Poster abstracts

**PO-0292** PAEDIATRIC OUT-OF-HOSPITAL PATIENTS: A POPULATION-BASED STUDY

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**Background and aims** The incidence and distribution of paediatric out-of-hospital (OOH) emergencies are not known, and the need for paediatric OOH services has not been studied on a population level. We wanted to study the characteristics and epidemiology of paediatric OOH care. We hypothesised this could ameliorate the design of paediatric emergency medical services (EMS) and the education of their personnel.

**Methods** We studied all (n = 1869) dispatched emergency calls and the connected EMS patient records for paediatric patients (age 0–16 y) in Helsinki, Finland (population 0.6 M, paediatric population 91 000) during a 12-month period (2012). Patient characteristics, diagnoses, time intervals, medical treatments, procedures, vital measurements and outcome of OOH treatment were available for analysis.

**Results** Paediatric OOH emergencies were relatively rare (1869 calls, or 4.5% of all emergency calls; yearly incidence 20:1000 in the population). Toddlers were frequently involved, as a third of patients were 0–2 y old. Three causes (falls, dyspnoea, seizures) made up nearly half (37%) of all paediatric emergencies, and the majority (80%) concerned previously healthy children. After evaluation by the EMS, only half of the patients (54%) needed ambulance transportation to hospital. Cardiac arrest, or need for advanced life support measures (e.g. intubation), were rarities.

**Conclusions** Paediatric OOH emergencies are rare and have specific characteristics differing from the adult population. EMS should be designed and their personnel trained for evaluation and management of most frequent situations.

**PO-0293** MANAGEMENT OF CEREBRAL ARTERIOVENOUS MALFORMATION WITH HAEMORRHAGE

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**Background and aims** We retrospectively analysed cases of cerebral haemorrhage from arteriovenous malformation (AVM), admitted to a PICU of a tertiary hospital to determine management strategies and outcome.

**Methods** Data were collected retrospectively from a departmental database between 2009 to 2014.

**Results** 10 patients, all previously fit and well presented with spontaneous cerebral haemorrhage in the context of previously undiagnosed AVM. Median age at diagnosis was 12.5 years (8–15 years). (7 male, 3 female).

All patients presented with headache and decrease in Glasgow coma scale.

All patients had CT scan and angiogram as part of their initial evaluation and MRI for follow-up. Intracranial pressure monitoring devices were inserted in all patients and 5 required emergency craniotomy for haemorrhage evacuation. 6 required embolisation and 4 underwent gamma knife stereotactic radio surgery.

5 patients needed inotropic support with nor adrenaline during the first 24–36 h, 6 developed arterial hypertension during their PICU stay.

Median length of stay in PICU 9.5 days (3–19 days). Median length of invasive ventilation 7 days (2–16 days), 1 patient received a tracheostomy after several failed extubation trials.

Follow up after six months – one year showed seven patients with improving neurological signs, mostly hemiparesis, ataxia and diplopia. Two were asymptomatic and one patient has not reached the six month follow-up yet.

**Conclusions** Treatment of cerebral haemorrhage in context of arteriovenous malformation includes a multidisciplinary approach with satisfactory results in neurological outcome on follow-up.

**PO-0294** WITHDRAWN

**PO-0295** EARLY NEONATAL HYPOCALCEMIA IN INFANTS BORN TO MOTHERS WITH HIGH PREVALENCE OF HYPOVITAMINOSIS D AND RELATION TO BIRTH SIZE

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**Introduction** Neonatal hypocalcemia is a potentially life-threatening condition, with reported prevalence varying by gestational age, maternal and infant comorbidities, and perinatal factors.

**Objectives** Because of the high prevalence of vitamin D deficiency in pregnant women (60%) in Qatar we measured serum Ca in a random sample of newborns admitted to the neonatal unit in HMC for 6 consecutive months and correlated serum calcium level to gestational age, birth weight, length and head circumference, and mothers’ weight.

**Results** (Table) : The incidence of hypocalcemia in our preterm and full term neonates was significantly higher (3%) compared to those reported in the literature. There was no statistical difference in the incidence of hypocalcemia between term and preterm groups. Serum Ca was correlated significantly with birth wt, length, BMI and head circumference (r = 0.26, 0.25, 0.32, 0.25 respectively, p < 0.05).

**Discussion** Despite high prevalence of vitamin D deficiency in pregnant women in Qatar (60%) early neonatal hypocalcemia was detected only in 3% of both term and preterm newborns. These findings point out to a well-functioning adaptation mechanism that prevents hypocalcemia in newborns to mothers with hypovitaminosis D.

**Conclusion** This high incidence of neonatal hypocalcemia necessitates vitamin D supplementation to pregnant women in this population with high prevalence of vitamin D deficiency.
**PO-0295**

**Abstract PO-0295**

**Growth data terms vs preterms**

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*p < 0.05 term vs preterm group.

