Poster Presentations

26th European Pediatrics Congress

October 22-23, 2018 | Amsterdam, Netherlands

Multi-disciplinary simulation training to improve management of pediatric emergencies

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Introduction: Pediatric simulations can be hugely beneficial to broaden knowledge, home clinical, management and leadership skills in a safe environment.

Method: We established a simulation training program in a pediatric ward of a regional district hospital. We provided simulation training over a four-month period for medical, nursing and physician assistant staff. The scenarios were developed based on RCPCH recommendations. Feedback forms assessing the main outcomes were distributed following a simulation debriefs. We assessed the confidence of participants before and after attending sessions using a scale of 0-5 (very confident). We assessed key learning outcomes as described by the participants and how the session would influence their future practice. Targeted feedback, using a scoring system, was obtained about the relevance of the scenarios, the ability of sessions to highlight the strengths and gaps in knowledge and explore their response to pediatric emergencies. We reviewed the range of life support courses attended by the participants.

Results: We received 25 feedback forms from participants, of whom 44% were nurses. Prior to sessions, 56% scored their confidence as three out of five. Post training, 66% scored confidence at four and 33% scored five. Results showed that 88% found it relevant to their training, 64% reported that sessions helped to explore their response to pediatric emergencies and 60% found that the sessions highlighted their strengths and gaps in knowledge.

Conclusion: Our training demonstrated a marked increase in staff confidence levels with good attendance from nursing staff and documented relevance to training from the feedback provided

Biography

Mekhala Ayya is a Senior Pediatric Registrar, who has completed her Undergraduate Medical degree from the University of Liverpool and Post-graduate Master's degree in Evidence Based Health-Care from the University of Oxford. She has a keen interest in education and developed a lifesaving skills program for parents of young children in 2016 which was shown on national television. She began her Pediatric career at the Royal Children's Hospital in Brisbane, Australia. Then, she has completed her Junior Pediatric Training at Sheffield Children's Hospital, UK. Currently, she is a Senior Pediatric Registrar at Birmingham Children's Hospital, UK.

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Can Hoagland criteria or McIsaac score help minimizing the unnecessary prescription of antibiotics in children diagnosed with infectious mononucleosis?

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Patients with infectious mononucleosis (IM), caused by infection with Epstein-Barr Virus (EBV), present with common symptoms like sore throat, lymphadenopathy and fever. Another disease that presents with the same symptoms and often in the same age is acute pharyngitis caused by ß- hemolytic *streptococcus pyogenes* (Group A *streptococci*, GAS). Since the clinical appearance of both diseases is so similar, patients suffering from IM are often incorrectly diagnosed with tonsillopharyngitis leading to clinical mismanagement and especially to the unnecessary use of antibiotics. Even though there are clinical scores for the diagnosis of pharyngitis caused by EBV (Hoagland criteria) or GAS (McIsaac Score) in literature, these scores have never been assessed in their ability to differentiate between the two diseases and thus prevent misdiagnosis.

As part of a study about the epidemiology and clinical presentation of IM in Germany, we found that a large proportion of the patients, later diagnosed with IM, were initially given antibiotics either by their primary care physician, or during their hospital stay or both, due to the fact that a GAS tonsillitis was suspected. This is very concerning, since antibiotic resistance is rapidly increasing.

Objective: Can the Hoagland criteria or the McIsaac score help to distinguish between IM and GAS-tonsillitis and thus help minimizing the unnecessary use of antibiotics in children?

Method: We analyzed 141 patients between 3 and 17 years who were diagnosed with IM and were admitted to the children hospital Schwabing, Munich, during the years from 2003 until 2015. Clinical, laboratory and treatment data was collected. This data was then analyzed using the Hoagland criteria and the McIsaac Score.

Results: Our study showed that neither the Hoagland criteria nor the McIsaac score could help distinguishing between IM and GAS-tonsillitis. Using the Hoagland criteria only a very small amount of patients fitted all criteria necessary for the diagnosis of IM. Applying McIsaac score most of our patients reached a score so high that the empirical use of antibiotics would have been recommended. Since neither could help differentiate between IM and tonsillopharyngitis caused by GAS, we determined different clinical and laboratory approaches that could help minimizing the unnecessary use of antibiotics and improving the clinical management of children presenting with sore throat

Biography

Sophia Strunz started studying medicine at the technical university of Munich in 2011. She has graduated in June 2018. She is currently working at her doctoral dissertation about the epidemiology, diagnosis and clinical presentation of infectious mononucleosis in Germany at the children hospital Schwabing in Munich Germany. She is part of the research Group “Infectious Mononucleosis Munich (IMMUC)” lead by Prof. Dr. Uta Behrends.

