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A small bowel obstruction secondary to an internal hernia at the site of an ileal conduit

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Introduction

Small bowel obstructions are one of the most common diagnoses resulting in surgical consult and admission. An internal hernia is defined as the protrusion of abdominal viscera, most commonly small bowel loops, through a peritoneal or mesenteric aperture into a compartment in the abdominal and pelvic cavity [1]. These apertures can have a variety of origins including congenital, including both normal foramina or recesses and unusual apertures resulting from anomalies of peritoneal attachment and internal rotation, or acquired if caused by inflammation, trauma and previous surgery, like gastric by-pass for bariatric treatment and liver transplantation [2]. Internal hernias represent a very small portion, <6%, of the different causes of small bowel obstruction [2]. However, this number is steadily increasing as the number of bariatric and liver transplant patient increases [2]. This has lead surgeons to have in increased level of suspicion when patients with a history of bariatric surgery or liver transplant present with symptoms of small bowel obstruction. However, these may not be the only common procedures putting patients at increased risk of internal hernia causing small bowel obstruction. Here we present the case of a patient with an internal hernia at site of a mesenteric defect created by an ileal-ileal anastomosis during creation of an ileal conduit.

Case presentation

Patient is an 83-year-old male with a history of bladder cancer treated with a cystectomy and an ileal conduit. He presented through he ER with complaints of nausea and abdominal pain. He presented with profound tachycardia but was normotensive. His abdominal exam demonstrated diffuse tenderness without rebound or guarding. Labs showed leukocytosis to 12 and a lactate of 12. A non-contrasted CT scan of the abdomen and pelvis demonstrated a small bowel obstruction with a transition point near the ileal conduit. There was also notable pneumatosis intestinalis. The case was discussed with the on-call urologist who recommended transfer to a tertiary care center. Transfer was attempted but was rejected by the nearest tertiary care center. The patient was then taken for an exploratory laparotomy. A generous laparotomy incision was made and a moderate volume of ascites was noted. The small bowel was then run until a clear internal hernia was identified through the mesenteric

defect of the ileal-ileal anastomosis. This was reduced and the bowel was returned to normal anatomic position. The bowel was noted to be congested without evidence of necrosis or frank ischemia. The remainder of the small bowel was examined after which the congested bowel returned to its normal appearance. The mesenteric defect was subsequently closed with interrupted sutures prior to abdominal closure. The patient was subsequently admitted to the ICU and had an uneventful hospital course prior to discharge on hospital day 10.

Discussion

The ileal conduit is a common means for genitourinary reconstruction in urological surgery. Ileal conduit has become the gold standard for urine diversion because it has advantages, mainly it is easier and faster than alternatives and minimizes postoperative complications [3]. However, several studies have reported the incidence of post operative bowel obstruction following ileal conduit creation to be between 8-15% [4]. For comparison, the estimated rate of internal hernia following a Roux-en-Y gastric bypass procedure is as high as 4.5% [5]. There is minimal reported data on the risks and benefits of closure of the mesenteric defect created by the formation of the ileal conduit so they often go unclosed [6] putting these patients at risk for future internal hernia.

Conclusion

As general surgeons have increased suspicion for internal hernias as the cause of bowel obstructions in the bariatric population, suspicion should also be raised in the post ileal conduit population of patients presenting with symptoms of bowel obstruction. This mindsight has the potential to avoid delays in surgical intervention that are needed in the cases of internal hernias.

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