

Gastrointestinal Discontinuity After Emergency Laparotomy

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Introduction:

- Emergency exploratory laparotomy is a common surgical operation associated with high morbidity and mortality.
- Patients requiring intestinal resection may be temporarily left in gastrointestinal discontinuity (GID) to shorten operations when faced with hemodynamic instability.
- There is little information regarding clinical outcome predictors for patients left in GID. The aim of the study was to determine predictors of futility in patients left in GID.

Methods:

- A 10-year (2012-2022) retrospective analysis of patients undergoing exploratory laparotomy that were left in GID at our institution, excluding trauma patients.
- Patients were divided into three groups.
- Groups were compared using single-factor ANOVA for differences in demographics, acuity at presentation, hospital course, laboratory data, comorbidities, and outcomes. Statistically significant findings were subjected to a multivariate regression analysis.

Group 1: never restored continuity and died (n = 31)

Group 2: restored continuity and died (n = 27)

Group 3: restored continuity and survived (n = 62)

Results:

- A total of 120 patients were left in GID during the study period. 58 patients (48%) died while 62 patients (52%) survived to discharge.
- Bowel ischemia in 62 and perforation in 53 patients were identified as the primary pathology at surgery (5 patients had both).
- Significant factors are listed in the table below. On multivariate logistic regression only lactate ($p = 0.002$) and use of vasopressors ($p = 0.014$) remained significant.

Table 1. Outcomes of Study Population

	Group 1	Group 2	Group 3	<i>p</i>
BMI	26.28	32.95	28.12	0.013
International Normalized Ratio (INR)	2.000	1.593	1.235	0.010
Lactate (mmol/L)	7.445	4.352	2.763	<0.001
Smoking	83.87%	47.62%	56.67%	0.011
Use of Vasopressors	83.87%	77.78%	48.39%	<0.001

Conclusion:

- Leaving a patient in GID is associated with high mortality (48%).
- Lactate, INR, smoking, BMI, and the use of vasopressors predicted mortality for patients left in GID after an exploratory laparotomy.
- Profound lactic acidosis and use of vasopressor therapy were the most significant
- These factors could potentially be used to identify futile situations which can direct surgeons and healthcare powers of attorney in making end of life decisions.