commonest ADE found. Age under 4, length of stay in PICU and number of drugs used are risk factors to ADE development.

88 USE OF STATINS IN CHILDREN

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EE Moreno Medinilla, L Ferreras Antolín, F Girón Fernández-Creueht, J Blasco Alonso, J Serrano Nieto, V Navas López, A Jurado Ortíz, C Sierra Salinas. *Hospital Marterno Infantil Carlos Haya, Málaga, Spain*

Introduction Referring to the use of statins for hyperlipemia in children, it is not yet clearly defined who must be treated (recent recommendations focused on older than 8 years) and also the frequency of short and long-term toxicity.
Methods Retrospective, descriptive study of patients, 10 year-old or younger, under statin treatment, followed in our Unit. Epidemiology, treatment and side-effects data were analized.
Results Twelve children met inclusion criteria; 7/12 female and 11/12 caucasian. Main diagnosis was familiar hypercholesterolemia (10/12); 1/12 hypertriglyceridemia and 1/12 nefrotic syndrome. Positive family history of cardiovascular events: 5/12 (no death among first degree relatives). Mean age at diagnosis was 5.3 years. All of them were asymptomatic. 8/12 had been treated previously (7/12 resins, 1/12 cholesterol absorption inhibitor). Statin treatment starting age was 8.6 years, 4/12 younger than 8 year-old (minimum age: 5.2 years). Atorvastatin used in 10/12, lovastatin 1/12, simvastatin 1/12; initial dose was always 10 mg/day. The average levels before treatment were: LDL 235 mg/dL, total cholesterol 324.7 mg/dL. In one 10 year-old patient (40 mg/day lovastatin) muscular pain was reported with a CPK increase; side-effects stopped once the statin dose was reduced to 20mg/day. Besides, no adverse effect was reported. The highest dose achieved was 40 mg/day. Patients follow-up varies from 9 months to 4 years.
Conclusions

- It remains unclear whether statins could be started before 8 year-old. From our experience, no adverse effects were found in that group.
- Dose had to be increased to 20–40 mg/day in order to achieve objectives.

89 CLINICAL JUDGEMENT AND PAIN ASSESSMENT IN CRITICALLY ILLCHILDREN

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[1,2]AL Thevoz, [1,3]A Gerber, [1,3]AS Ramelet. *[1]Institute of Higher Education and Nursing Research, University of Lausanne; [2]Haute Ecole de la Santé La Source; [3]Haute Ecole de Santé Vaud, University of Applied Sciences Western Switzerland, Lausanne, Switzerland*

Background and aims Despite the various pain assessment tools available to date, pain assessment in critically ill children remains challenging for nurses. Clinical judgement of pain depends on different factors that have yet to be described in real-life settings. The aim of this observational study was to describe expert nurses' clinical judgment when assessing pain in critically ill children.
Methods Following ethics approval and participants' consent, a convenience sample of expert nurses working in a tertiary referral paediatric intensive care unit (PICU) in Western Switzerland participated in the study. Data were collected using the think-aloud method, combined with non-participant observation and semi-structured interviews. Data were analysed using deductive content analyses based on the O'Neil's decision-making model. Categories
Results The ten nurse participants had an average of 12.9 years of nursing experience. Seven intubated and ventilated patients were observed. Four had cardiac surgery, one diaphragmatic hernia, one tracheal reconstruction, and one respiratory syndrome. Results show that pre-encountered data and knowing the patient are important factors. Expert nurses mobilise their knowledge to discriminate between pain-related agitation and agitation caused by other factors by generating hypothesis. They perform analgesic tests to confirm or refute pain. Counter-balancing the benefits and adverse effects of analgesia and sedation is also part of their clinical judgement when making decision about pain management.
Conclusions The clinical context of the patient plays an important part in nurses' judgment about pain. To facilitate this difficult task, pain assessment should be combined with sedation assessment in critically ill children.

90 OBSERVATIONAL STUDY ON PAIN AND DISTRESS IN CHINESE AND ITALIAN CHILDREN UNDERGOING VENIPUNCTURE

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F Festini, M Calzolai, S Bisogni. *University of Florence, Florence, Italy*

Few studies have examined the influence of ethnic-cultural variables on pain perception and behavioural distress in children. Not considering possible cultural variations of pain manifestation may lead to inadequate assessment and treatment of pain.

