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Case Report

Small Bowel Strangulation in The Lesser Sac Following Laparoscopic Subtotal Colectomy

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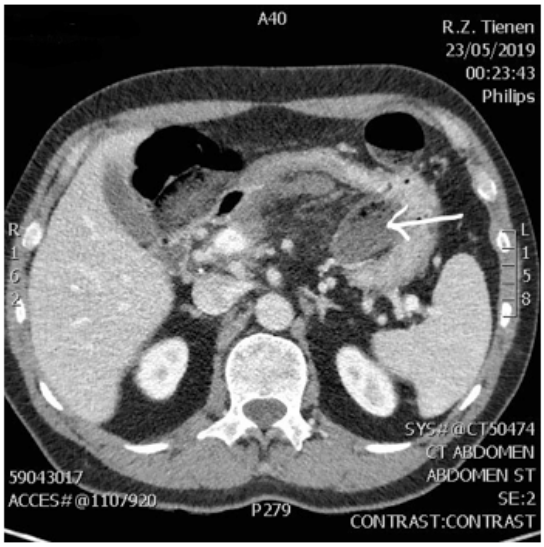
Abstract

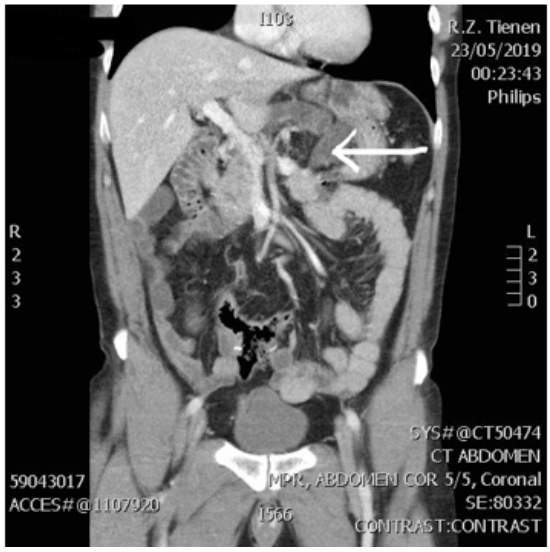
We describe the case of a 60-year-old man who was admitted to the local emergency room with abdominal discomfort and epigastric pain. Clinical and radiological examination revealed strangulated small bowel migrating in the lesser sac through an iatrogenic defect in the remnants of the gastro-colic ligament following subtotal colectomy. A laparoscopic exploration, small bowel reduction and closure of the defect was achieved in an urgent manner. The benefits of minimally invasive abdominal surgery are known for many years already. Shorter hospital stay, faster recovery, decreased infection rate, less pain and less adhesions emphasise the success of laparoscopic and later on even robotic surgery over traditional open access. Nevertheless, those novel techniques do not avert particular iatrogenic pathology. Lessons are to be learned. A reduction of small bowel adhesions in laparoscopic procedures hypothesizes an increased risk of internal small bowel herniation, though this has not been studied thoroughly. Most commonly known nowadays is an internal herniation following laparoscopic gastric bypass procedure when closure of the postoperative peritoneal defects is not performed (Petersen's space and under the jejunojejunal anastomosis).

Case History

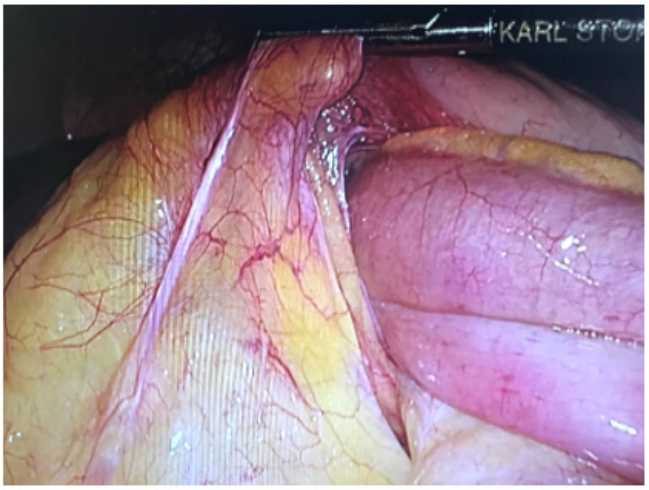
A 60-year-old male presented himself at the emergency room of the Regional Hospital of Tienen. He suffered from sudden abdominal discomfort and a sore continuus epigastric pain since a few hours. There was a lack of appetite, no vomiting and unvaried stools. Surgical history includes a subtotal colectomy with ileorectal anastomosis for attenuated familial adenomatous polyposis. Intake of butylhyoscine (Buscopan), domperidon (motilium), aluminiumoxide (Maalox) didn't bring any relief. There was no other medical treatment. Clinical examination was unspecific with a palpatory tenderness in the epigastric region without muscular defense and with an absence of Blumberg's sign. There was no abdominal distention, no sign of incisional hernia. Fever was absent and haemodynamic parameters were normal.