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Managing isolated posterior cruciate ligament avulsion fracture with limited resource, a case report

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Introduction: Isolated PCL avulsion fracture is an uncommon injury in children. We report a case that was only 7 years old and was managed based on clinical judgement associated with subtle Xray findings.

Case Report: A 7-year-old boy from rural area was a pillion rider when his father's motorbike was hit by a van from behind. He sustained pain over the left knee. There was bruising over the left shin, with diffuse tenderness and swelling over left knee. Xray showed a sliver of bone over the posterior knee. Patient was put up for examination under GA KIV screw fixation. Assessment under general anesthesia, there was posterior sagging and posterior drawer test was positive. Fixation done with cannulated cancellous screw 4.0mm (image intensifier guidance). The knee was immobilized at 20 degrees with a cylinder slab then changed to cylinder cast once swelling reduced. Cast was kept for 6 weeks followed by range of motion physiotherapy and progressive weight bearing. Full weight bearing, and range of motion achieved by 3 months post trauma without laxity or instability.

Discussion: PCL avulsion is often missed in paediatric patients due to subtle or lack of Xray finding. In this case, mechanism of injury (knee in flexion falling forward with significant impact from behind) and the physical examination is typical of PCL injury lead to accurate decision for surgical intervention without waiting for the limited MRI availability. Furthermore, the placement of screw should be considered to avoid any damage to the plate.

Conclusion: It is possible to diagnose PCL avulsion fracture from careful clinical and radiographical evaluation. Attending physician/surgeon must have high index of suspicion to identify this injury especially in young children

Biography

Dr Noorhuda Abdul Mutalif has completed her Medical Doctor (M.D.) degree from The National University of Malaysia 2013. She is currently working as Medical Officer in Orthopaedic Department, Melaka General Hospital, aspiring to be Orthopaedic Surgeon

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Neutrophil to lymphocyte ratio as diagnostic marker in neonatal bacterial infection

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Neonatal bacterial infection is a common cause of morbidity and mortality. Early diagnosis and treatment are critical to improve outcome. Recently, neutrophil to lymphocyte ratio (NLR) and platelet to lymphocyte ratio (PLR) are suggested as a systemic inflammatory marker. NLR and PLR is easily calculated and cost effective. The aim of this study was to investigate NLR and PLR as a new diagnostic marker in neonatal bacterial infection. We retrospectively reviewed medical data from 163 infants who admitted at neonatal intensive care unit of National Health Insurance Service Ilsan Hospital in Korea between January 2006 and June 2017. Bacterial group includes 23 neonates with culture-proven bacterial infections in blood, urine or cerebral spinal fluid. Control group consists of 140 neonates with negative culture and normal C-reactive protein (CRP) who were hospitalized for jaundice. White blood cell count, hemoglobin level, platelet count, neutrophil count, lymphocyte count and CRP were recorded. NLR significantly increased in the bacterial infection group (1.88±1.10) compared with the control groups (0.58±0.30) ($p<0.001$). The area under the receiver operating characteristic (ROC) curve for NLR (0.885) was higher than CRP (0.783). ROC curve for NLR revealed a cut-off value of 0.79 with 82.6% sensitivity and 81.4% specificity. PLR in the bacterial group (0.13±0.10) was significantly higher than that of the control group (0.07±0.03) ($p<0.001$). NLR may be a useful marker for predicting neonatal bacterial infection.

Biography

Ju Hyun Jin has completed her MD from Yonsei University Wonju College of Medicine, South Korea. She is a Neonatologist of National Health Insurance Medical Center, Ilsan Hospital, South Korea. She has few publications about neonatology and she is a Member of Korean Society of Neonatology

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10.4172/2161-0665-C8-073

26th European Pediatrics Congress

October 22-23, 2018 | Amsterdam, Netherlands

Clinico-demographic profile and outcome of twin pregnancies in a tertiary government hospital: A three-year retrospective study

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Introduction: Multiple births have been associated with increased maternal and fetal morbidity and mortality during delivery. They are associated with higher cases of prematurity and low birth weight. It is important to review trends in multiple pregnancies and their outcomes to be able to identify opportunities for intervention in improving both maternal and neonatal outcomes. The study aims to provide more data on profiles of mothers and infants born with multiple pregnancies, their outcomes providing baseline data for hospital-based protocols and management of future multiple pregnancies.