Goal To evaluate wether differences exist between Italian and non-Italian children with regards to pain perception and behavioural distress during the same invasive procedure.
Methods Cross-sectional analytical trial. A group of Italian children (group A) and a group of Chinese children (group B) aged 3 to 11 were observed during a standardized venipuncture for blood sample drawing. Pain was self-rated with a 1–10 Wong faces scale or a 1–10 numeric scale. Behavioural distress was measured with the Observational Behaviour Distress Scale (OBDS, 1–33).
Results 246 children were examined, 191 in group A and 55 in group B. In preschool age (3 to 5, n=76), neither mean pain rates nor mean OBDS rates were statistically different in the two groups. On the opposite, in the 6–11 age (n=170), mean pain rate was 2.9 in group A and 4.8 in group B (Anova p=0.00001) while mean OBDS rate was 6.6 in group A and 2.3 in group Bi (Anova p=0.0005).
Discussion Our data show that duiring venipuncture Chinese children have less marked behavioural distress manifestations than their Italian peers, even though the perceived pain is higher in Chinese children.

91 AUDIT OF PAIN, SEDATION AND WITHDRAWAL PRACTICES IN THE UK, IRELAND AND THE NETHERLANDS

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[1]J Harris, [2]L Bakker, [3]L Tume, [4]E Ista, *Paediatric Intensive Care Society - Nursing Study Group for Pain, SedationDrug Withdrawal. [1]Paediatric Intensive Care, Guy's & St Thomas' NHS Foundation Trust, London, UK; [2]Paediatric Intensive Care, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands; [3]Paediatric Intensive Care, Alder Hey Childrens' Hospital, Liverpool, UK; [4]Erasmus MC - Sophia Childrens Hospital, Rotterdam, The Netherlands*

Background and aims Assessment and management of pain, sedation and drug withdrawal in PICU's is notoriously difficult. This audit aimed to compare practices across the UK, Ireland (UK&I) and The Netherlands (NL) with regards to pain, sedation and drug withdrawal.
Methods An electronic questionnaire was sent to all PICU's listed in the PICANET database in January 2011 and to all PICU's in The Netherlands. The questionnaire was sent to the lead nurse, lead doctor, educator or research nurse.
Results Response rate: UK&I was 51% (18/35) and for NL 100% (8/8), respectively.

63% of the UK&I centres a pain tool is used but there was wide variation of what tools were used across centres. In contrast, 100% of the NL centres use a pain tool, in 75% the COMFORT Behavioural Scale and Visual Analogue scale or Numeric Rating Scale was used. Assessment tools for the cognitively impaired children were used in 57% of the UK&I centres, however not in NL centres.

Sedation tools were used in 66% and 62%, respectively (UK&I and NL) centres. The most common tool is the COMFORT scale.

Regarding drug withdrawal, 71% of UK&I centres did not have specific guidelines. However, 50% of the NL centres have specific guidelines and 75% of centres used a withdrawal tool.

Conclusions Although there are similarities between UK&I and NL in pain, sedation and withdrawal assessment and management, there is more focus on sedation and withdrawal in the NL compared to that of a stronger pain focus in the UK&I.

92 VACCINATION OF TURKISH INFANTS, CHILDREN & ADOLESCENTS; PRACTICE BASED APPROACH

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D Gözen. *Pediatric Nursing, Istanbul University Florence Nightingale Faculty of Nursing, Istanbul, Turkey*

Infection diseases are cause of serious morbidity and mortality in children and adults. Immunization is the most cost-effective interventions for child survival and well being recommended by World health Organization (WHO). The "Expanded Programme on Immunization"(EPI) was established by WHO in 1974. Global Immunization Vision Strategy (GIVS) was developped by UNICEF and WHO in 2005 which aims to decrease morbitidy and mortality from preventable diseases by immunization programmes.

Immunization rates increased over 90% in Turkey by national vaccination Schedule in recent years. Vaccines in National vaccination Schedule are practiced free in the Family Health Centers by Ministry of Health for all children in Turkey.

