Pelvic Sepsis following Laparoscopic Appendicectomy versus Open Appendicectomy: A Retrospective Study of 648 Cases

Objectives
Primary Endpoint
The purpose of this retrospective study was to determine whether patients have an increased risk of pelvic sepsis following laparoscopic appendicectomy (LA) when compared with the open appendicectomy (OA).

Secondary Endpoints
Secondary endpoints evaluate the use of blood markers (WBC, Neutrophils, CRP, Bilirubin) in predicting appendicitis and serum bilirubin levels as a predictor of perforated appendicitis. Concordance of surgeon and histology result, length of hospital stay, time period from admission to theatre and use of operative drains were examined.

Methods
A retrospective analysis of all patients undergoing emergency appendicectomy between February 2010 and January 2012 at our single institution were considered.
A diagnosis of appendicitis was made clinically. In cases where the clinical diagnosis was unclear CT or abdominal USS was performed. Exclusion criteria were patients who underwent a laparotomy or conversion to laparotomy, were pregnant, who had a history of previous abdominal surgery or were undergoing concurrent bowel resection.
Data were analysed using descriptive statistics.

Results
Of the 648 appendicectomies (361 male), 177 were performed laparoscopically. Histology confirmed appendicitis in 484 patients. There were 19 cases of pelvic sepsis (LA n=2, OA n=17) (Table 2), not statistically significant (p=0.1184). All blood markers were found to be statistically significant in the diagnosis of appendicitis, however, bilirubin was not significant in detecting perforated appendicitis (p=0.326) (Table 3). The sensitivity for concordance of intraoperative and histological findings was 94.2% with a specificity of 54.4%. Median length of stay in hospital was 3 days and not affected by modality of operative procedure (Figure 2). Average time from admission to theatre was higher in the pelvic sepsis group (26.74 hours vs. 23.73 hours) but not statistically significant (p=0.586). Operative drains were used in 61 patients, 6 of these patients developed postoperative pelvic sepsis.

Key Statement
Laparoscopic appendicectomy is a safe operative procedure and is not associated with an increased risk of pelvic sepsis.