

donation, survival after the diagnosis of brain death and length of stay in PICU ($p > 0.05$).

Conclusion The early diagnosis of brain death and prompt evaluation of the patients by the ICU physicians once the diagnosis is considered will probably yield better organs and reduce costs. Training of the PICU physicians, nurses and organ donation coordinators and increasing the awareness of the children via public means may increase the families' acceptance rate for organ donation in future.

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.

Abstract PO-0295 Table 1 Growth data terms vs preterms

	Preterms < 36 w	Full-terms > 37 w
Number	n = 60	n = 155
Gestational age	31.5 +/- 2.2	40 +/- 1.5
Weight (g)	1584 +/- 451	3151 +/- 597 *
Length (cm)	41.4 +/- 5	50.7 +/- 3.5 *
BMI	9 +/- 1.1	12.2 +/- 2 *
Mother wt (kg)	59.8 +/- 16.2	66.3 +/- 18 *
Head Circumf. (cm)	28.9 +/- 2.8	34 +/- 2 *
Total Calcium	2.11 +/- 0.2	2.31 +/- 0.16
Hypocalcemia %	3%	3%
Hemoglobin (g/dl)	16.4 +/- 2.5	15.7 +/- 2.45
Hematocrit	51.4 +/- 9.2 *	46.9 +/- 7.5
Creatinine	58.8 +/- 15.4	66 +/- 16.8*

*p < 0.05 term versus preterm group.

PO-0296 PREVALENCE OF INTERCURRENT ILLNESS IN CHILDREN AGED 0–4 YRS, WHO PRESENT TO PAEDIATRIC 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 (7.3%) 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 consciously contradicting current guidelines and interpreting imaging criteria within a clinical context.

PO-0297 CHILDREN PRESENTING TO THE EMERGENCY DEPARTMENT WITH HEADACHE 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 tumours or 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 \pm 3.4) and 56 girls (8.6 years \pm 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.

PO-0298 LIMITING WORKING SHIFT TIMES FOR PAEDIATRIC 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 scheme 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