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ORIGINAL ARTICLE

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

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Received 17 July 2016; received in revised form 1 November 2016; accepted 2 November 2016

KEYWORDSlaparoscopic;
open;
perforated peptic
ulcer;
standardized
technique;
surgical outcomes

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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<http://dx.doi.org/10.1016/j.asjsur.2016.11.004>

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Please cite this article in press as: Siow SL, et al., Laparoscopic versus open repair of perforated peptic ulcer: Improving outcomes utilizing a standardized technique, Asian Journal of Surgery (2016), <http://dx.doi.org/10.1016/j.asjsur.2016.11.004>