Disclosure(s) Nothing to disclose.

P114 POPULATION PHARMACOKINETICS AND DOSING OPTIMIZATION OF CEFEPIME IN NEONATES

W Zhao*, TINN-Global Study Group. Shandong University, Jinan, China

10.1136/archdischild-2019-esdppp.152

Objective Cefepime, a fourth-generation cephalosporin, is used in the treatment of severe nosocomial infections in neonates. Pharmacokinetics of cefepime was limited. Therefore, we aimed to study the population pharmacokinetics of cefepime and optimize cefepime regimen in preterm and term neonates.

Methods Blood samples were obtained from neonates treated with cefepime using an opportunistic sampling design. Concentration of cefepime was determined by high performance liquid chromatography. Population pharmacokinetics analysis was conducted using NONMEM software.

Results Sparse pharmacokinetic samples (n=100) from 85 neonatal patients were available for analysis. A one-compartment model with first-order elimination was used to describe the pharmacokinetics of cefepime. Covariate analysis showed that current weight, postmenstrual age and serum creatinine concentration had tremendous influence on pharmacokinetics of cefepime. Monte Carlo simulation indicated that current dosing regimen (30 mg/kg, q12h) was correlated with high risk of underdosing in neonates. To achieve the target rate of 70% of patients get free drug concentration above MIC during 70% of dosing interval, 30 mg/kg q8h was required for all neonates, using susceptibility breakpoint of 4 mg/L.

Conclusion The population pharmacokinetics characteristics of cefepime were evaluated in neonates. Based on simulation, different dosage regimens were required depending on the post-menstrual age and pathogens.

Disclosure(s) Nothing to disclose.

P115 EFFECTS OF THE CLINICAL PHARMACIST’S INTERVENTION ON RATIONALITY OF PARENTERAL NUTRITION

M Zhu*, J Xu. Nanjing Children’s Hospital, Nanjing, China

10.1136/archdischild-2019-esdppp.153

Objective Through STRONGkids (screening tool risk on nutritional more reasonable and the hospitalization costs lower. 3

Methods Children were grouped according to different scores of STRONGkids, and each group was divided into two groups A and B according to using parenteral nutrition only or no nutrition support at all. The proportion of the two groups, nutritional indicators and postoperative recovery of the children after surgery were compared to observe the parenteral nutrition usage rate of different groups, and the use of parenteral nutrition was necessary or not. The clinical pharmacist intervened the doctors according to the research results. 1 year later, the indicators above were compared again.

Disclosure(s) Nothing to disclose.

P116 PROPHYLACTIC USE OF ENOXAPARIN DURING BARIATIC SURGERY IN ADOLESCENTS WITH SEVERE OBESITY

1,2 V Ziesenitz*, 3,4 J Vaughns, 5,6 E Williams, 7 E Nadler, 8 G Mkus, 1,4 J van den Anker. 1Pediatric Pharmacology and Pharmacometrics, University Children’s Hospital Basel (UKBB), Basel, Switzerland; 2Pediatric Cardiology, University Children’s Hospital Heidelberg, Heidelberg, Germany; 3Anesthesia and Pain Medicine and Clinical Pharmacology; 4Clinical Pharmacology; 5Surgery, Children’s National Health System, Washington, DC, USA; 6Clinical Pharmacology and Pharmacoepidemiology, University Hospital Heidelberg, Heidelberg, Germany

10.1136/archdischild-2019-esdppp.154

Background Severely obese adolescents undergoing bariatric surgery. Enoxaparin is frequently used for their VTE management. This study evaluates a BMI-stratified prophylactic dosing regimen of enoxaparin in severely obese adolescents undergoing bariatric surgery.

