CASE REPORT

Left sided appendicitis — a surgical dilemma: Case report

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Abstract

Left-sided abdominal pain is an uncommon presentation of acute appendicitis. When a patient presents with this complaint, appendicitis can be difficult to diagnose, thus resulting in delayed definitive therapy and increased morbidity and mortality. In this report we discuss the case of a middle-aged man, who presented with left-sided abdominal pain, and was diagnosed to be suffering from acute appendicitis along with asymptomatic midgut malrotation.

Keywords: Left-sided Abdominal Pain, Left-sided Appendicitis, Midgut Malrotation, Acute Abdomen.

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Introduction

Acute appendicitis (AA) is one of the most common conditions patients present with at the emergency department, requiring urgent surgical intervention.[1] Typically, patients with AA present with epigastric or periumbilical discomfort followed by localised right lower quadrant abdominal pain. It is uncommon for patients with AA to present with left-sided abdominal pain. It is estimated that the frequency of AA patients presenting with left sided abdominal pain is 0.2% in the adult population.[2] Left-sided appendicitis can occur in association with situs inversus, midgut malrotation or an extremely long appendix.[1]

It is estimated that midgut malrotation (MM) usually occurs in one in 500 live births.[3] This developmental anomaly results from a failure of the midgut to rotate completely around the axis of the superior mesenteric artery. Most of the cases of MM present with bowel obstruction in the neonatal period.[4] Complications of MM presenting in adulthood are rare and, therefore, this reduces the clinical suspicion of the diagnosis of AA. If individuals with asymptomatic MM suffer from AA it can lead to a delay in diagnosis, thus increasing the risk of complications such as perforation and mortality.[5] Hence, when AA presents atypically, a combination of good clinical examination, correct imaging modalities with appropriate interpretation and excellent clinical insight are required to reach an accurate diagnosis.

Case Report

A 35-year-old, man presented in August 2018 to the outpatient department of Mayo Hospital, Lahore, Pakistan, with left iliac fossa pain and a low grade fever for two weeks. There was no past history to note, including no previous instances of abdominal pain or any other chronic illnesses. The patient was haemodynamically stable but febrile with a temperature of 100°F. On examination, his abdomen was tender and a firm mobile mass measuring 3cm X 3cm, was noticed in the left lumbar region, which was palpable. Among the laboratory findings, his white blood cell count was 11,700/μL. On imaging, his chest radiograph was normal and abdominal ultrasound revealed a gut related mass in the left upper abdominal quadrant. CT imaging of the abdomen, revealed a circumferential thickening of the wall of the small gut associated with contrast enhancement, more specifically the Jejunum, with fat stranding and multiple lymph nodes (Figure-1). A diagnosis of a jejunal mass was made and an exploratory laparotomy was planned.

On exploration, the duodenal-jejunal flexure was on the right side (Figure-2) and the caecum along with a gangrenous appendix was found in the left upper quadrant (Figure-3). We revised our diagnosis to acute appendicitis with midgut malrotation. An appendectomy

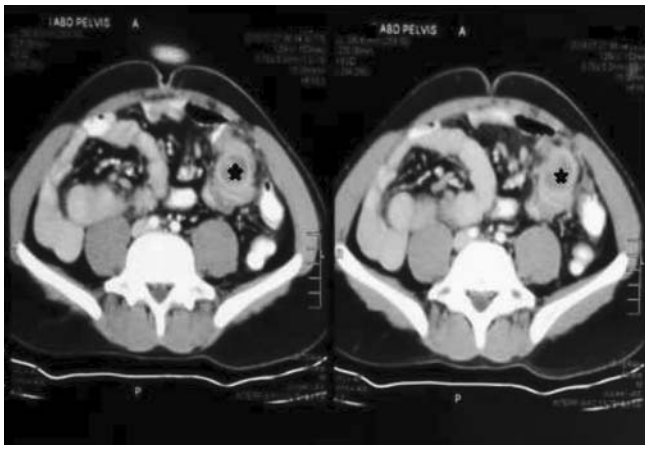

Figure-1: CT Scan of the abdomen. Asterisk: Inflammatory mass with fat stranding on the left half.

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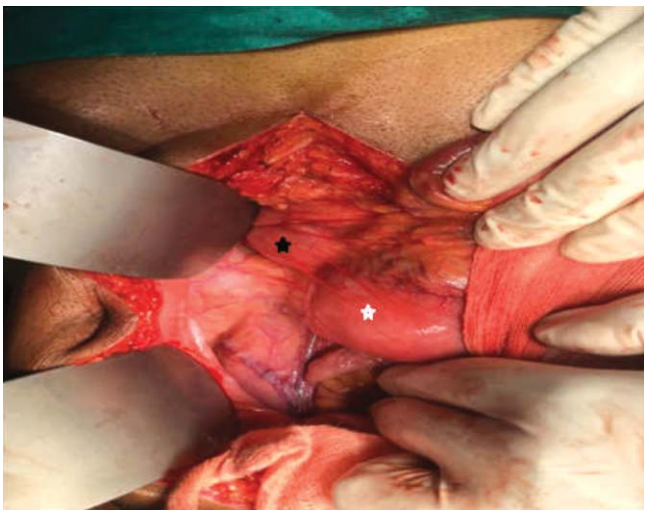

Figure-2: Black asterisk: Duodenum. White asterisk: DJ flexure (On the right side, flipped out to the left; no caecum and ascending colon in the right half).

