randomization until censoring (48 hours, extubation, discharge, or death, whichever came first). The primary physiological outcome was the proportion of ventilated minutes with end-tidal CO2 within the normal range (4.5-6 kPa), captured by the electronic patient monitoring system. We calculated the median difference between groups using quantile regression adjusted by age. Ethics approval: BASEC 2022-00829. Registration: NCT05843123.

Results: We screened 193 patients, randomised 65, and enrolled 59 (91%) who gave consent (PC = 30, PRVC = 29). One PRVC participant was excluded post-randomisation for technical failure, leaving 58 patients in the modified intention-to-treat analyses (median age 0.4 years, interquartile range [IQR] 0.03, 1.7; 34% female). Overall, 53 of 58 cases (91%) adhered: 30/30 (100%) in PC and 23/28 (82%) in PRVC. The median proportion of time within the normal CO2 range was 80% (IQR 50, 92) for PC and 82% (IQR 52, 91) for PRVC, with an adjusted difference of 6 percentage points (95% CI -14, 27). No adverse events were attributed to either ventilation mode.

Conclusion: A digital PICU trial with automated extraction of clinical and high-resolution physiological data is feasible and suitable to evaluate invasive support strategies, such as ventilation modes, in children.

Funding: Children's Research Centre, University Children's Hospital Zurich: FZK Nachwuchsförderung grant.

SPN 4

Cytomegalovirus replication under letermovir prophylaxis in children and young adults after hematopoietic cell transplantation – a retrospective study and systematic review of the literature

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Background: Cytomegalovirus (CMV) reactivation remains a major cause of morbidity after allogeneic hematopoietic cell transplantation (allo-HCT). Letermovir (LTV) has become the standard of care for CMV prophylaxis in seropositive adults, yet pediatric evidence remains limited and reimbursement barriers continue to restrict access in several countries, including Switzerland.

Objective: To evaluate real-world LTV use, effectiveness, and safety in pediatric and young adult allo-HCT recipients in Basel, and to contextualize these findings within emerging literature.

Methods: This retrospective two-center analysis included all allo-HCT recipients ≤25 years receiving LTV between 01/2020–09/2023 at the University (Children's) Hospital of Basel. Demographics, dosing, timing and duration of prophylaxis, CMV outcomes, and adverse events were assessed. A systematic literature review was conduced to identify published reports on LTV use in patients ≤25 years.

Results: Twelve patients aged 6–25 years (n=3 (25%) <18 years, n=10 (83%) male) received LTV 60-480 mg/day for primary prophylaxis (PP; n=8, 66%), secondary prophylaxis (SP; n=3, 25%) or both (n=1, 8%). Five patients (41.7%) received prolonged prophylaxis (>100 days). Clinically significant CMV infection (csCMVi) occurred in 2/12 patients (16.7%; 95% CI: 2.1–48.4%), both on PP. Two other patients (16.6%) experienced transient, self-limiting viremia. No cases of CMV disease or CMV-related mortality occurred. LTV was generally well tolerated, with only one patient reporting drug-associated vomiting. A total of 17 publications were identified for comparison with local experience: 13 on PP (2-44 patients per report, csCMVi rate 0-41%), 6 on SP (1-26 patients per report, reactivation 0-16.7%), and 5 on preemptive therapy or treatment (1-22 patients per report).

Conclusion: This Swiss real-world cohort supports LTV as an effective and well-tolerated option for CMV prophylaxis in children and young adults, including prolonged SP. However, current evidence is constrained by small cohorts, retrospective designs, and inconsistent or incomplete reporting. Larger prospective pediatric studies are needed to guide standardized dosing, optimize timing, and inform reimbursement policies.

SPN 5

Free-Text Overwriting and Diagnosis Data Quality: A Pediatric Hospital Study

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Background: Reliable diagnosis recording is essential for clinical decision-making, patient safety, and the secondary use of health data. While structured terminologies promote interoperability, many electronic health record (EHR) systems allow medical practitioners to replace structured entries with free text, leading to ambiguity and reduced data consistency. This study seeks to quantify these inconsistencies in a large pediatric dataset and highlight the associated risks.

