

Totally laparoscopic management of acute perforated diverticulitis.

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Background: surgical treatment of diverticular peritonitis has evolved from a three stage to a two stage procedure of primary resection of perforated segment and end colostomy. Hartmann's procedure is accepted as the gold standard for Hinchey stage 3 and 4 of perforated diverticular disease. However in literature there is an evidence reporting on high complication rates with wound infections, end stoma and reversal procedure with an high incidence of Hartmann's operation never reversed.

Primary resection and anastomosis with a proximal defunctioning stoma was shown to result in good outcomes in terms of anastomosis leak and wound infection, but this procedure need a second operation to close the stoma.

A new minimal invasive approach recently proposed is the laparoscopic exploration, lavage and drainage of the peritoneal cavity followed by sigmoid elective resection at an interval of some weeks.

Methods: this approach has been applied in our unit to treat 11 patients with a mean age of 58.3 years in the last 36 months. All patients presented with peritonitis and systemic sepsis, all of them having extraluminal gas or signs of peritonitis on preoperative imaging.

They underwent to laparoscopic lavage and drainage without resection or stoma, a drain was placed near the colonic lesion and another one in the pelvis, two patients needed placing of three drains because the presence of a faecal peritonitis under diagnosed pre operatively. Were included only patients radiologically staged as Hinchey grade 3, while in stage 4 we opted for an Hartmann's procedure.

Results: sigmoid diverticulitis was confirmed in all cases, complicated by Hinchey 2B or 3 grade purulent peritonitis in 9 patients and grade 4 contamination in the other two.

No conversion and colostomy were necessary. The drains were removed in IV-V post operative day, the post operative course was uneventfull, and they were discharged medially in 7 days. All patients underwent an elective laparoscopic resection of descending and sigmoid colon, without conversion or defunctioning stoma, the second operation was performed at a mean interval of 8 (range 7-12) weeks after a radiological control by computerized tomography. There were no complication and median hospital stay after the second operation was 10.4 days.

Discussion: two stage laparoscopic management with lavage and drainage of diverticular peritonitis may be a safe alternative to more radical procedure avoiding faecal diversion and allowing to a delayed elective laparoscopic resection can be proposed in case of Hinchey grade 3 purulent contamination. In case of diffuse faecal peritonitis with retroperitoneal involvement as in Hinchey 4, the drainage and lavage may be uncomplete needing the place of more than 2 drains, so in this case the gold standard of surgical treatment is still the Hartmann's procedure, that can be also reserved as primary option in case of compromised patients than could not be submitted to two anesthesiological procedures.

This procedure doesn't necessitate of great technical skill but are necessary carefull and methodicity, we think that can be performed also in urgency by every surgeon, also if not greatly experienced in laparoscopy, infact the procedure is greatly easy than a laparoscopic colonic resection. In Literature there are report of patients non submitted to a second elective colonic resection, this is an interesting field because lavage and drainage could be resolutive by itself.

Conclusion: totally laparoscopic management of acute diverticulitis seems a pleasure option avoiding an Hartmann's procedure. More multicentric study must be conduct to analyze the possibility of avoiding also the second resective intervention.

Literature:

- Myers E et al "Laparoscopic peritoneal lavage for generalized peritonitis due to perforated diverticulitis." Br J Surg 2008;95
- Alamili A et al "Acute complicated diverticulitis managed by laparoscopic lavage." Dis Colon Rectum 2009;52(7)
- Franklin ME et al "Long-term experience with the laparoscopic approach to perforated diverticulitis plus generalized peritonitis." World J Surg 2008;32(7)