Objective: The objective of this study was to describe the clinico-demographic profile and outcome of twin pregnancies in a tertiary government hospital.

Study Design & Setting: Retrospective descriptive cross-sectional study in Neonatal Intensive Care Unit and Delivery Room of a tertiary government hospital.

Study Population: The study population includes mother and newborns born at a tertiary government hospital.

Results: Among 100 twin births delivered between 2014-2016, 58% were born to the mothers from age group of 20 to <30 years old. Most of the twins were full term and delivered by caesarean section with birthweight of 1000-2000 grams. Forty five babies were admitted to NICU mostly due to prematurity with respiratory distress syndrome as number one immediate cause of mortality.

Conclusion: The incidence of twin birth in Philippines is still lower than in other continents. Advanced maternal age and increase gravidity and parity may have a role in increased twinning rates. Prematurity and respiratory distress syndrome are still one of the most common complications and cause of death in twin births

Biography

Meidelin Hoei has completed her Bachelor of Medicine, Bachelor of Surgery degree from Suzhou University, China in 2015. She is currently pursuing her Residency in Pediatrics at one of the training institutions in Philippines, Ospital Ng Maynila Medical Center.

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10.4172/2161-0665-C8-073

Intussusception: Common diagnosis with an uncommon presentation

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Intussusception occurs when a portion of the alimentary tract is telescoped into an adjacent segment. It is the most common cause of intestinal obstruction between five months and 3 years of age. In typical cases, there is a sudden onset in a previously well child, of severe colicky pain. Other commons symptoms are vomiting, normal stool for first few hours, then reducing in size until no defecation. Stool can also contain red blood and mucus. In approximately 70% of cases oblong mass can be palpated in the abdomen. But sometimes those common symptoms can occur later or are absent, which can leads to a totally differential diagnosis. Previously, two healthy unrelated children presented to the emergency room via an ambulance. Patient Z (7-months-old, male) was hospitalized in severe condition with reduced level of consciousness (Glasgow Coma Scale - 6) and sudden heart rate drop requiring admission to the pediatric intensive care unit. Computer tomography scan of the head demonstrated no abnormality. Diagnosis of intussusception was made later by palpation of abdominal mass and ultrasound scan. Patient L (2-year-old, male) presented lethargic after having had liquid stool and little bit of fresh blood from rectum. He also had emesis in ER and had positive meningeal signs. Lumbar puncture did not confirm meningitis; however intussusception was discovered on abdominal ultrasound. Altered mental status as primary presenting symptom is not common in cases of intussusception. These cases demonstrate that intussusception should be considered as differential and emphasize need for thorough clinical examination in child with low level of consciousness

Biography

Polina Popeiko is a 5th year Pediatrics Program Student. She is a Leader of Pediatrics Student Interest Group at Riga Stradinsh University, and also Volunteers at Children's Clinical University Hospital, Gastroenterology Department. She organizes social project called “Knowing and Safe”, that aims to educate children and adults about children’s safety and first aid.

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Euro Pediatrics 2018

Accepted Abstracts

Pediatr Ther 2018, Volume: 08
10.4172/2161-0665-C8-073

Prevalence of infection in children with cholestasis admitted to Cipto Mangunkusumo Hospital from 2010-2015

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Background: Infection is one of the most common comorbidity and complication found in children with cholestasis. This condition may adversely affect management of the disease and increase mortality rate among children with cholestasis.

Aim: The aim of this research is to identify prevalence of infection in children with cholestasis admitted to Cipto Mangunkusumo Hospital from 2010-2015.

Methods: This research was conducted from August to October 2015 by using retrospective cohort study toward cholestatic children age 0-5 years old through medical records.

