



The role of laparoscopy in perforated peptic ulcer: a comment on the Australian cohort study

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We read with particular interest the article entitled “Laparoscopic versus open repair of perforated peptic ulcer: A retrospective cohort study” (1).

The authors have shown that in their Australian cohort the laparoscopic management of perforated peptic ulcer (PPU) requires an extra operative time, without any convincing advantages in terms of complications or hospital stay. Although this pathology represents one of the most important indication of urgent surgery, its incidence is declined worldwide thanks to medical therapies with variations related to geographic areas (2). Based on these data it's very difficult to perform studies with big samples and, as rightly addressed by authors, the few randomized trials have been based on China and Europe (3,4). The latest Cochrane library involving all the most important studies (5) about this argument, shows an equivalent outcome between open and laparoscopic ulcer repair with a trend towards a reduction of septic complications in the latter group. A lot of factors may influence the outcome of the procedure, in part related to the patient's condition, to the PPU itself and technical aspects.

It's quite obvious that younger patients and patients with ASA score I or II are quite suitable for laparoscopic repair meanwhile surgeons tend to be reluctant to treat high risk patients with this approach. For the same reasons it is better to manage a case of a patient with systolic blood pressure <90 mmHg and Boey score of 2 with open procedure due to its intrinsic high mortality and high risk of conversion in case of laparoscopy. The delayed presentation (>24 h) is a quite defined risk factor for suture leakage that may be related to the ulcer margin and fragility of edges. In the present article a lot

of patients belonging to the laparoscopic group have a delayed presentation and this may influence the suture performed laparoscopically (6). Instead the abdominal collections are prevented by meticulous irrigation of all abdominal cavities, and the dead spaces with warm saline in order to reduce the bacterial load. We believe that the concomitant peritonitis is a major cause of morbidity and mortality among these patients in particularly the pulmonary complications, although the role of laparoscopy in this setting should be clarified.

The expertise in laparoscopy is another key-point that is just stressed because it strongly influences mainly the conversion rate and consequently the costs and the operative time of the procedure. A small amount of studies about this specific argument have demonstrated an increased number of cases completed successfully completed in laparoscopy when the surgeon had gained proper skills (7). An emergency surgeon should know these “risk factors” when choosing the proper method of approach.

From an intra-operative standpoint, ulcer size and its location are the major risks for conversion during the procedure and therefore ulcers bigger than 8–10 mm (8) or difficult laparoscopic access often require fast conversion to open surgery in order to avoid to waste time laparoscopically. The ulcer location also affects the operative time as juxta-pyloric ulcers are associated to faster laparoscopic procedure respect to gastric ones that are difficult to treat and also they also may be malignant. Moreover the adopted technique is important with the Graham's omental patch the most used and safe. It's obvious that these factors can be determined only during the operation but an expert surgeon should attempt a

laparoscopic approach for two reasons: firstly the diagnostic laparoscopy may become important in clinical cases of doubt, avoiding extensive laparotomies; secondly gaining experience in this setting gives the possibilities to face with more and more “difficult PPU cases”.

In conclusion, we completely agree with authors that laparoscopic approach to PPU represents a valid alternative to an open procedure (9) although it may take an extra operative time; however the correct patients selection and the increased experience may improve these results. A good strategy is to initially approach with laparoscopy young, low risks patients then, with increased experience in PPU repair, the surgeon manage the other cases. Patient selection for laparoscopic PPU repair is still a relevant concern, stressing the importance of further studies also in Australia comparing both early and late outcomes of standard laparotomy and laparoscopic repair especially in high risk, critically ill patients Initially when there is an intra-operative doubt about the ulcer size or its margins, it's better to stop the procedure and convert to open surgery. The fundamentals about the technique are: Graham's omental patch when possible and peritoneal lavage in case of diffuse peritonitis.

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