



AN UNUSUAL COMPLICATION OF ABDOMINAL DRAIN EROSION INTO BOWEL: A RARE CASE REPORT

Oncology

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ABSTRACT

Routine placement of drain following abdominal surgery is a controversial subject. It drains pus, blood, intra-abdominal collection and other body fluids. It allows early diagnosis of haemorrhage or anastomotic leaks. It is not a routine practice to use drains following abdominal surgery as these drains themselves are also potential source of infection; may cause anastomotic leakage and erode into bowel by mechanical pressure and suction. We present a very rare case of erosion of intra-abdominal drain into ileum following right hemi colectomy leading to enterocutaneous fistula.

KEYWORDS

Abdominal drain, erosion, enterocutaneous fistula

INTRODUCTION:

Drainage which may be either prophylactic or therapeutic is one of the basic components of surgery. Although therapeutic drainage may be beneficial, prophylactic drainage is still a controversial topic. [1]

Drainage in elective colorectal surgery is generally prophylactic. Drainage is also aimed to detect early anastomotic leakage and haemorrhage. Pelvic drainage may help preventing anastomotic complications by the drainage of accumulated fluid thus preventing abscess or hematoma formation. [2] Abdominal drains may sometimes act as double edged sword with various complications reported in literature. These include mechanical bowel obstruction, drain site infection, pressure necrosis on the adjacent tissues leading to subsequent complications (bleeding, perforation, fistulisation) as a result of chronic compression and enterocutaneous fistula [3]. As a result of better radiological amenities and new innovative intervention radiology techniques routine use of drains following surgical intervention is not routinely recommended. [4, 5]

We report a case of abdominal drain eroding into distal ileum following right hemi colectomy on 6th post-operative day.

Case Report:

68 years male patient presented with altered bowel habit and melena for 1 month with some significant laboratory findings like anaemia (HB 6gm/dl), hypoproteinaemia (Serum albumin-2.6gm/dl) and dyselectrolyemia (Na⁺ 130mmol/L). He also complained of on and off fever since last 10 days. On examination, a large mobile lump of size 6x4 cm in right iliac fossa with localised guarding. Contrast enhanced computed tomography scan of thorax, abdomen and pelvis showed circumferential thickening of caecum and ascending colon with polypoidal mass at caecum, pericolic fat stranding and loco regional lymphadenopathy. Colonoscopy revealed caecal and ascending colon growth and guided biopsy confirmed it as moderately differentiated adenocarcinoma. Serum CEA was 7.8ng/ml. After initial resuscitation and optimization, patient was posted for emergency laparotomy in view of persistent melena and localised guarding. Intraoperatively, a large growth at caecum with dilated distal large bowel loops was found. Caecum was perforated at one point with localised collection and small pericolic abscess formation. Right hemi colectomy with ileotransverse anastomosis was done. Abdominal drain put in pelvis. Patient was started oral feeding on 2nd post-operative day and was tolerating well. Up to 4th postoperative day drain contents was up to 100 ml/day and was serosanguinous in nature. On 5th postoperative day, bilious contents started coming from the drain and peridrain area and patient started showing signs of localised guarding. On 6th postoperative day drain output increased and patient showed signs of

fever and tachycardia (Pulse rate 110-120). Since there were signs of peritonitis and high drain output, decision of exploratory laparotomy was done without any imaging keeping anastomotic leakage as our first differential diagnosis. On re-exploration, abdominal drain was found eroding the distal ileum at about 5 cm proximal to anastomosis causing enteric fistula. (FIGURE 1&2) Anastomosis was completely healthy. Pelvic collection of around 500 ml was drained. The rent was closed primarily and protective loop ileostomy done in view of sepsis and poor general condition of the patient. Postoperative period was uneventful. Final histopathology showed moderately differentiated adenocarcinoma with 2 out of 22 dissected lymph nodes positive. Lymphovascular and perineural invasion was present. All Margins were free with 15 cm and 5 cm proximal and distal margins respectively. Final TNM was p T3N1b M0. He is now on adjuvant therapy and awaiting ileostomy closure.

DISCUSSION-

As per literature, Hippocrates was the first to use an abdominal drain in a case of a gallbladder empyema. Similarly Celsus and Galen used it to drain ascites. [6] An intraperitoneal drain can be used for prophylactic, diagnostic and therapeutic purposes. Some surgeons recommend the routine use of drain for drainage of postoperative collection, bleeding and peritoneal collections, while many avoid its use. [7] Various complications like pressure necrosis on the adjacent tissues leading to subsequent complications (bleeding, perforation and fistulisation), mechanical bowel obstruction, drain site hernia and drain site infection have been reported in literature. [3] However bowel erosion by abdominal drains is a very rarely reported complication. The long duration of placement of drains may contribute to bowel erosion. Both open as well as closed suction drains are reported to cause this erosion. The open drains have been postulated to erode bowel due to pressure necrosis whereas closed suction drains may suck the bowel into the side holes causing erosion of the wall. [8,9] It may present as either localized or generalized peritonitis. An enterocutaneous fistula with drainage of the enteric content through the drain may lead to diagnosis of this condition. Imaging in the form of fistulogram through drain may show passage of the contrast medium into the bowel. Contrast-enhanced computed tomography may also help in diagnosing this rare complication. Conservative management may be indicated in cases with localized peritonitis or low output enterocutaneous fistula. Patients with general peritonitis or having high drainage output or hemodynamic instability require re-exploration.

We routinely do not put abdominal drain post right hemi colectomy. Since in this case caecum was focally ruptured with the pericaecal abscess formation, abdominal drain was put to drain out any postoperative collection as there was a high chance of anastomotic

leakage due to some hostile factors like preoperative anaemia, poor nutritional status and localised abscess formation. We did not go for any imaging since it would not have changed our management plan. Conservative management is an option for low output fistula and in cases with no signs of peritonitis. In our case both high output fistula with signs of peritonitis compelled us for immediate exploration even without any imaging. Pressure necrosis may be the cause of bowel erosion. Though this is a very rare complication of abdominal drain but it is still possible. Surgeons have to be very cautious and have to weigh the risk benefit ratio before using abdominal drains in their routine practice. Use of abdominal drain for routine use is not recommended.

CONCLUSION:

The dictum 'when in doubt, drain', from Lawson Tait, is well known to most surgeons. However, as complications can occur with the use of drains, the words of Halsted in 1898 might be more appropriate-'no drainage at all is better than the ignorant employment of it'. We believe that both the statements are appropriate, and valid in different perspectives. Only good clinical acumen and individualised approach is required. In conclusion, because the abdominal drain itself may lead to significant morbidity, the necessity of abdominal drainage should be assessed by risk-benefit ratio and its routine use is not recommended.

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Figure 1: Showing Drain Erosion Into Terminal Ileum



Figure 2 : Showing Perforated Ileum Due To Drain Erosion

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