Results: From 97 patients included, prevalence of infection in children with cholestasis was 66% (n=64). There are 35 children (36%), who manifested more than one type of infection. Infectious diarrhea (41.2%, n=40) and urinary tract infection (28.9%, n=28) were the most common types of infections found in children with cholestasis. The other types of infections found in cholestatic children were sepsis (2 0.6%, n=20), pneumonia (19.6%, n=19), and spontaneous bacterial peritonitis (13.4%, n=13)

Pediatr Ther 2018, Volume: 08
10.4172/2161-0665-C8-073

Blood lead level in children of Kolkata

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Background: Lead toxicity accounts for about 0.6% of the global burden of disease (WHO 2009). There are studies from different cities of India, showing high blood lead level (BLL) in children, but no published data from Eastern India. We did this study at a tertiary hospital at Kolkata, a metropolitan city of India.

Aims & Objectives: To study the blood lead level in children with hypochromic microcytic anemia, and to find out the co-relation between blood lead level and anemia in these patients.

Materials & Methods: This was a cross sectional observational study conducted at Institute of Child Health, Kolkata, India, during the time of February 2013 to August 2015. Ninety (90) children with hypochromic microcytic anaemia, of age group 6 months to12 years were included. Blood lead level of these children was estimated by atomic absorption spectroscopy (AAS).

Results: The median blood lead level of the studied population was 1.79 µg/dL (IQR: 1.46-2.61). Majority (n=83, 92.2%) had BLL below the CDC recommended cut off value of 5 µg/dl. Only few children (n=7, 7.8%) had BLL >5 µg/dl; however, no association could be established with the variables studied due to the small number of children with relatively high BLL. Sporadic cases (n=2) of lead poisoning were reported during the study period showing that children in households engaged in hazardous occupation (in relation to lead toxicity) are vulnerable to poisoning.

Conclusion: Lead poisoning is not a common cause of hypochromic microcytic anaemia in children residing in and around Kolkata and anemia is unlikely to be associated with BLLs <10 µg/dl. The low BLL may be due to lead free gasoline, a principle source of lead exposure is not used for more than 10 years or the study sample may not represent the high risk population. 'POCKETS' of potential lead poisoning or 'HOT SPOTS' in Kolkata are needed to be identified and further research is justified

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Pediatr Ther 2018, Volume: 08
10.4172/2161-0665-C8-073

Prevalence of community acquired pneumonia PCAP C and PCAP D among patients aged six months to five years old who had previously received Hib vaccinations: A one year retrospective study

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Among children under five years old, pneumonia is still one of the leading cause of mortality globally. For this age group, one of the most common causative agent for bacterial pneumonia is Haemophilus influenzae type b. It was then recommended by WHO in 1998 to include Hib for the primary immunization of infants. In the Philippines, the Department of Health's Expanded Program of Immunization, included Hib vaccine in the primary immunization series given free to infants, composed of Hepatitis B, Diphtheria, Pertussis, Tetanus and Hib, given at 2, 4, 6 months old in local health centers. Data on clinical outcome of pneumonia specifically PCAP C and PCAP D after widespread use of Hib vaccination among pediatric patients is of great importance in clinical management of pediatric patients and to document the protective effect of Hib vaccination against PCAP C and PCAP D among young children. Data gathered will hopefully provide more evidence regarding its benefit and impact on public health program among pediatric patients for the prevention of pneumonia in children. Results showed that the prevalence of PCAP C and D among patients admitted in a tertiary institution with Hib vaccine was 22%, with the Hib vaccine providing a protective effect as the number of given dose increases. The mortality and complications in these group of populations were observed to be low

