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"Intraabdominal Infections Following Abdominal Trauma"

Introduction: Intraabdominal infections are the second leading cause of sepsis in the ICU, which accounts for lengthened hospitalization and an increased mortality rate. The need for additional reoperation seen in major trauma often leads to complications such as Intra-abdominal abscesses (IAA), resulting in longer hospital length of stay. The objective of this study is to evaluate the frequency and predictors/risk factors of intra-abdominal infections.

Methods: This study was a retrospective chart review of trauma patients admitted to Our Lady of the Lake Regional Medical Center comparing the outcomes of patients who underwent a laparotomy. Patients not requiring a laparotomy were excluded. The data collection of 145 patient records was taken from 1/2016 – 12/2024 and was input into REDCap. For data analysis, patients were divided into two groups based on the development of an IAA. A non-parametric statistical test was used to compare the medians of these two independent groups. A preliminary analysis was done on the current data from the registry. This study was approved by the IRB at LSUHSC-NO.

Results: The p values of moderate and severe contamination, open abdomen, colon discontinuity, and liver injury were < 0.05. 80% of patients with severe contamination, 43.8% of patients with moderate contamination, and 30.3% of patients with mild contamination developed an IAA. The odds ratio for mild contamination is 1.90 (95% confidence interval: 0.78 – 4.96), moderate contamination is 3.41 (0.96 – 12.19), and severe contamination is 17.5 (2.23 – 368). 56.2% of patients with and open abdomen and 16.5% of patients without an open abdomen developed an IAA. The risk ratio for having an open abdomen is 3.41 (2.02 – 5.77). 60.5% of patients who had colon discontinuity developed an IAA and 19% of patients who did not have colon discontinuity developed an IAA. The risk ratio of patients with colon discontinuity is 3.19 (1.97 – 5.14). 55.6% of patients who had a liver injury and 26.2% of patients without a liver injury developed an IAA. The risk ratio of patients with livery injury is 2.12 (1.27 – 3.52).

Discussion: IAAs has a statistical significance associated with severe contamination, open abdomen, colon discontinuity, and liver injury. There are no significant differences in rates of IAA for mild or moderate contamination, however IAA is more likely to occur with severe contamination. Patients with an open abdomen are 3.5 times more likely to develop an IAA than those that do not. Patients with colon discontinuity are 3.19 times more likely to develop an IAA. Patients with liver injury have a 2.12 times higher risk of developing an IAA. Future directions include increasing the sample size to compensate for the wide confidence interval seen for the severe contamination odds ratio.