

T05

## A RETROSPECTIVE ANALYSIS OF FACTORS ASSOCIATED WITH NEONATAL SPONTANEOUS INTESTINAL PERFORATION

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**Aims:** The true aetiology of spontaneous intestinal perforation (SIP) is unknown with many postulated factors within the literature. After a series of cases, we reviewed our patient cohort to identify any common factors that may elucidate preventable features.

**Method:** The national program (BadgerNet) and surgical database were used to identify all local neonatal patients with SIP over a 5year period (2010-2015). Histology results excluded necrotising enterocolitis (NEC) perforations. Patient records were reviewed regarding multiple pre-operative factors including maternal (demographics, medical history, medications, smoking), foetal (steroid maturity, antenatally detected anomalies) and postnatal (condition at birth, ventilation requirements, circulation compromise, co-morbidities, septic events, feeding history). Long-term outcomes observed as secondary measure included length of NICU stay (LOS) and mortality.

**Results:** 28 neonatal patients were identified over the 5year period: with varied ethnicity (64% non-caucasian); a male preponderance (1.15M:1F); median gestational age was 26weeks and birth weight 875g. Maternal factors: median age 31.0years, non-smoking (89%), intrapartum antibiotic use 32% with 2cases of chorioamnitis. Median time of surgical intervention was Day four of life and 89% small bowel perforations. 86% were not fully fed (with breast milk in 89%) and no fortifier. 86% showed signs of sepsis, with preceding circulatory compromise requiring fluid bolus identified in 71% cases (42% requiring inotropic support). Patent ductus arteriosus found in 54%, but only 3patients (11%) treated with non-steroidal medications. 39% had non-invasive ventilation prior to perforation and 79% ventilated. LOS median 90days (9-230d) and mortality 21%.

**Conclusion:** Our data corroborates previously published evidence regarding NSAIDs, age at onset of disease and lack of feeding as compared to the NEC cohort. At present factors such as maternal age, medications and smoking, as well as anti-fungal showed no correlation. However the association with sepsis and hypoperfusion prior to abdominal signs may indicate a pathway for disease for further investigation.