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Title: Predictors of Mortality and Morbidity associated with Emergency Laparotomies at a Teaching Hospital

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Topic: Abdominal Emergency Surgery

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Background: Emergency laparotomies are done in diverse scenarios where the clinical presentation, underlying pathology and management vary considerably. This, coupled with resource constraints, and the limited time available to evaluate and optimize co-morbidities before surgery, can contribute significantly to morbidity and mortality.

Aim: To identify the predictors of outcomes in patients undergoing emergency laparotomies at a teaching hospital in a developing country.

Methods: In a prospective study, 400 patients who underwent emergency laparotomy at our department over a two-year-period (January 2017 to December 2018) were taken as the study population. Patients with urological and gynecological emergencies, abdominal trauma, uncomplicated appendicitis and negative laparotomies were excluded. The clinico-radiological findings were recorded at the time of presentation. Blood for relevant investigations was drawn prior to resuscitation so as to not confound the results. Subsequently, all patients underwent exploratory laparotomy with a surgical procedure suited to the intra-operative findings. The survivors and non-survivors were compared with regard to patient characteristics, indication for surgery, pre-operative factors, perioperative factors, intraoperative findings and post operative course. Post-operative complications were identified and the morbidity was graded according to the Clavein-Dindo classification. An attempt was made to identify factors that could have a bearing on the outcomes.

Results: In our study population, about 74% had perforative peritonitis and 11% had acute intestinal obstruction. Intra-abdominal abscesses accounted for about 13%. Surgical complications developed in about 69% (276/400), of which 5.43% (15/276) were major complications necessitating prolonged hospital stay or relaparotomy. The overall 30-day mortality was 12% (49), of whom around 8% (4/49) died within 24 hours. 50% of the non-survivors were older than 60 years of age.

Discussion: Age, presence of pre-existing co-morbidities, interval between symptom-onset and surgery, blood urea levels at presentation, ASA-PS grade and the nature of the surgical pathology were found to be among the key predictors of outcome.

In a centre with high case load and resource constraints, predominantly catering to financially challenged patients, a knowledge of these predictors aids in optimising the available resources. It also equips us to communicate better with the concerned parties, helping us avoid medicolegal complications.

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