Techniques in Coloproctology (2018) 22:739–740
https://doi.org/10.1007/s10151-018-1881-3

EDITORIAL

Perforated sigmoid diverticulitis: Hartmann's procedure or resection with primary anastomosis

W. A. Bemelman[1]

Received: 31 October 2018 / Accepted: 8 November 2018 / Published online: 20 November 2018

It is very fashionable nowadays to systematically review and meta-analyse every topic even when there are only very few trials out. A recent example is the bombardment of systematic reviews on the management of purulent perforated diverticulitis [1–4]. In a few years nearly 10 reviews have been published, all with different interpretation of the data from the LOLA, SCANDIV and DILALA trials [5–7]. So, every reader can find a review with conclusions that will suit him or her.

This review by Cirocchi et al. [8] is also based on only 3 trials, all underpowered and ended prematurely. The overall conclusion is that a Hartmann's is comparable to primary anastomosis for perforated diverticulitis be it Hinchey III or IV in terms outcomes of interest. The paper is interesting to read though, because the issues in this field of research are very well discussed. The most important problem stated, is that the 3 trials have been confounded by selection of patients that were included. The randomized trial by Binda et al. [9] included 56 Hartmann's and only 34 primary anastomosis . This suggests that patients were in the end not considered suitable for primary anastomosis.

Examples of patients that will not be in the trials are the hemodynamically unstable patients, patients on immunosuppressants or those who had pelvic radiation therapy. It is also very likely, that if the surgeon on call was not a colorectal surgeon, patients were not considered eligible for inclusion.

As long as the potentially eligible patients who for whatever reason were not randomized, are not accounted for, the external validity of the studies is very low.

Surprisingly, the stoma rate at the end of follow-up was not significantly different. This was due to the results of Binda et al. [9] whose study probably suffered from the largest inclusion bias.

The DIVA trial randomized all patients with fecal peritonitis from the LADIES trial [10] to primary anastomosis vs. Hartmann, addressing this very topic. Patient enrollment and minimum follow-up are concluded and results will follow soon.

The Hartmann's procedure is mostly done open both in and outside trials. A significant number of these patients will develop incisional hernias [11, 12]. Incisional hernia repair significantly increases the extent and operative risk of reversing a Hartmann's and might be an important reason for not reversing. The situation is different with a laparoscopic Hartmann's procedure with extraction via a Pfannentsiel incision or at the stoma site. The absence of an incisional hernia together with the probability of fewer adhesions are most likely reasons why more laparoscopic Hartmann's are closed as described by Vennix et al. [13].

A laparoscopic Hartmann's might be a great alternative to a primary anastomosis particularly if hemodynamic instability exists, if the patients is immunocompromised or has had prior radiotherapy. There is of course the technical issue for those who do not feel comfortable with a laparoscopic procedure.

Otherwise, the true Hinchey III patients can have laparoscopic lavage, favorable Hinchey IV's resection and primary anastomosis and all others with risk factors a laparoscopic Hartmann's. No trial can determine whether this is the proper approach . National registries where all patients are accounted for or cross-sectional population based studies should solve this research question.

Compliance with ethical standards

Conflict of interest The author declares that he has no conflict of interest.

Ethical approval For this type of study ethical approval is not required.

Informed consent For this type of study formal consent is not required.

✉ W. A. Bemelman
w.a.bemelman@amc.uva.nl

[1] Amsterdam University Medical Centers, Amsterdam, The Netherlands

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