PS-238  STUDY OF BONE BIOCHEMICAL MARKERS AND THE CYTOKINE SRANKL/OPG SYSTEM IN CHILDREN WITH IDIOPATHIC HYPERCALCIURIA

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Background: Idiopathic Hypercalciuria (IH) has been associated with decreased bone density up to 30% of the children.

Aims: To determine the concentrations of cytokines osteoprotegerin (OPG) and sRANKL and other biochemical indices of bone metabolism in children with IH.

Methods: In 31 children of median age 6.3 years (range 2.2–16.4) with IH, OPG, sRANKL, 25(OH)D, 1,25(OH)2D, PTH, Ca, Pi, osteocalcin, ALP and CTX-Crosslaps were determined in serum and Ca/Cr, oxalate/Cr and citrate/Cr in urine. Times of study were at diagnosis and after 3 months of salt free and adequate Ca diet. Height and BMI z-score were assessed. Clinically healthy children (n = 35) matched for age/sex and season were used as controls (median 7.8 years, range 1.8–16.3).

Results: Although urinary Ca excretion (24 hCa and UCa/UCr) decreased at 3 mo (p < 0.05 and p < 0.01) on average it had not changed control values (p < 0.0001, p = 0.0004). No significant differences were found for urine excretion of citrate and oxalate or for serum Ca, Pi, 25OHD, 1,25(OH)2D, PTH, osteocalcin, ALP, OPG, sRANKL and sRANKL/OPG ratio in patients before and after diet or compared to controls. Only serum concentrations of CTX-Crosslaps were significantly higher in both patient samples (p < 0.02, p < 0.05) than controls. The BMI z-score was lower in patients than controls (p = 0.016), but height did not differ.

Conclusion: Although serum OPG/sRANKL and osteocalcin were not different in children with IH, the higher serum CTX-Crosslaps levels (bone resorption index) may suggest bone turnover uncoupling with an autocrine role of the above cytokines.

PS-239  EARLY ACUTE RENAL INJURY VERSUS LATE ACUTE RENAL INJURY: ARE THERE ANY PROGNOSTIC DIFFERENCES BETWEEN THEM?

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Objectives: To evaluate the clinical differences between patients developing early acute kidney injury (EAKI) and late acute kidney injury (LAKI) during their stay in a PICU.

Methods: Retrospective study including patients admitted to the PICU over the last 4 years. Children were excluded if they had a length of stay of less than 2 days or if they had end stage renal disease. AKI was defined according to the KDIGO criteria. The episodes of AKI that began within the first 72 h of admission were considered early AKI (EAKI), and those that appeared later were considered LAKI.

Results: 1082 patients fulfilled the inclusion criteria. 415 patients (38.3%) developed AKI: 354 patients (173 had stage I AKI, 77 stage II and 104 stage III); 61 patients LAKI (33 stage I, 15 stage II and 13 stage III). The severity and duration of the AKI, the need for dialysis and the incidence of pre renal AKI were not different between EAKI and LAKI groups. Patients with LAKI had more time of mechanical ventilation (156 h vs 72 h, p<0.006) and a longer PICU stay (13 vs 7 days, p<0.001). There were no differences in age or mortality between groups. LAKI was found to be more frequent in post-operative cardiac patients (41%) (p<0.001).

Conclusion: LAKI is associated with more time of MV, longer PICU stay and with the cause of admission to the PICU. However, LAKI is not associated with greater severity or mortality than EAKI.

PS-240  DEVELOPING A TOXIC PAEDIATRIC ANIMAL MODEL OF NON-OLIGURIC ACUTE RENAL INJURY WITH CISPLATIN

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Introduction: Developing a non-oliguric paediatric animal model of aucterinal injury (AKI) could be useful to study the evolution of diuresis after treatments. Cisplatin causes a dose-dependent poluric renal failure in humans. A dose of 5 mg/kg has been used in rats to produced AKI but there are no studies in pigs.