

**Background and Aim** Injury due to foreign body (FB) aspiration and/or ingestion is a common and serious pediatric emergency. FB injury (FBI) most commonly occurs in children less than six years, and the incidence of FBI has increased in recent years. The aim of the present study was to evaluate and compare the characteristics of FBI due to ingestion and aspiration.

**Methods** Data from who were hospitalized for FB ingestion and/or aspiration and underwent rigid bronchoscopy and esophagoscopy from 2008–2011 were retrospectively evaluated. FB in the upper aerodigestive tract (ADT) was evaluated with respect to the characteristics of patients, clinical presentation, management strategy, the outcome, and features of FB.

**Results** A total of 192 patients admitted for FB ingestion or aspiration in the pediatric surgery department were evaluated. The mean age was 40.97±35.73 months. The majority of patients were fewer than four years of age. FB were mainly located in the upper esophagus for ingested FB 60.8 %, while for aspiration 43% of FB were in the main right bronchus. A total of four patients died. The hospitalization period of patients admitted for FB aspiration was longer than that of patients with FB ingestion. Surgery was performed in four patients. The most commonly ingested FB were coins, while seeds were the most commonly aspirated.

**Conclusion** Prevention is the key to dealing with FBI. Since the frequency of foreign bodies is higher in under-developed countries, education of parents regarding the dangers and prevention of aspiration and ingestion is important.

1491 **TIME OF DAY AS A DETERMINANT OF RADIOGRAPHIC IMAGING IN THE EVALUATION OF PEDIATRIC INTUSSUSCEPTION**

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**Background** Although ultrasound is often the preferred pediatric imaging study, many institutions lack ultrasound access at night for evaluation of intussusceptions in children. The purpose of this study was to characterize patterns of daytime and nighttime use of radiographic imaging for evaluation of intussusceptions.

**Methods** A retrospective chart review of patients evaluated for intussusceptions from January 2010 to December 2010 was performed to evaluate daytime and nighttime use of radiographic imaging for pediatric patients. Patients were further stratified by time of performance of imaging study into “day” and “night” categories. Differences in clinical characteristics, imaging study, cost, and final diagnosis between daytime and night were analyzed.

**Results** 86 pediatric consults with suspected intussusceptions were performed. Forty (46.5%) consults were performed during the day. During the day, 38 (95%) patients underwent US and 33 (82.5%) had abdominal films. At night, 3 (6.5%) CTs and 39 (84.7 %) abdominal films were performed. The positive rate of enemas during the daytime was significant statistically higher than at night (97.6% vs 59.2%,  $p<0.001$ ). Average daytime cost of initial radiology evaluation was 1159 dollars compared with 3328 dollars at night ( $p<0.001$ ). In terms of radiation dose, the daytime dose was significantly lower than the those at night (0.63±0.48 mSv vs 2.06± 1.48 mSv,  $p<0.001$ ).

**Conclusions** Radiographic imaging at night results in higher average radiation exposure and cost. Twentyfour-hour ultrasound availability would decrease radiation exposure and cost of evaluation of children presenting with intussusceptions.

1492 **SOCIODEMOGRAPHIC FACTORS INFLUENCE THE RISK FOR FEMUR SHAFT FRACTURES IN CHILDREN: A SWEDISH CASE-CONTROL STUDY FROM 1997–2005**

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**Objectives** To investigate gender and age differences in sociodemographic risk factors and their relationship with femur shaft fractures and injury mechanisms in children.

**Methods** Population based case-control study. Swedish children (N=1,874), aged 0–14 years, with a femur shaft fracture diagnostic code between 1987–2005 were compared to matched controls (N=18,740). Data were based on record linkage between six Swedish registers. Adjusted Odds Ratios were calculated.

**Results** Parental age < 25 years old increased the risk (25%) for fracture, compared to parents with an average age of 25–37 years. When stratifying for gender and age group, the risk (40%) was only seen in older boys, 7–14 years of age. If parents' total income was among the 25<sup>th</sup> percentile, the risk (20%) increased, compared to parents with an income in the 50<sup>th</sup> percentile. The risk (50%) was only seen in older girls living in low-income households. Children with at least one university-educated parent reduced their fracture risk (15%), compared to children whose parents had 10–12 years of education, but this decrease could not be linked to gender and age group.

