366 ASSOCIATION BETWEEN METABOLIC SYNDROME AND NUTRITION, SLEEP AND PHYSICAL ACTIVITY IN CHILDREN

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Background and Aims Metabolic syndrome includes a collection of risk factors that increase the risk of cardiovascular diseases and diabetes type 2. The prevalence of both conditions has been increased due to urbanization and changes in life style. The purpose of this study was to determine the prevalence of metabolic syndrome in children and its relationship with nutritional habits sleep duration and physical activity.
Methods A cross-sectional study was conducted on 338 (166 male, 172 female) children aged 10–18 years old. Waist circumference, blood pressure, blood sugar and lipid profile were measured. Metabolic syndrome defined according to IDF criteria. The pattern of nutrition, physical activity and sleep evaluated with Iranian version of international valid questionnaires.
Results Prevalence of metabolic syndrome was 11.8%. There was no significant association between sleep duration and metabolic syndrome except association between short sleep duration and high level of LDL (P<0.03). The average daily salt consumption of in metabolic syndrome patients was more than healthy children. Subjects with daily active activity more than 2 hours had lower level of LDL and metabolic syndrome prevalence (p=0.04). Metabolic syndrome was significantly lower in subjects with organized activity.
Conclusion Metabolic syndrome is highly prevalent in Iranian children. These findings suggest importance of healthy nutritional habits and organized physical activity to prevent metabolic syndrome.

367 POST RESUSCITATIVE FACTORS INFLUENCING SURVIVAL AFTER IN-HOSPITAL PEDIATRIC CARDIAC ARREST

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Background and Aims In-hospital pediatric cardiac arrest (CA) achieves high return of spontaneous circulation (ROSC) rates but survival to hospital discharge is low. The aim of this study was to determine post-resuscitative features that may influence survival.
Methods Prospective, international, observational, multicentric study. CA in children between 1 month and 18 years were analyzed using the Utstein template. Post-resuscitative clinical features after achieving sustained ROSC that correlated with survival to discharge were analyzed.
Results 563 episodes of in-hospital CA in 502 patients were evaluated. 346 (68.9%) achieved ROSC for at least 20 minutes. 180 of them (52%) survived to hospital discharge. Cardiac rhythm at the time of ROSC was sinus rhythm in 56.5% of the survivors and 43.5% of non survivors (p=0.03). 74% of the patients were mechanically ventilated and 68.7% received inotropic drugs with no statistically significant differences observed between survivors and non survivors. Survivors received significantly lower mean dopamine (10.2 vs 13.4 mcg/kg/min; p=0.002) and dobutamine (10.1vs 12.3 mcg/kg/min; p=0.03) doses. Patients who survived had significantly higher mean pH (7.26 vs 7.17; p=0.02), and HCO3 (20.2 vs 18.4; p=0.04), and lower base excess (–5.6 vs –8.2 p=0.02) and lactic acid (5.3 vs 7.7; p= 0.006) values one hour after ROSC. Patients who survived had higher mean PO2 values and lower mean PCO2 values, but these differences did not achieve statistical signification.
Conclusion In-hospital pediatric CA, the post ROSC factors associated with mortality were cardiac rhythm, metabolic acidosis and doses of inotropic drugs.

368 MARKERS FOR INVASIVE BACTERIAL INFECTION IN WELL-APPEARING YOUNG FEBRILE INFANTS. THE VALUE OF PROCALCITONIN

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Background In the last decade, the procalcitonin (PCT) has been introduced in many protocols for the management of the febrile child. However, its value among young well-appearing infants is not completely defined.
Objective To assess the value of PCT in diagnosing serious bacterial infections and specifically invasive bacterial infections (IBIs) in well-appearing infants under 3 months of age with fever without source (FWS).
Design and Methods Retrospective study including well-appearing infants under 3 months of age with FWS attended in seven European Paediatric Emergency Departments. An IBI was defined when a bacterial pathogen was isolated in blood or cerebrospinal fluid culture.
Results A total of 1,531 infants under 3 months of age with FWS were attended. There were 1,112 well-appearing infants in whom PCT and a blood culture were performed. Among them, 23 (2.1%) were diagnosed with an IBI. A multivariate analysis showed that, among different epidemicological data and blood tests, PCT was the only independent risk factor for having an IBI (OR 21.69 if PCT 0.5 ng/mL). Comparing with C-Reactive Protein, PCT showed a better performance to rule-in an IBI. Among patients with normal urine dipstick and short-evolution fever (less than 6 hours), areas under the ROC curve were 0.819 and 0.563, respectively for detecting IBIs.
Conclusions Among young infants with FWS, PCT showed a better performance than C-Reactive Protein in identifying patients with IBIs and, mainly in those patients with normal urine dipstick and short-evolution fever, PCT seems to be also the best marker to rule out an IBI.

369 EVALUATION OF CARBON MONOXIDE POISONING IN CHILDREN

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Carbon monoxide poisoning is an important health problem that may lead to deaths during winters. The purpose of this study was to patients who were diagnosed with carbon monoxide poisoning.
Methods 196 patients between 0–17 years of age, who were treated at the Ankara Education and Research Hospital Child Emergency Service for the carbon monoxide poisoning diagnosis between November 2011 and April 2012 were evaluated. Patients' complaints, socio-demographic data, biochemical parameters were recorded.
Findings The age median of the patients was 10.0 while 51.5% were female. The most frequent complaint was: nausea, vomiting (27.6%). Carboxyhemoglobin (COHb) level average was 25.5±10.3

(5.1–61). Serum lactate median was 2.1 (0.1–11.2). Neurological findings were determined in 22.4% of the patients. Normobaric oxygen treatment was given to 75.5% of the patients, while 24.5% were given hyperbaric oxygen treatment. A positive correlation was determined between Lactate and COHb levels (P= 0.01, r= 0.228). A negative correlation was determined between Glaskow Coma Scale and COHb levels (p=0.01, r= –0.383). Patients with neurological findings had an average COHb level at 35.7% ±16, patients without neurological findings had an average COHb level at 22.5% ±7.7 (p=0.001). Blood lactate level was higher in patients with neurological findings than patients without neurological findings (p= 0.01).

