Case Report

Left-sided acute appendicitis: Once Bitten twice shy

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Abstract

Introduction: Traditionally acute appendicitis has been clinically diagnosed but over the years this notion has been challenged with better radiological imaging.

Case Report: Here we present two cases of acute appendicitis located in left side of the abdomen, one due to midgut malrotation and other due to Situs Inversus Totalis, which can be more challenging to diagnose clinically for the surgeon in emergency set up and also result in delay of definitive treatment. The incidence of left sided acute appendicitis is rare and can cause delay and also this case report highlights how radiological imaging and laparoscopy can be extremely helpful in definitive treatment of this condition.

Conclusion: CT scan and laparoscopy are extremely important tools to manage a patient of this very rare condition of common disease and is of immense benefit for early diagnosis and to prevent any complications arising due to delayed diagnosis as it happened in our first case. Doctors need to make themselves aware of rare presentation of such common disease to prevent any delay in treatment.

Keywords: Left sided acute appendicitis, midgut malrotation, Situs Inversus Totalis, laparoscopy.

Introduction

There are approximately 97 cases of left sided acute appendicitis reported in literature. Left sided location of appendix occurs either in midgut malrotation or in Situs Inversus Totalis. It can also occur if the ascending colon and caecum are hyper mobile as to lie freely to the left of the midline along with the appendix. We report two cases of left sided acute appendicitis treated laparoscopically at our institute.

Case Report

CASE 1

A 34 year old male presented with acute onset abdominal pain in hypogastric and left iliac fossa past 3 days with vomiting and single episode of fever. Initially he was treated by a local physician with medication and advised him for blood tests and ultrasonography. WBC was 15500/cmm and USG showed fluid and gaseous distended small bowel loops. He complained of mild abdominal distension with constipation and obstipation also. On examination patient had tachycardia and tachypnoea with mild distention of abdomen with tenderness and guarding in the lower abdominal quadrants. An erect X-ray abdomen radiograph revealed distended small bowel loops. A provisional diagnosis of acute intestinal obstruction was made and patient was subjected to contrast enhanced CT scan of abdomen and pelvis which showed dilated small bowel and predominantly on right side with SMV coursing leftward to the SMA with 12mm dilated appendix in the left flank with periappendiceal soft tissue inflammation and minimal free fluid in pelvis (fig 1). A decision for diagnostic laparoscopy was made with ports placed exactly mirror image to standard port placement for laparoscopic appendectomy.
and on laparoscopy the small bowel were distended with pus flakes and pus in pelvis and a mass was adherent in left iliac fossa. On teasing with suction probe, pus emanated and with gentle blunt dissection perforated appendix, approximately 11 mm in diameter (fig 2), in the mass formed of bowel and omentum was isolated. Appendectomy was successfully performed and pus was aspirated. Post operatively patient recovered without any complication.

CASE 2
A 25 year old male presented to casualty with left iliac fossa region abdominal pain since one day with single episode of vomiting. He had no other complaints. On examination there was tenderness and rebound tenderness in left iliac fossa region without guarding. His WBC was 14000/cmm and his ultrasonography demonstrated blind ending non peristaltic tubular structure, 7 mm in diameter, in left iliac fossa with liver on the left side and spleen on the right side of the abdomen. Contrast enhanced CT demonstrated 7 mm dilated acute appendicitis in left iliac fossa region with features of Situs Inversus Totalis (fig 3). Patient was subjected to laparoscopy with mirror image port placement as done for right sided laparoscopic appendectomy and appendectomy was performed (fig 4 & 5). Patient recovered post operatively without any complications.

Discussion
Acute appendicitis still continues to be the most common surgical emergency. Classically the pain originates in peri-umbilical region but then localizes in the right iliac fossa with or without nausea and vomiting and rebound tenderness. This clinical picture is etched in the minds of any surgeon since his or her residency days and is quick to make the diagnosis of acute appendicitis clinically. But there is also an uncommon presentation of this most common surgical emergency which may be missed completely by a surgeon if he/she is not aware that the appendix can be situated in abnormal anatomical location. There are three anatomical reasons by which the Appendix may lie on the left side of the abdomen. They are Situs Inversus, midgut malrotation and hypermobile right colon. Situs Inversus is the most common cause of left sided acute appendicitis followed by Midgut malrotation. Situs Inversus is thought to be present in 0.01% of the population or a 1 in 10,000 chance. It can be Situs Inversus with levocardia or a Situs Inversus with dextrocardia (also known as Situs Inversus Totalis). The incidence of acute appendicitis in Situs Inversus is reported to be between 0.016 to 0.024% in literature [1, 2]. In Midgut Malrotation the normal anticlockwise 270 degree rotation of bowel loops during fetal development can get arrested and result in spectrum of malpositioning of bowel loops in the abdominal cavity. It can be complete or partial in its spectrum [3]. The incidence of Midgut Malrotation is reported to be 0.03% to 0.5% in live births. Left sided acute appendicitis can present with right sided or left sided or a lower quadrant abdominal pain. So it can create a bias in the mind of the surgeon to not to consider acute appendicitis in left sided abdominal pain. Also in right sided abdominal pain due to left sided acute appendicitis one may inadvertently open the abdomen through right side. Left sided abdominal pain can be due to various other causes like gastroenteritis, constipation, diverticulitis, sigmoid volvulus, ectopic pregnancy, salpingitis or pelvic abscess, ureteric colic, abdominal aortic aneurysm and also appendicitis. These differential diagnosis will be obviously higher on the mind of the surgeon than a left sided appendicitis and hence it becomes the pitfall for delayed diagnosis and treatment. The radiological diagnosis of a left sided acute appendicitis can be made with ultrasonography or CT scan. Ultrasonography is readily available, cheap and no radiation is involved but is highly operator dependent. Ultrasonography has limitation in the presence of overlying...
bowel gas or if the appendix is retroperitoneal in position. Helical CT scan is an extremely useful and accurate modality to diagnose acute appendicitis with a reported sensitivity of 90%-100% and specificity of 91%-99% CT scan can facilitate diagnosis of alternate conditions and it scores over Ultrasonography in this condition [4].

Once the diagnosis is established one may approach for surgical treatment through open or laparoscopic approach. Laparoscopy has definite advantage in this condition. It can confirm the diagnosis and appendectomy can be simultaneously carried out with resultant advantages of minimal access to the patient [5]. In our patient of midgut malrotation with perforated left sided acute appendicitis we were able to complete the procedure laparoscopically. Laparoscopic approach for left sided acute appendicitis has been performed till now only in 20 cases approximately [6] and our experience from the following two cases has been extremely positive for laparoscopic approach.

Conclusion
CT scan and laparoscopy are extremely important tools to manage a patient of this very rare condition of common disease and is of immense benefit for early diagnosis and to prevent any complications arising due to delayed diagnosis as it happened in our first case. Doctors need to make themselves aware of rare presentation of such common disease to prevent any delay in treatment.

Clinical Message
Surgeons dealing with abdominal pain need to be aware of this uncommon variation of common disease so as not to miss and lose valuable time and they should employ early CT scan in this condition to prevent complications due to delay. Laparoscopy can be employed for treatment of this uncommon presentation of acute appendicitis.

References
2. Song JY, Rana N, Rotman CA. Laparoscopic appendectomy in a female patient with situs inversus: case report and literature review. JSLS 2004; 8: 175-177

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