Family composition, number of siblings, birth order or receiving social welfare did not influence the fracture risk.

Regarding the cause of injury none of the sociodemographic variables influenced the risk equal for boys and girls.

**Conclusions** Sociodemographic differences related to femur shaft fracture rate and cause of injury differ between boys and girls in different age groups. This have implications for parental counselling.

1493 **CD 64 AS A DIAGNOSTIC MARKER OF A SERIOUS BACTERIAL INFECTION IN CHILDREN WITH FEVER PRESENTING TO THE EMERGENCY DEPARTMENT**

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**Background and Aims** Expression of neutrophile CD64 is elevated in presence of a bacterial infection. Studies on its diagnostic value show good results in adults, and diverse results in neonates and children admitted to the ICU with sepsis. We aimed to determine the diagnostic value of CD64 in children presenting with fever at the emergency department (ED), to detect a serious bacterial infection (SBI).

**Methods** We performed a prospective observational study including children aged 1 month-16 years with fever, who presented to the ED of a large teaching hospital in the Netherlands. Patients were excluded in case of relevant comorbidity. CD64 was determined using flowcytometry. SBI was assessed based on a combination of a positive culture, radiology or consensus diagnosis and included disease course follow up by an inpatient visit or telephonic follow up.

**Results** During 6 months in 2011 we included 208 children of whom CD64 was determined in 137 patients (66%). Preliminary results are based on 137 febrile children, of which 28 (20.4%) with a SBI. The area under the curve of the receiver operator curve to assess SBI was 0.65 (95% CI 0.53–0.77).

**Conclusion** In a sample of febrile children at the ED, we assessed moderate diagnostic value of CD64 as marker of a SBI. Our further analysis on complete sample (estimated n=280) will include diagnostic performance of CD64 for specific bacterial and viral diagnoses.

## 1494 NEUROFEEDBACK AS A TREATMENT OF TICS IN CHILDREN

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**Object:** Tics are involuntary, sudden, rapid, recurrent, stereotyped motor movements or phonic productions that involve discrete muscle groups. Pharmacological treatment was considered as the most effective approach for tics management for many years. In recent period clinicians attempt to use behavioral methods for this purpose. The aim of our study was to use non pharmacological treatment like EEG biofeedback-neurofeedback (NF) for the treatment of tics.

**Methods** We have examined previously non treated 15 children (9 boys and 6 girls) with simple tics (average age 10 years). All children with complex tics and with other comorbidities were excluded from the study. Tics frequency and severity were assessed by Yale Global Tic Severity Scale (YGTSS). Sensorimotor rhythm (SMR) training was used for NF therapy. 30 session of NF with duration of 30 minutes of each was conducted in every patient. Data were analyzed by SPSS 10.0. ANOVA was used to determine the effect of treatment on YGTSS parameters.

**Results** The ANOVA showed a significant effect of treatment on YGTSS measures ( $F(1,37)=223.69$ ,  $MSE=114.735$ ,  $p<.0001$ ). These evidences suggest that NF significantly improves the severity and frequency of tics.

**Conclusions** Thus effectiveness of SMR training in children with tics is important as the drugs used for the treatment have severe side effects, compliance problems and etc. Cognitive behavioral therapy is effective not only for reducing of tics but also for increasing self esteem and social competence as well.

## 1495 ASSESSMENT OF ANTIPIRETTICS AS SEIZURE PREVENTING IN FEBRILE CONVULSION

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**Background** Febrile seizure is the most common seizure disorder during childhood. Antipyretics has not been shown to prevent seizure recurrences. (1)

**Objectives** Some researchers previously studied prophylactic efficacy of antipyretics in FC (2–7). Uhari studied synergic effect of antipyretics and BDPs in 1993. our study planned for antipyretics efficacy in FC in IRAN.

