Laparoscopic versus open repair of perforated peptic ulcer: Improving outcomes utilizing a standardized technique

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Summary Background/Objective: The objective of this study was to compare the outcomes of patients who underwent laparoscopic and open repair of perforated peptic ulcers (PPUs) at our institution.

Methods: This is a retrospective review of a prospectively collected database of patients who underwent emergency laparoscopic or open repair for PPU between December 2010 and February 2014.

Results: A total of 131 patients underwent emergency repair for PPU (laparoscopic repair, n = 63, 48.1% vs. open repair, n = 68, 51.9%). There were no significant differences in baseline characteristics between both groups in terms of age (p = 0.434), gender (p = 0.305), body mass index (p = 0.180), and presence of comorbidities (p = 0.214). Both groups were also comparable in their American Society of Anesthesiologists (ASA) scores (p = 0.769), Boey scores 0/1 (p = 0.311), Mannheim Peritonitis Index > 27 (p = 0.528), shock on admission (p < 0.99), and the duration of symptoms > 24 hours (p = 0.857). There was no significant difference in the operating time between the two groups (p = 0.618). Overall, the laparoscopic group had fewer complications compared with the open group (14.3% vs. 36.8%, p = 0.005). When reviewing specific complications, only the incidence of surgical site infection was statistically significant (laparoscopic 0.0% vs. open 13.2%, p = 0.003). The other parameters were not statistically significant. The laparoscopic group did have a significantly shorter mean postoperative stay (p = 0.008) and lower pain scores in the immediate postoperative period (p < 0.05). Mortality was similar in both groups (open, 1.6% vs. laparoscopic, 2.9%, p < 0.99).

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