

Chapter 59

Case on Anastomotic Leakage Following Small Bowel Resection

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Anastomotic leakage can be a disastrous complication of small bowel resection. In this section, two cases of anastomotic leakage following small bowel resection will be described and therapeutic management options will be discussed.

First Patient

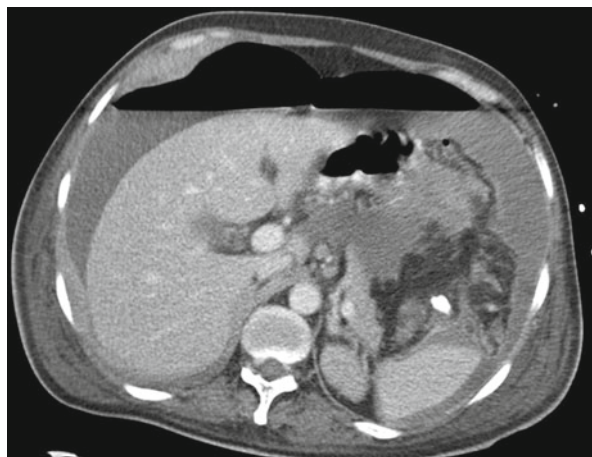
Diagnosis and Indication for Surgery

A 57-year-old male with a medical history of refractory celiac disease type II was admitted to the intensive care unit with respiratory insufficiency because of bilateral pneumonia. On abdominal CT, performed because of abdominal pain, a thickening of the small intestinal bowel wall and multiple enlarged intra-abdominal lymph nodes were visible. He underwent a gastro-duodenoscopy to rule out gastrointestinal lymphoma (associated with his celiac disease). Following the procedure, the patient developed acute abdominal pain and on physical examination signs for peritonitis. A plain abdominal X-ray demonstrated massive free intra-abdominal air, suggestive of a perforation.

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Fig. 59.1 Abdominal CT scan before the second laparotomy of first patient demonstrating large amounts of ascites and free intra-abdominal air



Operation

At laparotomy, a large perforation of the proximal jejunum was found in a bowel affected with intestinal lymphoma. The perforation did not have the appearance of a recent iatrogenic perforation but was considered to be an older covered perforation, which had opened again by introduction of air during gastro-duodenoscopy. The affected segment of jejunum was *resected* and a side-to-side anastomosis performed.

Postoperative Course: Identification and Treatment of Complication

On the 9th postoperative day, patient developed acute abdominal pain and hemodynamic instability. An abdominal CT scan was performed which demonstrated free intra-abdominal air and free fluid (Fig. 59.1). A relaparotomy was performed and an anastomotic leakage of the side-to-side anastomosis was found. The anastomotic leak was primarily closed and a deviating loop jejunostomy was created. Despite this intervention, the patient deteriorated. Because of his general condition, his T-cell lymphoma with poor prognosis, and the lack of therapeutic options, further treatment was ceased and the patient died on the 4th postoperative day.

Second Patient

Diagnosis and Indication for Surgery

A 77-year-old male with a medical history of Kahler's disease and a right hemicolectomy, 1 year ago, because of a T3N0M0 colon carcinoma, presented with weight loss and abdominal pain. Abdominal CT scan demonstrated a mass in the jejunum. Double-balloon enteroscopy showed apparently no abnormalities.

Operation

An explorative laparotomy was performed and a large mass was found in the right half of the abdominal cavity with ingrowth in the ileum. In addition, multiple peritoneal deposits were found. Frozen sections demonstrated adenocarcinoma. Therefore, the right abdominal mass was not resected and the involved ileum was bypassed by a side-to-side jejunum-ileum entero-enterostomy, leaving a blind loop of ileum in place.