**Methods** Our observational, analytical, cross-sectional study was accomplished in over one year from 2009/Nov/23 to 2010/Nov/23. Sample size was 92 patients and sampling method was accidentally. Data collected by interview and analyzed using SPSS statistical software and Kolmogorov-smirnov, Pearson correlation and Regression tests.

**Results** 67 patients (72.8%) had been received antipyretics before seizure occurrences, and 25 patients (27.2%) hadn't. Antipyretic which had been used composed of one forms of acetaminophen in 62.7%, NSAIDs in 4.5%, and more than one drugs (mixed) in 32.8%. 34 patients (50.7%) used antipyretics less than 3 hours, 31 patients (46.3%) in 4–24h and 2 patients (3%) more than 24h before seizure occurrences (FIG-1). (Table-1) shows maximal plasma concentration and plasma half-life of antipyretics. Approximately 50% of patients received antipyretics in appropriate time, but 25% treated after plasma half-life and remainder didn't received antipyretics before seizure occurrences.

**Conclusion** Preventable effects of antipyretics in FC, is in doubt but the difference between seizure occurrences in treated groups and remainders are not significant.

FIG-1: Antipyretic usage time before seizure occurrences.

## 1496 WHEN SUSPECT PANAYIOTOPOULOS SYNDROME (PS) IN A CHILD WITH CLINICAL DIAGNOSIS OF GASTRIC ESOPHAGUS REFLUX DISEASE (GERD)

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Panayiotopoulos syndrome is “a benign age related focal seizure disorder occurring in early and mid-childhood. It is characterized by seizures, often prolonged, with predominantly autonomic symptoms, and by an EEG that shows shifting and/or multiple foci, often with occipital predominance” (definition of International League Against Epilepsy).

In literature the clinical features of PS was frequently mistaken as non-epileptic conditions such as acute encephalitis, syncope, migraine, cyclic vomiting syndrome, motion sickness, sleep disorder, or gastroenteritis.

In our experience during the last 2 years we have observed 4 children misdiagnosed by clinical history for GERD. Until now PS is underestimated with the consequences of high morbidity and costly mismanagement.

These 4 children were referred to general pediatrician at the age of 2–3 years because they started suffering from gastrointestinal emetic symptoms: nausea, retching, and vomiting. The attacks occurred mainly during sleep without sensory-motor clinical signs of seizure. One child also had monthly episodes of severe headache with clinical characteristics of migraine without aura.

After a treatment with proton pump inhibitors (PPI) and anti-acid without benefits, according to the literature, they were sent to neurologist for suspicion of PS which was confirmed by EEGs occipital features.

Because of the importance of the symptomatology, the children have been treated with Lamotrigine with benefit.

**Conclusions** When a child presents symptoms suggestive of GERD but non responding to specific GERD therapy, there is indication to effect an EEG to investigate a PS.

## 1497 THE EFFECT OF SURGERY TIME ON PROGNOSIS IN NEWBORNS WITH MENINGOMYELOCELE

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**Background and Aim** To investigate the effect of surgery time on prognosis of newborns with meningomyelocele.

**Methods** The records of neonates with meningomyelocele were retrospectively analyzed. Demographic and clinical characteristics as well as information, timing of surgery, and durations of hospital stay and antibiotic therapy were recorded.

**Results** The records of 30 babies were included in the final analysis. Overall, the mean gestational age was  $37.7\pm 2.7$  weeks, with a mean birth weight of  $2967\pm 755$  g and head circumference of  $35.8\pm 3.8$  cm. In terms of localization, 46.6% of the meningomyeloceles were lumbosacral, 40% were lumbar, 10% were thoracolumbar and 3.3% were thoracic. The mean size of the meningomyelocele sacs was  $4.33\pm 1.2$  cm. Newborns underwent surgery on average of  $8.2\pm 5.9$  days after birth, with an overall mean duration of hospital stay of  $30\pm 25.1$  days. Patients were divided into two groups based on timing of surgery (group 1,  $\leq 5$  days; group 2,  $> 5$  days), and comparisons between groups revealed that earlier surgery was associated with significantly shorter durations of hospital stay ( $p<0.001$ ) and antibiotic therapy ( $p<0.05$ ).