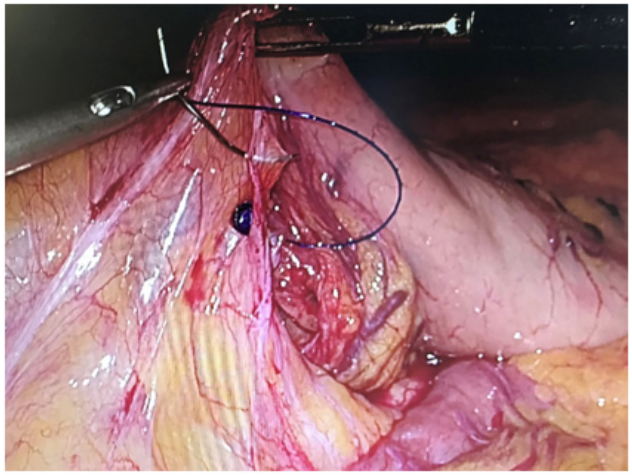
Biochemistry was normal apart from an insignificant rise of bilirubin to 2.22mg/dl (normal range 0.3-1.2 mg/dl) and of gamma-glutamyltransferase to 63 U/L (normal range < 55). Screening tests for inflammatory activity (white blood cell count, C-reactive protein) were normal, as was the renal function. Lactate measurement was normal. Imaging was performed with an ultrasound followed by computed tomography of the abdomen. Ultrasound described the presence of multiple collections posterior to the antral part of the stomach and cranial of the pancreas even reaching the hilus of the spleen. Subsequent CT scan showed that those collections were motionless herniated and strangulated small bowel loops.





Urgent surgical intervention took place. Laparoscopic exploration showed a small opening towards the lesser sack through the remnants of the greater omentum at the antral level. Through this opening a couple of jejunal small bowel loops migrated and strangulated. Reduction of those loops was performed with closure of the defect afterwards using fillblock 2/0 permanent wire. The strangulated small bowel fully recovered and postoperative care was uneventful.





Discussion

An internal hernia involving the lesser sac is a rare condition accounting for less than 0.1% of all abdominal hernias [1]. Herniation can occur through a defect in the lesser omentum, greater omentum, transverse mesocolon or through Winslow's foramen. Defects may be congenital, traumatic, post inflammatory, idiopathic or postoperative as this case demonstrates. Additional risk factors for a herniation in the lesser sac includes a common intestinal mesentery, a long small bowel mesentery and an enlarged foramen of Winslow. In addition, increased intra-abdominal pressure was thought to play a role [2]. A transomental opening

is usually congenital, rarely traumatic or iatrogenic and herniation accounts for 1 to 4% of all internal hernias [3, 4]. This means that the presented case is rather rare but nevertheless potentially harmful for the vascularisation and thus survival of strangulating bowel. Symptoms are hereby atypical with an often delayed diagnosis. A suspicion should raise when a patient's presents with signs and symptoms of intestinal obstruction, in the absence of inflammatory intestinal diseases, external hernia or previous laparotomy [5]. Abdominal CT scan is the preferred diagnostic tool and possibly reveals converging mesenteric vessels, bowel wall thickening and mesenteric oedema [6]. Imaging is followed by immediate surgical exploration.

Conclusion

An internal hernia through a postoperative defect of the greater omentum is a rare condition. This case demonstrates such a hernia 18 months after laparoscopic subtotal (transverse) colectomy. Dissection of the gastrocolic ligament opens the lesser sac. A narrow opening towards the lesser sac, which can easily be overlooked, hereby increases the probability of strangulation when the small bowel is sliding through. Looking for those defects and closing them, should be an accompanying step in the transverse colectomy procedure. The rather a specific presentation of an internal hernia and accompanying small bowel strangulation should also lower the threshold for urgent re-laparoscopy certainly when CT scan imaging is inconclusive.

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