Methods: We evaluated diagnosis entries for a pediatric population (ages 0–20) recorded in the EHR system at the Children's Hospital of Central Switzerland from 1 September 2019 to 30 June 2025. We employed a multi-layered approach to compare structured diagnoses with their corresponding free text overwrites, utilizing: i)Text Normalization: Lowercasing, lemmatization, and stopword removal using multiple spaCy models; ii) Similarity Metrics: String-based comparisons (Levenshtein, Jaccard) and AI-based semantic similarity using BioWordVec (biomedical word embeddings) to assess clinical meaning; and iii) Ontological Mapping: Mapping terms to the UMLS Metathesaurus (CUI matching) to identify relationships within medical ontologies.

Results: The dataset comprised around 260,000 diagnosis entries from 95,000 patients. 76.5% (~200,000) of the recorded diagnoses were overwritten with free text. Around 13% (~25,000) of these overwrites differed from the original diagnosis, while 87% (175,000) remained closely related. Semantic analysis of low-similarity entries found that many represented entirely unrelated information such as, including test results into the diagnoses, comments, unnecessary information, and, most critically, the exclusion of conditions (e.g., "Exclusion of pyelonephritis"). Such entries pose a serious risk of misclassification in research cohorts.

In conclusion, free-text overwriting added little clinical value while substantially compromising data reliability. The frequent use of diagnosis fields as surrogate comment sections highlights the need for clearer hospital-wide guidelines and interface improvements to better separate clinical observations from structured data. These measures are essential to preserve health data integrity for patient care and secondary research.

SPN 6

Two vs. Twenty Channels: Head-to-Head Comparison of Simplified Point-of-Care EEG versus Standard EEG – A Prospective Cohort Study

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Background: Central nervous system disorders are the most common diagnoses in critically-ill children presenting to pediatric emergency departments (PED). Among these, status epilepticus (SE) and non-convulsive status epilepticus (NCSE) are particularly concerning. The clinical recognition of NCSE in encephalopathic children is challenging and often delayed, because the definite diagnosis requires EEG confirmation. Standard EEG (sEEG) recordings are often unavailable within clinically relevant timeframes in the PED or not available at all. Simplified, point-of-care EEG (pocEEG) has emerged as a potential solution to bridge this diagnostic gap. However, data on sensitivity and specificity compared with sEEG are currently lacking. To address this gap, we performed simultaneous sEEG and pocEEG recordings in a pediatric epilepsy clinic setting.

Methods: We enrolled patients aged 0-18 years who underwent sEEG during routine epilepsy clinic visits. The sEEG used a conventional full montage based on the international 10–20 system, whereas pocEEG used two channels with bilateral frontotemporal (F7/F8) and retroauricular (T5/T6) electrode placements. Two trained students applied and recorded the pocEEGs under supervision of neurophysiology technicians. We recorded demographics, medications, indication for EEG, and clinical sEEG interpretations. Agreement between sEEG and pocEEG was independently assessed by two blinded reviewers, with a third expert adjudicating discrepancies.

Results: We enrolled 101 patients; 55 (54.5%) were male. Mean age was 9.8 years (range: 16-218 months). Two-thirds (n=68; 67.3%) presented for follow-up of established epilepsy, and over half (n=60; 59.4%) were receiving antiseizure medication. sEEG findings were normal in 50 cases (49.5%), showed nonspecific abnormalities in 11 cases (10.9%), and were pathological in 40 cases (39.6%). Ninety-nine paired recordings were available for blinded comparison. After expert adjudication, full agreement was found in 70 cases (70.7%), disagreement occurred in 29 cases, of which 9 showed suspicious findings on pocEEG. Missed interictal abnormalities were predominantly located outside the limited electrode coverage of the pocEEG.

Conclusion: Despite ultra-limited electrode coverage, pocEEG demonstrated promising concordance with sEEG for detecting clinically significant abnormalities in a pediatric population, supporting its potential role as a rapid screening tool in time-critical settings.

SPN 7

Atypical Sensory Processing, Adaptive Functioning, Problem Behaviors and Caregiver Stress in Children with Autism and Typically Developing Children.

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Objectives: To assess the prevalence of atypical sensory processing (SP) and its association with adaptive functioning, problem behaviors, and caregiver stress in children with autism spectrum disorder (ASD) and typically developing (TD) children.

Study design: In this cross-sectional, observational study, caregivers of children with ASD (N=103) and TD children (N=82) aged 3-10 years completed an online survey including the Sensory Profile-2, Vineland Adaptive Behavior Scales, Parenting Stress Index, and BriefCOPE. Pooled regression models with group interaction effects (ASD versus TD) were performed to assess the association of atypical SP with adaptive functioning, problem behaviors, and caregiver stress.