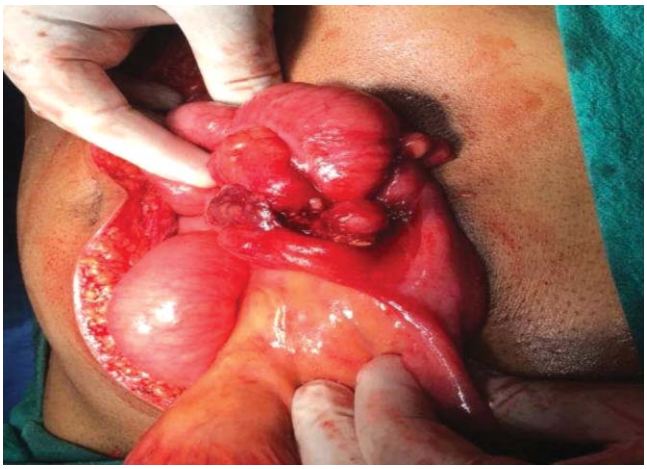

Figure-3: Gangrenous appendix with early mass formation.

was performed and sent for histopathology. The patient recovered well postoperatively and was discharged four days later. The histopathology report confirmed the diagnosis of a gangrenous appendix.

Discussion

During the 5-10th week of foetal development, it is unusual for the midgut to fail to rotate normally about the superior mesenteric artery with abnormal fixation to peritoneal wall resulting in midgut malrotation. The majority of these cases present with bowel obstruction during the first year of life and a Ladd's procedure is performed. Asymptomatic cases of MM often remain undiagnosed throughout life, until such individuals develop an acute condition like appendicitis. However, its exact incidence in asymptomatic adults remains uncertain. Also, due to the abnormal position of the caecum and appendix, the clinical presentation is atypical.

In our case, the patient's clinical presentation and imaging was suggestive of a jejunal mass. But when an exploratory laparotomy was performed it was revealed that the patient was suffering from AA and MM. In 2010, a case series examining 95 cases of left-sided AA showed that 23 cases were linked with MM.[6]

There have been previous reports of acute appendicitis with midgut malrotation in adults leading to a delayed or incorrect initial diagnosis.[3] This can be avoided through the use of ultrasonography, CT imaging of the abdomen and pelvis with contrast, and a diagnostic laparoscopy. Although a CT scan of the abdomen was done in our case, we were unable to detect the midgut malrotation.

Management includes appendectomy with or without a Ladd's procedure. To date, there is no agreement or definitive guideline on the surgical intervention of asymptomatic midgut malrotation in adults. One approach is to offer operative management only in patients with symptomatic midgut malrotation. This is supported by the fact that 10-15% of cases can have bowel obstruction resulting from adhesions after Ladd's procedure.[7] The second approach is to perform a Ladd's procedure along with an appendectomy, to treat both the midgut malrotation and avoid complications. Proponents of this approach suggest that the risk of volvulus, although low, can never be removed, thus necessitating surgical correction.8 In our case, the first approach was adopted.

Conclusion

Acute appendicitis is quite commonly seen as a surgical emergency but its unusual presentation in patients with midgut malrotation presents a diagnostic challenge. The delay in diagnosis may increase patient morbidity. Management includes appendectomy with or without Ladd's procedure. Furthermore, while evaluating patients with abdominal pain of indeterminate origin, early CT imaging or a diagnostic laparoscopy should be done to make a timely diagnosis and to avoid grave complications.

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References

1. Akram H, Siddiqui ZR. Appendicitis in a malrotated gut: an unusual cause of left upper quadrant abdominal pain. J Coll Physicians Surg Pak 2013;23:665-6.
2. Schwartz JH, Manco LG. Left-sided appendicitis. J Am Coll Surg 2008;206:590. doi: 10.1016/j.jamcollsurg.2007.05.019.
3. Welte FJ, Grosso M. Left-sided appendicitis in a patient with congenital gastrointestinal malrotation: a case report. J Med Case Rep 2007;1:92. doi: 10.1186/1752-1947-1-92.
4. Au A, Syed A, Bradpiece H. A Rare case of Intestinal Malrotation presenting as Appendicitis in Late Adulthood. J Surg Case Rep 2010;2010:3. doi: 10.1093/jscr/2010.8.3.
5. Tannoury J, Abboud B. Treatment options of inflammatory appendiceal masses in adults. World J Gastroenterol 2013;19:3942-50. doi: 10.3748/wjg.v19.i25.3942.
6. Akbulut S, Ulku A, Senol A, Tas M, Yagmur Y. Left-sided appendicitis: review of 95 published cases and a case report. World J Gastroenterol 2010;16:5598-602. doi: 10.3748/wjg.v16.i44.5598.
7. Moldrem AW, Papaconstantinou H, Broker H, Megison S, Jeyarajah DR. Late presentation of intestinal malrotation: an argument for elective repair. World J Surg 2008;32:1426-31. doi: 10.1007/s00268-008-9490-3.
8. Murphy FL, Sparnon AL. Long-term complications following intestinal malrotation and the Ladd's procedure: a 15 year review. Pediatr Surg Int 2006;22:326-9. doi: 10.1007/s00383-006-1653-4.