Complicated Diverticulitis

Case Report

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Key Words

Colorectal · Diverticulitis · Hartmann's procedure · Perforation

Case Report

A 51-year-old female was admitted with abdominal pain that had started in the left lower quadrant. Besides nephrolithiasis, her medical history was uneventful. She was moderately sick and had 38.4 °C fever. Physical examination of the abdomen revealed signs of diffuse peritonitis. A plain abdominal X-ray showed free air and distended small bowel loops. Explorative laparotomy was done and a diffuse purulent peritonitis was found due to a perforated diverticulitis.

Question

What kind of operation would you perform?

	Audience's response
A Hartmann's procedure	45%
B Sigmoidectomy and primary anastomosis	32%
C Sigmoidectomy and peroperative lavage and anastomosis	7%
D Sigmoidectomy and anastomosis and loop ileostomy	10%
E Sigmoidectomy and peroperative lavage and anastomosis and loop ileostomy	6%

Comment

No evidence exists what operation is best for perforated diverticulitis. Most surgeons would advise Hartmann's procedure for two reasons. First the procedure is considered the least extensive operation and can easily be done by the resident on call. This misconception is probably the cause of a high incidence of stoma-related complications (retraction, ischemia). A good Hartmann's operation, namely creation of a vital and traction-free colostomy, often requires mobilization of the left flexure. This requires considerable technical skill and experience. Secondly the proponents of a Hartmann's procedure fear the adverse events of anastomotic leakage in case of primary restoration of the continuity [1–6].

Advocates of resection and primary anastomosis disapprove of Hartmann's procedure because 30–40% of the colostomies will not be reversed. Reversal is associated with considerable morbidity and even mortality. Even so, it is questioned whether anastomotic leakage after resection and anastomosis for sigmoid perforation is an important cause of death. Most patients die of the consequences of generalized peritonitis due to the sigmoid perforation. So it is still at the discretion of the operating surgeon to decide what operation is best for the particular patient.

The grade of peritonitis classified according to Hinche (table 1) can be of help to determine what operation

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Table 1. Hinchey classification

I	Diverticulitis with no or local peritonitis
II	Diverticulitis with small pericolic abscess
III	Diverticulitis with local purulent (a) or fecal (b) peritonitis
IV	Diverticulitis with diffuse purulent (a) or fecal (b) peritonitis

is best for the patient. It can be suggested that patients with Hinchey I and II will have resection and primary anastomosis. Patients with Hinchey III and IV are probably best treated with either Hartmann's procedure or resection and primary anastomosis and fecal diversion, preferably the latter.

The rationale behind peroperative lavage is to remove the fecal load that can run through a leaking anastomosis. Only very few believe that the fecal load will *cause* anastomotic leakage. Peroperative lavage is an extensive procedure often requiring mobilization of both flexures, is time consuming and is associated with fecal spill. It is therefore not a very popular procedure.

Case Report (Continued)

Sigmoid resection with primary anastomosis was performed. A covering ileostomy was fashioned. Due to small bowel distension, the abdomen was closed using a Vicryl mesh. Postoperatively she was treated at the intensive care unit because of respiratory insufficiency. On the 6th postoperative day a CT scan with contrast was done that did not show any intra-abdominal abscesses. Gradually the ileus resolved and her clinical condition was good on the 12th postoperative day.

Question

What would you do now?

	Audience's response
A Conservative treatment until full recovery	72%
B Closure of the abdomen	15%
C Reversal of the ileostomy	10%
D Reversal of the ileostomy and closure of the abdomen	3%

Comment

Conservative treatment until full recovery is obviously the safest option. Sometimes if recovery is fast and ileus has resolved, it can be attempted to close the abdomen in order to avoid later surgery for incisional hernia. Early closure of a defunctioning ileostomy (within 14 days) is probably feasible and safe after elective surgery, e.g. total mesorectal excision with coloanal anastomosis. However,

closure of the ileostomy does not seem wise in a patient recovering from diffuse peritonitis.

Case Report (Continued)

An attempt was done to close the abdomen. However, closure was not possible and the Vicryl mesh was reefed. On the 20th postoperative day she developed fever and respiratory insufficiency. CT scan demonstrated a perianastomotic abscess that did not allow percutaneous drainage. Laparotomy was done and a small anastomotic leakage with a confined perianastomotic abscess was found.

Question

What would you do now?

	Audience's response
A Take down the leaking anastomosis	32%
B Drainage of abscess	60%
C Drainage of abscess and revision anastomosis	8%

Comment

Since the anastomosis is deviated, simple drainage of the abscess is sufficient. Healing without stricture is often the case. Only if the anastomosis is deficient for a major part of its circumference, dismantling of the anastomosis can be necessary. Simple closure of both bowel ends with the linear stapler can be done if a Hartmann's procedure is technically difficult due to postoperative and inflammatory adhesion.

Case Report (Continued)

Recovery was uneventful. She was discharged on the 40th postoperative day. Closure of the ileostomy and repair of the incisional hernia are scheduled at a later stage.

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