Results: The Sensory Profile-2 total score was significantly higher in children with ASD (mean=194.1 [SD=58.0]) than TD children (mean=86.5 [SD=39.4], P<0.01). Atypical SP in two or more sensory modalities was seen in 92.2% of children with ASD and in 29.3% of TD children. Atypical SP explained 78.7% of variance in adaptive functioning and up to 58% of variance in problem behaviors in the pooled sample, with no interaction effects. The three factors combined accounted for 41.8% of variance in caregiver stress in the pooled sample, with no interaction effects.

Conclusion: Atypical SP is very common in children with ASD but also occurs in TD children. In both children with ASD and TD children, atypical SP is related to poorer daily living skills and more problem behaviors, which in turn are associated with higher caregiver stress. Our findings highlight the need to address SP difficulties in intervention programs to improve children's adaptive functioning and reduce caregiver stress.

SPN 8

Associations Between 24-Hour Movement Behaviour and Markers of Premature Adrenarche: BEGRADE Study

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Introduction: The interplay between physical activity, sleep and adrenarche—the prepubertal event when the adrenals start to produce androgen precursors in relevant amounts—remains poorly understood. Adrenarche before the age of 8 years is considered premature (PA) and may have adverse long-term health outcomes. This study aimed to compare 24-hour movement behaviours between girls with PA and age-matched controls, and to determine whether specific activity characteristics are associated with clinical or biochemical findings of adrenarche.

Methods: In this cross-sectional study, 24 girls (12 with PA and 12 age-matched healthy controls; mean age 7.51 ± 0.73 years) wore an accelerometer for 14 consecutive days. Clinical signs and biochemical markers were assessed. Linear regression models explored associations between physical activity levels and clinical or biochemical markers of adrenarche, adjusting for age, group, and BMI-for-age z-score.

Results: Girls with PA were taller (129.8 vs 123.9 cm, p = 0.045), had a larger waist circumference (58 vs 54.5 cm, p = 0.02), and a lower lean mass percentage (82.6% vs 86.1%, p = 0.014). Regarding movement behaviours, the PA group spent significantly more time in light-intensity physical activity than controls (353 vs 324 min/day, p <0.01). However, both groups were similar in terms of moderate-to-vigorous physical activity (68 vs 53 min/day, p = 0.2) and sleep duration (453 vs 476 min/day, p = 0.3). We found no significant associations between movement behaviours or sleep duration and DHEAS levels, a commonly used biochemical marker of adrenarche.

Conclusion: Preliminary results from this ongoing study suggest that there are differences in movement behaviour in girls with PA compared with controls. However, we found no significant association between 24-hour movement behaviours and DHEAS concentrations. Further data are needed to clarify these relationships. We also observed in our cohort the clinical and biochemical characteristics previously described in PA.

SPN 9

Short- versus long-arm fiberglass cast immobilization for distal radius Salter–Harris fractures in children: a randomized controlled trial

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Background: Distal radial physeal fractures in children are associated with a reported risk of secondary displacement of up to 39%. Current strategies to achieve fracture stability include surgical management with closed reduction and K-wire fixation or conservative immobilization using a long-arm cast (LAC). Whether immobilization with a LAC is required compared with short-arm cast (SAC) immobilization remains unclear. This study evaluated whether SAC provides fracture stability comparable to LAC in displaced and non-displaced Salter–Harris (SH) type I and II distal radial physeal fractures.

Methods: A prospective, randomized, controlled trial was conducted at the emergency department of the University Children's Hospital Zurich. Patients aged 4–16 years presenting with displaced or non-displaced distal radial SH type I or II fractures were eligible and randomized to either the SAC or LAC group after informed consent. Radiographs obtained at presentation and during follow-ups were analyzed (days 5, 10, 28). The primary outcome was secondary fracture displacement; secondary outcomes included loss of reduction and the need for surgical treatment with K-wire fixation. Group comparisons were performed using chi-square or Fisher's exact tests for categorical variables and t-tests for continuous variables.