Postoperative Course: Identification and Treatment of Complication

On the third postoperative day, the patient developed acute abdominal pain and on physical examination with signs for peritonitis. Abdominal CT scan demonstrated free intra-abdominal air and fluid. A relaparotomy was performed and leakage from a defect in the blind loop was found. The side-to-side entero-enterostomy anastomosis was intact. The blind loop was resected, en bloc with the tumor. Postoperative course was complicated by a pneumonia that was successfully treated with antibiotics after which the patient could be discharged.

Discussion

In case of anastomotic leakage after small bowel resection, there are several management options. The easiest option is primary closure of the defect in the anastomosis. This can be performed if there is no doubt about the vitality of the anastomosis and the patient is hemodynamically stable. If the anastomosis is of poor quality, another option is to make a new anastomosis after resection of the old anastomosis (Illustration 59.1). If the patient is septic, hemodynamically unstable, or in a bad general condition, a better option includes disconnecting the anastomosis and creating a double proximal and distal loop stoma. Closure will be ideally performed after 8 weeks, but if the proximal stoma is very proximal in the jejunum and production very high, then the concept of control damage can here be applied. After some days, a relaparotomy can be performed and continuity of the tract restored. Another infrequent option performed is to create a deviating or protective stoma after closure of the defect in a difficult located anastomosis. This protective stoma will reduce the risk of leakage—although conflicting results are reported in the literature. Nonetheless, clinical consequences of leakage are less severe when a protective stoma is used and the risk of needing a reoperation is reduced.

Important to keep in mind is that a conservative approach may be the proper decision in case the abdominal wall is closed and the leakage drained completely through the abdominal wound, with the so-called controlled fistula, in a complicated inaccessible abdomen. Treatment will include a correct protection of the skin

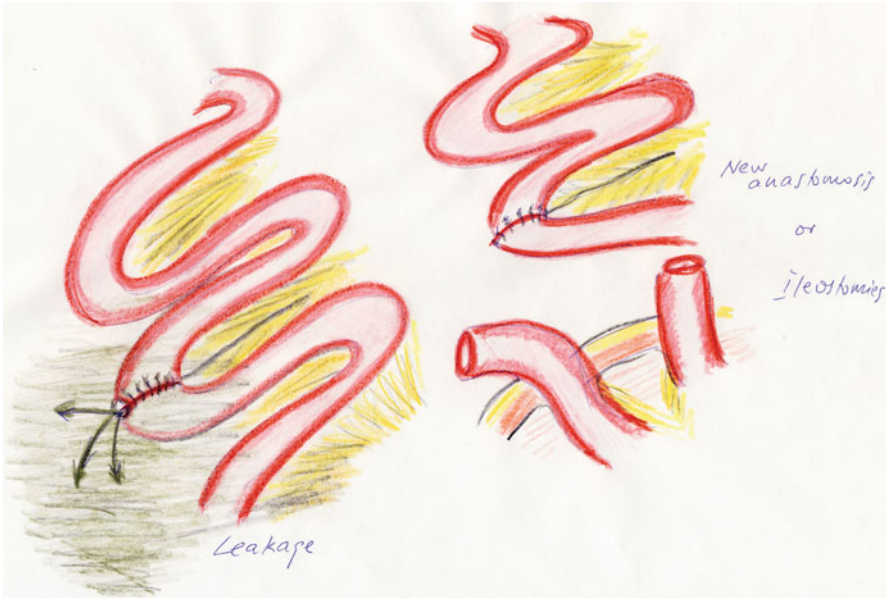


Illustration 59.1 If after a small bowel resection with primary anastomosis, patient has a leakage of the anastomosis with peritonitis, patient should be operated on. If hemodynamically stable and purulent peritonitis, a new anastomosis may be considered. If unstable or with fecal peritonitis, stoma deviation should be done

by means of a VAC system or adequately stoma devices, total parenteral nutrition, somatostatine to decrease production, and eventually percutaneous drainage of intra-abdominal fluid collections/abscesses. If fistulas are drained optimally, and the continuity of the bowel is good without further mechanical obstruction, the fistula will close naturally.