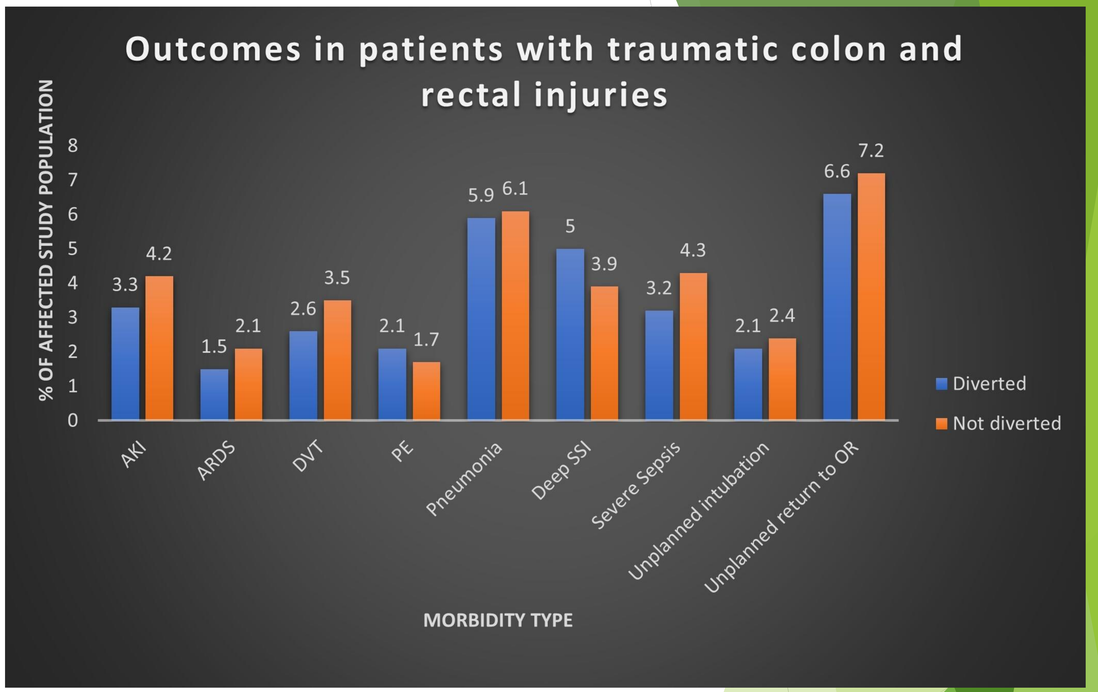
ANALYSIS OF OUTCOMES OF TRAUMATIC COLON AND RECTAL INJURIES MANAGED WITH OR WITHOUT FECAL DIVERSION

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Introduction:
Traumatic colorectal injuries can be managed by primary repair / anastomosis or fecal diversion. We aimed to study differences in outcomes in adult patients managed with or without fecal diversion at time of initial operation.

Methodology:
Using ICD-9 codes adult patients (18 years and older) in the National Trauma Databank with colonic and rectal injuries were identified for the years 2013-2015. Subjects with missing data or cardiac arrest at time of arrival were excluded. Patients were divided into two groups based on whether or not fecal diversion was performed at time of initial operation.
The following datapoints were collected: age, gender, race, injury severity score (ISS), pulse rate, systolic blood pressure (SBP) and length of stay (LOS). Incidence of the following morbidities was analyzed: acute kidney injury (AKI), acute respiratory distress syndrome (ARDS), deep vein thrombosis (DVT), pulmonary embolism (PE), pneumonia, deep surgical site infection (SSI), severe sepsis, 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. 665 patients (Group 1) underwent fecal diversion while 3866 (Group 2) underwent resection / anastomosis or primary repair.
Groups 1 and 2 were noted to be similar in terms of ISS (median of 14 in both groups), age (33.9 vs 33.1 years; p=0.15), percentage of male patients (87.1% vs 88.7%; p=0.23), SBP (125 vs 123 mmHg; p=0.051) and pulse rate (95.8 vs 97.3; p=0.46) respectively.
No statistically significant differences were found in the incidence of AKI (3.3 vs 4.2%; p=0.26), ARDS (1.5 vs 2.1%; p=0.30), DVT (2.6 vs 3.5%; p=0.22), PE (2.1 vs 1.7%; p=0.47), pneumonia (5.9 vs 6.1%; p=0.85), deep SSI (5.0 vs 3.9%; p=0.18), severe sepsis (3.2 vs 4.3%; p=0.18), unplanned intubation (2.1 vs 2.4%; p=0.64) and unplanned return to OR (6.6 vs 7.2%; p=0.56) between groups 1 and 2 respectively.
LOS was 15.3 and 15.2 days for groups 1 and 2 respectively (p=0.92).



Conclusion:
There does not appear to be a difference in outcomes between patients who undergo fecal diversion and those who do not. Therefore the decision to perform resection / anastomosis or primary repair should not be influenced by a concern for post-operative fecal leakage and subsequent morbidity but should be based on hemodynamic status and extent of injury.