Results: A total of 114 patients were included (mean age 10.7 ± 2.7 years), with 60 allocated to the SAC group and 54 to the LAC group. The majority of fractures were SH type II (90.4%). Displaced fractures were similarly distributed (SAC 65.0% vs. LAC 68.5%; p = 0.691). Secondary fracture displacement occurred in 16.7% of patients overall, affecting 9 patients (15.0%) in the SAC group and 10 patients (18.5%) in the LAC group, with no significant group difference. Pre-treatment radial angulation and post-reduction alignment were comparable between groups (p = 0.684 and p = 0.462, respectively). There were no significant differences in the need for secondary surgical treatment with K-wire fixation (SAC 10% vs. LAC 13%; p = 0.619).

Conclusions: In children with distal radial SH type I and II fractures, short-arm cast immobilization was not associated with higher rates of secondary displacement, loss of reduction, or need for surgical fixation compared with long-arm casting. These findings support short-arm casting as a safe and effective immobilization option in this patient population.

SPN 10

Measuring fever phobia: Development and validation of a scenario-based judgment skills scale for parents

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Purpose: Fever phobia, i.e., the exaggerated fear of fever among caregivers, remains common despite decades of education. Existing studies have often reduced it to a knowledge deficit and relied on non-validated questionnaires, limiting cross-study comparability and conceptual precision. This study developed and validated the first standardized instrument to assess caregivers' judgment skills in managing childhood fever, focusing on how knowledge and other factors interact to shape decision-making.

Methods: A cross-sectional study was conducted among 290 caregivers of children recruited from pediatric clinics and social media in Southern Switzerland (March 2024–May 2025). Participants completed nine realistic fever-management scenarios, each featuring four response options ranked by expert pediatricians. Agreement between participants and experts was evaluated using Spearman's rank correlation coefficients (ρ) and compared to 200 sets of simulated random responses. Hierarchical multiple regression identified sociodemographic (sex, education, country) and psychological (knowledge, concern, self-efficacy) predictors of expert-aligned judgment.

Results: Participants showed moderate agreement with expert rankings (M = 0.47, SD = 0.22), significantly exceeding random performance (M = –0.03, p <0.001). Sociodemographic factors explained 10.8% of the variance in judgment accuracy. Adding knowledge and concern improved prediction (ΔR^2 = 0.073, p <0.001): knowledge positively predicted accuracy (β = 0.016, p <0.001), whereas concern was a negative predictor (β = –0.020, p <0.01). Self-efficacy contributed marginally (ΔR^2 = 0.030, p = 0.051).

Conclusions: This validated, scenario-based instrument offers a reliable way to assess parental decision-making about childhood fever. Findings emphasize that emotional and cognitive factors, rather than sociodemographic background alone, drive judgment accuracy. The tool provides a foundation for targeted education and intervention strategies addressing fever phobia.

SPN 11

How can self-efficacy, motivation and active involvement in coaching be improved in children with complex congenital heart disease: Insights from a qualitative focus group analysis

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Introduction: Executive function (EF) difficulties are among the most prevalent neurodevelopmental impairments in children with complex congenital heart disease (cCHD). We developed a multimodal EF intervention study E-FIT, consisting of computerized training, personalized online coaching sessions and analog games. The feasibility study demonstrated overall good feasibility but limited engagement and adherence during the

coaching and training sessions. The present qualitative analysis aims to identify factors that may improve participation in the study by enhancing self-efficacy, motivation, and active involvement. These factors will be essential in the planning of a full randomized controlled trial.

Methods: A qualitative focus group was conducted with eight stakeholders: one 13 year-old adolescent with cCHD who had participated in the E-FIT intervention, three parents of previous participants, one teacher and three clinical experts with a professional background in clinical psychology and neuropsychology and experience in learning coaching. The online discussion regarding how self-efficacy, motivation, and active involvement in coaching sessions can be improved in children with cCHD was video-recorded and transcribed verbatim. Data were analyzed using structured qualitative content analysis. Coding was performed in two iterative rounds and guided by predefined research questions.

Results: Several aspects of how self-efficacy, motivation and active involvement in coaching can be improved were identified. For self-efficacy, self-monitoring of progress, the perception of clear and realistic goals, subjective effort and experiences of success were concepts that were viewed as crucial. Regarding motivation, sense of purpose and autonomy in decision-making were described as important components. With regard to active involvement in coaching, the participants mentioned roleplay, setting learning goals and developing plans to improve organization.

Conclusion: Overall, the findings identify key mechanisms that can strengthen self-efficacy, motivation, and active involvement in E-FIT among children with cCHD. These insights may guide intervention refinements to enhance engagement and adherence prior to evaluation in a larger randomized controlled trial.

