



INTERNAL HERNIATION SECONDARY TO ACUTE APPENDICITIS: A RARE CASE REPORT

General Surgery

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ABSTRACT

Patient with acute appendicitis presenting with intestinal obstruction is rare. Internal herniation as sequelae to acute appendicitis is even rarer. A 29-year-old male patient presented with pain abdomen and abdominal distension since 4 days. Clinical findings were diffuse tenderness, lower abdomen guarding with abdominal distension. USG suggested small bowel obstruction and CECT abdomen and pelvis suggested terminal ileal stricture. Intraoperatively, findings were internal herniation of distal small bowel associated with acute appendicitis. Adhesiolysis and appendicectomy was done. Modern diagnostic modalities can guide you in your management of patients but intraoperative findings can leave you surprised.

KEYWORDS

Acute Appendicitis, Internal Hernia, Sub-acute Intestinal Obstruction

INTRODUCTION

Appendicitis is a common cause for acute abdomen and appendicectomy is the most commonly performed emergency abdominal operation. Even though appendicitis is uncomplicated most of the time, not infrequently it presents as Perforated and gangrenous appendicitis and appendicitis with abscess or phlegmon formation which are considered complicated conditions. However, appendicitis presenting as intestinal obstruction secondary to internal herniation is a very rare occurrence.

PRESENTATION OF CASE

A 29-year-old male patient presented with complaints of pain abdomen and abdominal distension since 4 days. On physical examination patient is well built and nourished for his age and well oriented to time, place and person. Patient was a known alcoholic. On local examination, there was a gross distension of abdomen, with diffuse tenderness and guarding in lower abdomen, with no palpable mass or shifting dullness. Per rectally it was collapsed with minimal stool stain, normal anal sphincter tone with no palpable mass. Patient was admitted with provisional diagnosis of sub-acute intestinal obstruction and evaluated.

On admission his vitals were not so stable with pulse rate: 110 bpm, blood pressure: 120/70 mm hg, saturation: 92% at room air, respiratory rate: 18 cycles per minute. Patient was an alcoholic with no other habits and non-diabetic. Routine investigations were as follows: haemoglobin-13 g/dl, total counts-10740/cumm, platelets-2.52 lakhs/cumm with normal renal function tests, liver function tests, serum electrolytes, serum amylase & lipase and coagulation profile. Erect x ray abdomen and Ultrasound sound abdomen suggested small bowel obstruction. CECT abdomen and pelvis suggested sub-acute small bowel obstruction due to terminal ileal stricture. Patient was then posted for exploratory laparotomy with adequate preparation and consent of patient and his attenders.

Intraoperatively after abdomen was opened in mid line in layers, flimsy adhesions were found between small bowel loops. Internal herniation of distal ileum about 30 cms from ileo-caecal junction through a loop formed by adhesions between appendix (retrocaecal position) and appendices epiploicae of caecum was seen. Adhesiolysis, reduction of internal hernia and appendicectomy done. Resected specimen sent for HPE. Adhesive flakes were sent for culture and sensitivity. Pelvic drain placed and abdomen closed in layers. Patient tolerated procedure well. Post operatively patient's course in hospital was uneventful. Patient was allowed orally on pod 2, drain removed on POD 4. Patient discharged on POD 7 after alternate suture removal. Patient was followed till date after discharge and it was uneventful. Histopathological examination of specimen revealed "acute appendicitis".

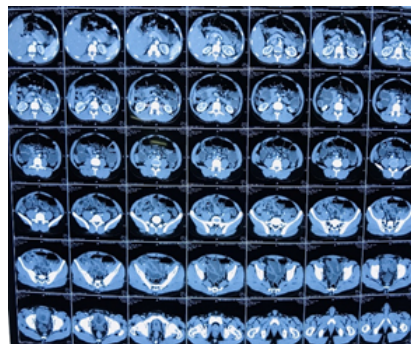


Fig 1: CECT abdomen and pelvis suggestive of small bowel obstruction

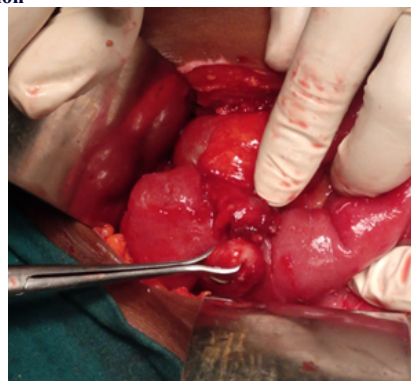


Fig 2: demonstrating herniated small bowel loop between appendices epiploicae (blue arrow) of caecum and inflamed appendix (green arrow)



Fig 3: demonstrating adhesions between appendices epiploicae (blue arrow) of caecum and inflamed appendix (green arrow)

DISCUSSION

Hernias (typically ventral or inguinal hernias) represent the third leading cause of intestinal obstruction and account for approximately 10% of all cases. Internal hernias, though rare can also result in small bowel obstruction. Internal herniation in the absence of adhesions is rare and a preoperative diagnosis is difficult.

The following are potential sites of internal herniation (all are rare) the foramen of Winslow, a defect in the mesentery, a defect in the transverse mesocolon, defects in the broad ligament, congenital or acquired diaphragmatic hernia, duodenal retroperitoneal fossae – left paraduodenal and right duodenojejunal, caecal/appendiceal retroperitoneal fossae – superior, inferior and retrocaecal and intersigmoid fossa.

Computed tomographic (CT) scanning is becoming increasingly the imaging test of choice for patients with small bowel obstruction, and it is ideally done with oral contrast. CT is 80% to 90% sensitive and 70% to 90% specific in the detection of small bowel obstruction. Closed-loop obstruction is suggested by the presence of a U-shaped or C-shaped dilated bowel loop associated with a radial distribution of mesenteric vessels converging toward a torsion point.

The standard treatment of an obstructed hernia is to release the constricting agent by division. This should not be undertaken in cases of herniation involving the foramen of Winslow, mesenteric defects and the paraduodenal/duodenojejunal fossae as major blood vessels run in the edge of the constriction ring. The distended loop in such circumstances must first be decompressed (minimizing contamination) and then reduced.

Appendicitis is sufficiently common that appendicectomy (termed appendectomy in North America) is the most frequently performed urgent abdominal operation and is often the first major procedure performed by a surgeon in training. There is no unifying hypothesis regarding the aetiology of acute appendicitis. The etiology of appendicitis is perhaps due to luminal obstruction that occurs as a result of lymphoid hyperplasia in pediatric populations; in adults, it may be due to fecoliths, fibrosis, foreign bodies (food, parasites, calculi), or neoplasia. Appendicitis as cause for intestinal obstruction is rare; the subtlety lies in recognizing acute appendicitis as the occasional cause in the elderly.

While surgery (open or laparoscopy) remains the standard teaching, there is an emerging body of literature to support a trial of conservative management in patients with uncomplicated (absence of appendicolith, perforation or abscess) appendicitis. The management of long-duration, complicated appendicitis is often staged. Patients are resuscitated and treated with IV antibiotics. Patients with longstanding perforation are better treated with adequate percutaneous image-guided drainage. Operative intervention is performed in patients who fail conservative management and in patients with free intraperitoneal perforation

CONCLUSION

Appendicitis presenting as intestinal obstruction is rare. Intestinal obstruction secondary to internal hernia as a sequela to acute appendicitis is very rare. Even with availabilities of modern diagnostic facilities final findings intra operatively can surprise you as in our case. Hence even though radiographic imaging can guide us in planning appropriate plan of action in management of patient, surgeon should be vigilant and be ready for rare surprises.

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