Immunization for children varies and regulated depending on child's physical and functional condition. The true way and niddle angle of the vaccine injection is very important. In the literature it is recommended that update the knowledge of the nurses about vaccine administration is effet to decrease side effects of vaccines.

The Mininistry of Health's one of the objective of "Healthy Society 2010" is increase immunization rates over 90% for adolescents. Adolescent Health Centers evaluate immunization histories of all adolescents and recommend vaccines for missed vaccinated adolescents. Human Papilloma Virus (HPV) vaccine is recommended for adolescents to protect them from servical cancers. Because of HPV vaccine doesnt placed in the National Childhood Vaccination Schedule. Hepatit B, combined diphtheria, tetanus, aselular pertusis, measles, mumps and rubella, varicella, meningococcal vaccine, and HPV vaccine application is recommended for 11–18 years of age in the routine vaccination Schedule all adolescents.

93 HOW CAN WE PREVENT VENTILATOR-ASSOCIATED PNEUMONIA IN PICU?

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D Sönmez Düzkaya. *Istanbul University, Istanbul Faculty of Medicine Directorate of Nursing Services, Supervisor Nurse, Istanbul, Turkey*

Ventilator-associated pneumonia (VAP) is a nosocomial infection that develops in patients on mechanical ventilation for 48 h or more. VAP has been classified into either early-onset pneumonia (EOP), if pneumonia develops within 4 days of the patient's admission to an ICU or intubation for mechanical ventilation, and late-onset pneumonia (LOP), if pneumonia develops after 4 days of the patient's admission to an ICU or intubation for mechanical ventilation.

VAP is the second most common hospital-acquired infection among pediatric and neonatal intensive care unit (PICU) (NICU) patients. VAP is associated with increased morbidity and mortality rates, prolongs hospital length of stay (LOS) and increases medical costs. VAP is the most frequentandcostly infectious complication in ICU patients, which has been estimated to cost at least $40,000 per patient as estimated in 3matched cohort studies.

Studies provide preliminary information on risk factors that may be associated with the development of pediatric VAP. These include length of mechanical ventilation, use of opiates, sustained neuromuscular blockade, presence of enteral nutrition, prior antibiotic therapy, endotracheal suctioning, reintubation, gastroesophageal reflux, subglottal/tracheal stenosis, age greater than 10 years, and trauma.

Strategies for preventing or controlling ventilatorassociated pneumonia;

- Hand decontamination and use of gloves
- Head-of-bed elevation
- Oral/nasal hygiene
- Daily sedation vacation and daily assessment of readiness to extubate
- In-Line Suctioning
- The Bundle Approach
- Peptic ulcer prophylaxis
- Subglottic secretion drainage
- Orotracheal v. nasotracheal intubation
- Enteral feeding and control of regurgitation

94 IMMUNOMODULATION IN SEPSIS: MORE HARM THAN GOOD?

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S Opal. *Infectious Disease Division, Memorial Hospital of RI, Pawtucket, RI, USA*

The systemic inflammatory response that typifies septic shock can induce widespread tissue injury, endothelial dysfunction and lethality. Interventions that disrupt the systemic inflammatory response have been the central treatment strategy for septic shock for decades. In experimental models, inhibitors of generalized inflammation are of clear survival benefit when the inducing stimulus is LPS or other bacterial toxins. However, the response to inhibitors of inflammation in actual infection models such as pneumonia, peritonitis or soft tissue infections generate variable results with improvement in some animal models and harm in others. Intrinsic counter regulatory mechanisms that accompany systemic inflammation can induce a prolonged phase of relative immune suppression. Attempts to restore immune function by immunoadjuvants have become a potential therapy for sepsis. Genomic evidence indicates that activation of innate immunity and depression of adaptive immunity occurs simultaneously in the very early phases of septic shock. The magnitude of the change from resting state is the most predictive outcome rather than specific patterns of immune dysfunction. Non-resolving information poses a real challenge from a therapeutic prospective in patients with septic shock. A new generation of anti-inflammatory agents and anticoagulants are now in clinical development along with a variety of immunostimulants that promote adaptive immune function and inhibitors of negative regulators of inflammation such as programed cell death (PD-1) or B and T lymphocyte attenuator. These interventions are in clinical trials, and the results will determine the direction in which experimental therapeutics take in the near future in the management of septic shock.