Methods This prospective study enrolled severely obese adolescents aged 12–20 years undergoing laparoscopic sleeve gastrectomy. Prophylactic enoxaparin was dosed at 40 mg SC (for a BMI less than 50 kg/m²) and 60 mg SC (for a BMI equal to or greater than or 50 kg/m²). Blood samples were drawn until 12 hrs post-dose. Plasma Anti-Factor Xa (Anti-FXa) activity was used as a surrogate marker for enoxaparin plasma concentration and pharmacokinetics were assessed using non-compartmental PK analysis. The primary efficacy outcome was the anti-FXa activity 4–6 hours after dosing, and the primary endpoint was the proportion of patients who achieved prophylactic anti-FXa activity of 0.1–0.3 U/mL between 4–6 hours after dosing.
Results Ten female and two male obese adolescents (age range 14–19 years) had a mean body weight of 140.8 kg (93.7–174 kg) and a mean BMI of 49.9 kg/m² (38.4–58 kg/m²). Four patients received 40 mg enoxaparin, 8 patients were dosed with 60 mg enoxaparin. No VTE or major bleeding occurred. Peak plasma anti-FXa activity (Cmax) ranged from 0.14–0.30 IU/mL (median Cmax 0.205 IU/mL). Median Tmax was 5.67 hours (range 3.78–7.52 hours). Median AUC was 1.00 h*IU/mL (range 0.42–1.67 h*IU/mL). 10 out of 12 patients (83%) reached the primary endpoint with anti-FXa activity in the range for VTE prevention (0.1–0.3 IU/mL).

Conclusions In this single center cohort study, the dosing scheme of 40 mg vs 60 mg enoxaparin stratified according to BMI proved to be effective in reaching prophylactic anti-FXa activity in 83% of adolescent patients. This dosing scheme is in accordance with current practice in adults.

Disclosure(s) J. Vaughns and J. van den Anker are supported by the Eunice Kennedy Shriver National Institute of Child Health and Development (ST32HD087969).

P118

'MEDICINES FOR CHILDREN' PROJECT: PUTTING FAMILIES AND CARERS IN THE CENTRE

1E Zolotar*, 1H Sammons, 1D Tuthill, 1C Barker, 1S Tomlin, 1F Partridge, 1A Rossiter, 1V Osmond, 1H Barham, 1A Fox, Medicines For Children Project Board, 1Paediatrics, Royal Derby Hospital, Derby; 2University of Nottingham, Nottingham; 3University Hospital of Wales, Cardiff; 4Alder Hey Children’s NHS Foundation Trust, Liverpool; 5Great Ormond Street Hospital, London; 6Wellchild, Cheltenham; 7Royal College of Paediatrics and Child Health, London, 8The Test Doctor, Oxford; 9University Hospital Southampton NHS Foundation Trust, Southampton, UK

Background ‘Medicines for Children’ (MfC) is a joint initiative between the children’s charity WellChild, the Royal College of Paediatrics and Child Health and the Neonatal and Paediatric Pharmacists Group. The project aim is to provide parents and carers with reliable, accurate and accessible information about their child’s medicines.

Methods In 2006, 600 parents and carers were surveyed in order to understand what information was needed. Paediatricians, pharmacists and a medical editor then liaised with Well-Child to develop a leaflet template and wrote a set of pilot leaflets. The leaflet production was subsequently standardised. An eight-step process is followed including consultation with health professionals, families and carers. The leaflet library and a series of information videos has grown, with the assistance of a dedicated group of volunteer authors. Published leaflets are reviewed every three years. Access to information is free of charge. The project is funded by the 3 partner groups and not by pharmaceutical companies.

Results MfC hosts over 230 leaflets and videos. The MfC website1 was launched in 2009. It was subsequently reviewed by parents and carers and re-developed in 2011 and 2015. MfC has users accessing the site from every country in the world. The information leaflets have been viewed over 3 million times in 2018, up from 7,200 in 2009. In 2014, an independent audit of MfC found that over 90% of the parents surveyed thought that the leaflets had an appropriate layout and conveyed the information in lay terminology. Since 2011, MfC information leaflets have been certified by National Health Service Information Standard as providing high quality health information for the public.

Conclusion MfC is a successful and acclaimed project which provides high quality, reliable and accurate medicines information worldwide for more than a decade.

REFERENCE

Disclosure(s) Nothing to disclose.