SPN 12

Ready for transition? Self-management skills in adolescents with congenital heart disease with and without comorbid neurodevelopmental disorders

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Background and Aim: Adolescents with congenital heart disease (CHD) require transfer from pediatric to adult care, ideally through a structured transition program that promotes independence. However, self-management skills – a crucial component of transition readiness – vary widely, and contributing factors remain poorly understood. Comorbid neurodevelopmental disorders (NDDs) may introduce additional heterogeneity. We aim to compare self-management skills relevant for transition readiness between adolescents and young adults (AYA) with CHD with and without NDDs. In addition, we aim to explore heterogeneity in these skills by identifying distinct patterns using a person-centered approach.

Methods: In total, 95 AYA with CHD were assessed at a mean age of 17.9 years (SD = 1.3). Self-management skills were assessed with the Transition Readiness Assessment Questionnaire (TRAQ). Linear regression was used to compare TRAQ scores between AYA with and without NDDs, adjusted for age, sex, and CHD severity. A latent profile analysis (LPA) using the three subscale means of the TRAQ (autonomy, adherence, health literacy) was conducted to identify profiles of self-management skills that are critical for a successful transition.

Results: Overall, 26.3% of AYA had a diagnosis of an NDD. AYA with NDDs showed lower overall TRAQ scores than AYA without NDDs (β = -0.44, CI-95 [-0.75 to -0.12], p = 0.008), however, considerable within-group variability was observed. Using LPA, three distinct self-management profiles were identified; a favorable (n = 19, 20% of sample), an at-risk (n = 19, 20%), and a low health literacy (n = 57, 60%) profile. AYA in the favorable or at-risk group showed high or low, respectively, skills across all three subscales of the TRAQ. AYA in the low health literacy group showed low health literacy but high autonomy and adherence. The prevalence of NDDs did not differ between the at-risk and the favorable group (52.6% vs. 31.6%, p = 0.32) but was higher in the at-risk than in the low health literacy group (52.6% vs. 15.8%, p <0.01).

Conclusion: Overall, 80% of AYA with CHD exhibited high levels of autonomy and adherence, however, deficits in health literacy remained prevalent in the majority. Comorbid NDDs are associated with lower overall transition readiness and may contribute to heterogeneity. These findings highlight the need for transition interventions that specifically target AYA with NDDs to ensure readiness for transfer of care.

SPN 13

Diagnostic accuracy of Rapid Antigen Detection Test in Children with Pleural Empyema

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Background: Studies describing the use of rapid antigen detection test (RADT) for group A Streptococcus (GAS) in children with pleural empyema are limited. We aim to assess its sensitivity and specificity.

Methods: We used data from 2 separate prospective surveillance systems. The pneumonia study enrolled children aged 1 month to 15 years old hospitalized for pneumonia in 8 pediatric emergency departments since 2009. ISAI study enrolled children with invasive GAS infections since 2022 in 34 centers. We extracted and analyzed the data of children presenting pleural empyema with a positive culture and/or bacterial PCR on pleural fluid sample and who underwent a RADT for GAS (StreptAtest, Biosynex, France).

Results: Among the 7,483 children hospitalized with pneumonia (including 905 with pleural empyema) and 528 children with invasive GAS infection (including 73 with pleural empyema), 95 children met the inclusion criteria (41 from the pneumonia study and 54 from the ISAI study). Median age was 2.5 years, 48 children were male (50%), and case fatality rate was 6% (6/95). No patients were enrolled in both studies. Pathogens identified

were GAS (n=78), Streptococcus pneumoniae (n=14 children), and Staphylococcus aureus (n=4) with one child having two pathogens on pleural sample culture. Combining data from both studies, RADT sensitivity was 94.9% (74/78; 95% confidence interval, 87.4-98.6%) and specificity was 100% (17/17; 95%CI 80.5-100%).

Conclusion/Learning point: The high sensitivity and specificity of GAS RADT on pleural empyema support the routine use of this test when pleural fluid sample is obtained. GAS RADT provides results within minutes and is easy to perform at the patient's bedside. The result can guide subsequent clinical decisions, notably antibiotic treatment.

Funding: The pneumonia study was funded by Pfizer. The ISAI study was funded by ACTIV. Funders had no role in the design and conduct of the study.