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**PO-0296**

**PREVALENCE OF INTERCURRENT ILLNESS IN CHILDREN AGED 0–4 YRS, WHO PRESENT TO PEDIATRIC A&E WITH MINOR HEAD INJURY, AND THEIR MANAGEMENT WITH REGARDS IMAGING**

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**Background** Minor head injury is a common presentation to Paediatric Emergency Departments (PED). Various clinical decision rules exist to help clinicians decide which patients require radiological investigation, several include 3 or more discreet vomits. Anecdotally there is a subgroup of patients with minor head injury (MHI) who have intercurrent illnesses (ICI), however there is a paucity of research into this group and their management, particularly with regards imaging.

**Objectives**

1) To quantify the proportion of children (aged 0–4 yrs) who present to the PED with MHI and have symptoms of ICI.

2) To determine if these children are more likely to vomit than their counterparts.

3) To establish current clinical practice for children with ICI and vomiting post MHI.

**Results** Of 1203 children aged 0–4 yrs presenting to a PED in central London between April 2011 and 2012 with minor head injury, 88 (7.5%) had symptoms of an ICI. Children who had symptoms of ICI (38/88) were more likely to vomit than those who did not (92/1112) (p < 0.001). Of 16 patients who had an ICI and 3 or more vomits following head injury only 2/16 (12.5%) underwent CT head compared with 8/27 (29.6%) in the non ICI group. There were no cases of brain injury in either group.

**Conclusion** Minor head injury occurs frequently in the presence of ICI in younger children. These patients are more likely to vomit and clinicians are consequently contradicting current guidelines and interpreting imaging criteria within a clinical context.

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**PO-0297**

**CHILDBREN PRESENTING TO THE EMERGENCY DEPARTMENT WITHHEADACHE AS PRIMARY COMPLAINT ARE NOT LIKELY TO HAVE A BRAIN TUMOUR**

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**Background** Headache is a very common complaint in children presenting to the Paediatric Emergency Department (PED) and causes concern in parents and physicians regarding malignant intracranial processes. Aim of this study is to search for malignant etiologies in children presenting to the PED with headache as primary complaint.

**Patients and methods** All digital medical charts of children <16 years presenting to the PED between August 2011 and August 2013 with headache as primary complaint were retrospectively reviewed. Children with history of intracranial tumor/surgery, recurrent headache under investigation or treatment, or traumatic headache were excluded. Age, gender, brain imaging and final diagnoses were registered.

**Results** Of all 34,336 children seen at the PED during 2 years, 117 (0.3%) consulted with headache as primary complaint: 61 boys (8.4 years ± 3.4) and 56 girls (8.6 years ± 3.7). Brain imaging (CT or MRI) was performed in 33/117 children (28%) because of clinical suspicion of intracranial processes: presence of associated neurological symptoms, valsalva manoeuvre increasing pain intensity, evolution with intensifying pain, recurrent focal pain, change in pattern/intensity, lack of response to analgesics and aberrant neurological features. Most frequent medical conclusions were “headache related to a viral infection”, “migraine”, “tension type headache”, “psychosomatic headache” and “headache without identified origin”. None of these patients suffered from a brain tumour.

**Conclusions** Children presenting to the PED with headache as primary complaint are not likely to suffer from a malignant brain tumour. More frequent their headache is related to a concurrent viral infection.

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**PO-0298**

**LIMITING WORKING SHIFT TIMES FOR PEDIATRIC EMERGENCY DEPARTMENT PHYSICIANS REDUCES NUMBER OF COMPLAINTS BY PATIENTS’ PARENTS**

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**Background** Paediatric trainees have always worked many and long shifts during their education, especially while providing 24/7 continuity of care at the Department of Emergency Medicine. It is depicted that longer shifts lead to more medical errors and less patience with colleagues and patients.

This study aims to quantify the effect of reducing working shift duration for paediatric trainees on the number of complaints by parents of paediatric patients.

**Methods** The study is conducted in the Paediatric Emergency Department (PED) of a large tertiary hospital. Paediatric residents used to work shifts of over 24 h before, but work was reorganised introducing a rotational working schedule in 2008 reducing shifts to an absolute maximum of 14 h. All complaints filed by parents – either through the PED mailbox or via the Complaints Mediation Service of the hospital were analysed. Periods before and after introduction of the rotational reduced shift system were compared regarding number of complaints, severity of these complaints, and number of reported verbal or physical aggressions.

**Results** Between 2003 and 2012, more than 150,000 patients presented to the PED. Less than 1% of these contacts led to a complaint. The number of complaints filed by parents still dropped significantly after reducing working shift times for