Results COHb level in carbon monoxide poisoning cases is an important indicator for the existence of neurological findings. Since increase in lactate is correlated with the poisoning level and neurological findings, high lactate levels should be taken into consideration.

370 A RANDOMISED TRIAL OF DEXAMETHASONE VERSUS PREDNISOLONE IN THE TREATMENT OF ACUTE PAEDIATRIC ASTHMA EXACERBATIONS

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Introduction The aim of this open-label trial is to examine whether a single dose of dexamethasone is non-inferior to a 3-day course of prednisolone in the treatment of exacerbations of asthma in children who attend the Emergency Department (ED).

Methods Participants were identified on ED presentation, eligibility was confirmed and informed consent was obtained. Patients were randomised to receive either a stat dose of oral dexamethasone 0.3mg/kg (max 12mg) or prednisolone 1mg/kg/day (max 40mg) for 3 days. Otherwise standard treatment was administered.

Following discharge from the ED, patients were clinically reviewed on Day 4, and by telephone on Day 14. The primary outcome measure was the Pediatric Respiratory Assessment Measure (PRAM score) at Day 4. Secondary measures include relapse rate, requirement for more steroids, number of salbutamol therapies, and vomiting.

A sample size of 210 subjects will be sufficient to reject the null hypothesis - that the population means of both groups are equal with a probability of 0.9. The Type I error probability is 0.05.

Results 201 individual asthma exacerbations (101 prednisolone, 100 dexamethasone) have so far been enrolled. Demographic details and exacerbation severity are equal across both groups. We will complete enrolment in May 2012.

Conclusion The results of this randomised trial may have a significant impact on the management of acute asthma in children. At current rates we will complete recruitment in May 2012 and will present full reults at the conference.

371 RARE PRESENTATION OF ACUTE DEMYELINATING ENCEPHALOMYELITIS IN A CHILD WITH EXCESSIVE FATIGUE AND SLEEPINESS

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The encephalopathic child is a paediatric emergency and presents a considerable challenge.

We present a 4 year old boy who was admitted with 3 week history of excessive fatigue and sleepiness, waking for only 4–5 hours a day. He had occasional episodes of vacant stares and "wanted to go home", when was at home.

He had gastroenteritis after exposure to snails at nursery and was treated for otitis media by general practitioner. There was no history of fever or foreign travel.

He was sleepy with normal neurology and an apthous ulcer over lower lip. He was managed as encephalitis and treated with acyclovir, ceftriaxone and clarithromycin. He had neutrophilia with normal lumbar puncture and viral PCR's.

After a week of admission, he deteriorated with generalized pain, bedwetting, ataxia and upper motor neuron signs. MRI scan showed asymmetric, bilateral white matter changes suggestive of acute demyelinating encephalomyelitis (ADEM) or other viral encephalitis.

Repeat lumbar puncture showed pleocytosis with neutophilia. Viral PCR's were negative. ASOT was raised. MRI with contrast showed 4 mm high signal focus behind C2 body and C2–3 disk.

After completing a 10 day course of acyclovir, he was started on methyl prednisolone for ADEM and drastically improved. He was discharged after 3–4 days of the treatment with follow up.

This case initiated a lot of discussions- presence of fever to diagnose encephalitis? When to start and stop acyclovir in suspected encephalitis with negative viral PCR's? To start steroids or not - why the delay?

372 ACTIVATED CHARCOAL FOR GHB INTOXICATION IN CHILDREN: AN IN VITRO STUDY

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Background and Aims Treatment of intentional (mainly by adolescents) and unintentional (mainly by children) intoxications with the increasingly popular drug gamma-hydroxybutyrate (GHB) primarily consists of symptomatic treatment. The usually rapid absorption and the need for intubation argue against activated charcoal (AC) treatment in GHB intoxications. However, the use of AC has been suggested in several guidelines and in literature, but it has never been demonstrated to what extent GHB binds (adsorbs) to AC. Reduction of GHB absorption by AC administration could be clinically relevant, especially in children. Therefore, binding of GHB to AC in an in vitro model was tested.

Methods Different quantities (2.5, 5, 7.5, or 10 grams) of AC were mixed with a dose of 800 mg GHB at 37°C in 100 mL simulated gastric (pH 1.2) or intestinal (pH 7.2) fluid, respectively. Subsequently, after 15 minutes of incubation the AC was separated from the liquid by centrifugation and the remaining GHB quantified by gas chromatography. GHB binding to AC was plotted in a binding curve.

Results Binding of GHB to AC was dose-dependent. At gastric pH, binding was higher than at intestinal pH, with a maximum binding of 84.3% and 23.3%, respectively, with 10 grams of AC, corresponding with a high adult dose.

Conclusions AC has GHB binding capacity, which is pH dependent. In case of (un)intentional intake of GHB by children, rapid treatment with AC may be considered.

373 CHARACTERISTICS AND COMPLICATIONS IN ORAL CAUSTIC INGESTION IN CHILDREN

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