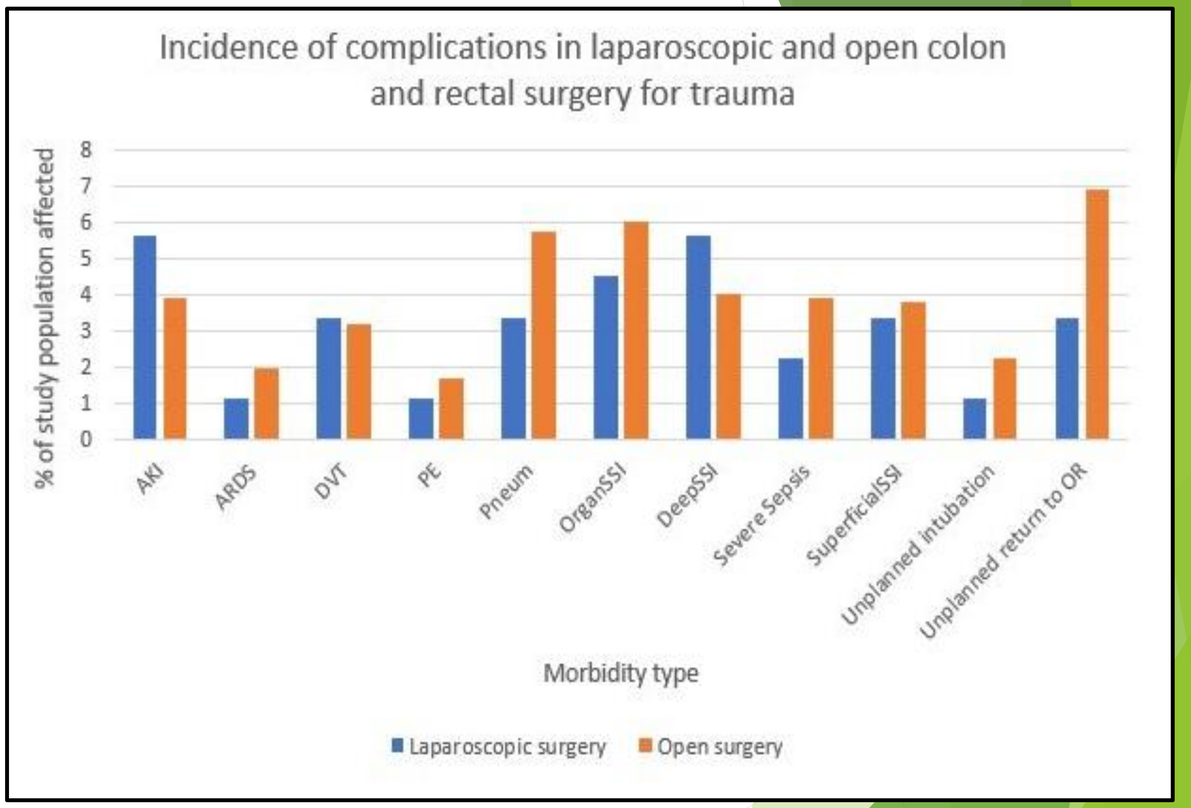
A COMPARISON OF OUTCOMES OF LAPAROSCOPIC AND OPEN SURGERY IN TRAUMATIC COLONIC AND RECTAL INJURIES

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Introduction:
Laparoscopic surgery is being increasingly used for operative abdominal trauma. We aimed to study differences in outcomes of traumatic colonic and rectal injuries managed with laparoscopic versus open surgery within 1 day of presentation.

Methodology:
Traumatic colonic and rectal injuries were identified in the NTDB for years 2013-2015 using ICD-9 codes. Subjects with missing data or cardiac arrest at time of arrival were excluded. Patients were divided into two groups based on utilization of laparoscopic or open colonic or rectal surgery within one day of presentation.
Data was collected for age, gender, race, injury severity score (ISS), pulse rate (HR), systolic blood pressure (SBP), respiratory rate (RR) and length of stay (LOS). Incidence was analyzed for acute kidney injury (AKI), acute respiratory distress syndrome (ARDS), deep vein thrombosis (DVT), pulmonary embolism (PE), pneumonia, organ space surgical site infection (SSI), deep SSI, severe sepsis, superficial SSI, unplanned intubation and unplanned return to OR.
Statistical analysis was conducted using SPSS for windows. P-value < 0.05 was considered statistically significant.

Results:
Of 2,598,467 patients, 8434 (0.32%) sustained a colonic or rectal injury. Mean age was 32.1 years. 87.8% were male. 89 patients (Group 1) underwent laparoscopic colonic/rectal surgery while 4796 (Group 2) underwent open operation.
Groups 1 and 2 were noted to be similar in terms of ISS (14.9 vs 16.3; p=0.078), age (34.1 vs 31.5 years; p=0.09), percentage of male patients (87.6% vs 88.1%; p=0.90), pulse rate (95.7 vs 97.6; p=0.46), SBP (119 vs 123 mmHg; p=0.27) and RR (21.5 vs 20.4; p=0.11) respectively.
No statistically significant differences were found in the incidence of AKI (5.6 vs 3.9%; p=0.40), ARDS (1.1 vs 2.0%; p=0.56), DVT (3.4 vs 3.2%; p=0.91), PE (1.1 vs 1.7%; p=0.69), pneumonia (3.4 vs 5.8%; p=0.34), organ SSI (4.5 vs 6.0%; p=0.55), deep SSI (5.6 vs 4.0%; p=0.44), severe sepsis (2.2 vs 3.9%; p=0.42), superficial SSI (3.4 vs 3.8%; p=0.83), unplanned intubation (1.1 vs 2.2%; p=0.48) and unplanned return to OR (3.4 vs 6.9%; p=0.19) between groups 1 and 2 respectively.
LOS was 15.0 days for both groups.



Conclusion:
Patients undergoing laparoscopic or open surgery for colonic or rectal trauma within one day of presentation show similar clinical outcomes and LOS despite similar ISS scores and demographic characteristics between the two groups. Laparoscopic colonic surgery appears to be a viable option in the appropriate setting for colonic and rectal trauma.