SPN 14

Is the Swiss Paediatric Airway Cohort (SPAC) representative? A generalizability assessment using routine clinical data

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Aims: Selection bias can affect how well study findings apply to the populations they are intended to inform. Despite its importance, the representativeness of study populations is rarely assessed because data on eligible non-participants are often unavailable. We assessed the representativeness of children with physician-diagnosed asthma enrolled in the Swiss Paediatric Airway Cohort (SPAC), a national cohort recruiting patients seen in paediatric pneumology clinics.

Methods: We conducted a retrospective representativeness assessment by comparing children with physician-diagnosed asthma enrolled in the Swiss Paediatric Airway Cohort (SPAC) with eligible but non-enrolled children with asthma (non-SPAC) seen at the paediatric pneumology outpatient clinic at Inselspital between 2017 and 2023. Using routine clinical data extracted through the Swiss Personalized Health Network (SPHN), we compared baseline sociodemographic and clinical characteristics at the first pneumology visit, including age, sex, socioeconomic position, diagnosis, anthropometrics, and lung function. Similarity between SPAC and non-SPAC children was quantified using the Generalizability Index Score (GIS), which summarises overlap in measured characteristics between populations. We also compared rates of asthma-related emergency visits between groups after adjustment for baseline differences.

Results: We included 417 SPAC participants and 2,158 non-SPAC children. SPAC participants were slightly younger at the first visit than non-SPAC children (mean difference −0.81 years, 95% CI −1.23 to −0.39) and had marginally higher FEV z-scores (mean difference 0.18, 95% CI 0.06 to 0.31). The GIS was 0.85, indicating high similarity in measured characteristics. The rate of asthma-related emergency visits was 3.5 per 100 person-years among SPAC children and 2.8 per 100 person-years among non-SPAC children, but differences were non-significant (P = 0.439).

Conclusion: Routine clinical data extracted through SPHN show that children with asthma enrolled in SPAC closely reflect the wider population of children with asthma treated in paediatric pneumology practice. This supports the generalizability of the study findings and underlines the value of routine clinical data for comparable clinical research.

SPN 15

Central line-associated bloodstream infections in children with long term central venous catheters (Port-a-Cath)

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Background: Central venous catheters (CVCs) are essential in pediatric care. However, they pose a risk for central line-associated bloodstream infections (CLABSIs), associated with significant morbidity. Among CVCs, Port-a-cath (PAC) carry the lowest infection risk with longer infection-free dwell time.

Objective: This single center surveillance study analyzes CLABSI epidemiology, associated risk factors and effectiveness of preventive interventions at the University Children's Hospital Zurich.

Methods: All patients under 18 years of age with a PAC inserted between 01.01.2006-31.12.2024 were eligible for enrollment in this study and were prospectively monitored across all pediatric units and outpatient services as part of surveillance and quality control efforts. Collected data included, among others, age, date of insertion, underlying disease, isolated pathogens in CLABSIs, catheter dwell time and removal. CLABSI were defined following the National Healthcare Safety Network (NHSN) criteria provided by the Center for Disease Control (CDC). The effect of two preventive bundles implemented on the oncology ward was analyzed. Descriptive and incidence-rate analyses were performed by patient subgroup and risk factors. Cox proportional hazards frailty models and Poisson regression were used for time-to infection and intervention effect analysis, respectively.

Results: We analyzed 1090 PACs in 923 patients over 735'218 catheter days. In total, 141 CLABSIs occurred in 115 patients, with an overall incidence rate of 0.19 infections per 1000 catheter days (95%CI: 0.16–0.23). The highest incidence was observed in children under 2 years of age (0.33; 95%CI: 0.25–0.44, HR 3.27, p<0.0001). Gram-positive bacteria were most frequently isolated, particularly coagulase-negative staphylococci (49% of all isolates). Overall, CLABSI incidence rates significantly declined over time. On the oncology ward the incidence rate went down from 0.27 (95%CI: 0.20–0.35) to 0.12 (95%CI: 0.08–0.19) CLABSI per 1000 catheter days, even though no statistically significant effect of the implemented prevention interventions could be shown.

Conclusion: CLABSI incidence rates in children with PACs declined over time and were low overall but significantly higher in those under the age of 2 years. These findings highlight the need for continued age-specific and risk-adapted preventive strategies in the vulnerable pediatric population.

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