Pediatr Ther 2018, Volume: 08
10.4172/2161-0665-C8-073

Cause specific management of shock in neonate

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Shock is characterized by inadequate oxygen delivery to tissues to meet demand because of circulatory failure. The immediate aim of management of neonatal shock is to optimize perfusion and delivery of oxygen and nutrients to the tissues. Understanding the pathophysiology of neonatal shock helps to recognize and classify shock in the early compensated phase and initiate appropriate treatment. Hypovolemic shock in neonate is usually due to antepartum hemorrhage, post-natal blood loss iatrogenic, or secondary to disseminated intravascular coagulation or vitamin K deficiency, or excessive insensible water loss in extreme pre-terms. Cardiogenic shock in the neonate may be caused by myocardial ischemia due to severe intra-partum asphyxia, arrhythmias, primary structural heart disease and mechanical reduction of cardiac function or venous return secondary to tension pneumothorax or diaphragmatic hernia and disturbance of transitional circulation, due to persistent pulmonary hypertension in newborn, or patent ductus arteriosus in premature infants. Distributive shock caused by neonatal sepsis, vasodilation, myocardial depression, or endothelial injury and obstructive shock is caused from tension pneumothorax or cardiac tamponade. The immediate aim of management of neonatal shock is to optimize perfusion and delivery of oxygen and nutrients to the tissues. The American College of Critical Care Medicine estimates those 60 minutes is the average time needed to provide adequate circulatory support and block the development of shock. The first step in managing shock in the newborn during the first 5 minutes is to recognize cyanosis, respiratory distress and decreased perfusion. This should be followed immediately by airway access and ventilation to optimize oxygenation. Rapid peripheral, central venous or intraosseous access is of primary importance in the initial management of the newborn in shock. Any baby with shock and hepatomegaly, cyanosis or a pressure gap between upper and lower limbs should be treated with prostaglandin within 10 minutes of birth, until congenital heart disease is excluded. Inotropes like dopamine, dobutamine, epinephrine and norepinephrine are indicated via IV or IO route before central access is achieved when myocardial contractility remains poor despite adequate volume replacement. Delay increases mortality 20-fold.

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Pediatr Ther 2018, Volume: 08
10.4172/2161-0665-C8-073

Prevalence of extrapulmonary tuberculosis among pediatric patients aged 1-18 years old admitted in A tertiary government hospital from 2014-2016: A three year retrospective study

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Tuberculosis is an infectious disease which is curable and preventable. Extra-pulmonary TB refers to tuberculosis involving organs other than the lungs. Tuberculosis is still a major public health problem in our country. This study aims to give an overview on the prevalence of EPTB among pediatric patients and help to increase awareness for the magnitude of the problem to improve management of Tuberculosis programs among pediatric population in the country. This is a retrospective, descriptive study done in a tertiary government hospital in Manila. This study includes patients aged 1-18 years old admitted at Ospital ng Maynila Medical Center with the diagnosis of EPTB from year 2014-2016. The patient's files were reviewed. Clinico-demographic profile, clinical findings, treatment and outcome were obtained. Data were arranged in tables expressed as proportions and percentages. The results of the study revealed a prevalence rate of 0.35% for EPTB among all pediatric admission for the years 2014-2016. Majority of the cases were children aged 1-5 years old, (64%) mean age 10 years old. There are no sex predilections. Majority of cases have no known TB disease and TB exposure. Cases of EPTB include TB meningitis (84%) presenting with changes in sensorium. Gastrointestinal TB (8%) presented with abdominal distension and a case of TB Uveitis presented with whitish lesion in the eye. Among these patients, 33% were discharged as improved and 42% died all of which are TB meningitis patients. With these data, it showed that there is a need to strengthen our TB program in terms of active case finding to further decrease the transmission of TB and initiate early treatment. It is important to educate health professionals to identify possible cases of EPTB and prevent fatal outcomes.

Pediatr Ther 2018, Volume: 08
10.4172/2161-0665-C8-073

Liver transplantation in children with Budd-Chiari syndrome, an evidence-based case report

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Background & Objective: Budd-Chiari syndrome (BCS) in children is a rare case. The prevalence of BCS in India is reported to be 7.4%. No publication on the prevalence of BCS in RSCM. Because of that, there is difficulty in diagnosing and choosing the best management of these patients, especially in BCS with moderate fibrosis.

Method: Literature research was conducted on various sites, such as ClinicalKey, PubMed, ScienceDirect, and EBSCOhost, by asking the research question "How is the scientific evidence supporting liver transplantation in Budd-Chiari syndrome with moderate fibrosis in children?" The literature criteria are systematic review, randomized-clinical trial, cohort study, case report, and case series.

Criteria include: published studies should be performed on humans, whether living donor or cadaveric transplantation, English or Indonesian language, no publication year limit, and available in full-text form. BCS in adult or publication in the form of correspondence, editorial, or commentary excluded. Critical review was carried out using instruments downloaded from equator-network.org, then interpreted, and made a conclusion.

Result: One case series that reports BCS in children with moderate fibrosis. Liver transplantation is a treatment option for moderate fibrosis with level of evidence 4. Reversibility of tissue damage, etiology, and patient readiness are other factors to consider before deciding on liver transplantation.

Conclusion: Liver transplantation in BCS in children with moderate fibrosis is being supported by case series study with level of evidence 4. Need to consider other factors, including general condition of patient, duration of symptoms, and location of blockage

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