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RESEARCH ARTICLE

A RARE CASE OF PERFORATED LEFT UPPER QUADRANT APPENDICITIS.

Dr. Rayan M. Alabduljabbar and Dr. Hossain A. Abu Alola.

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Abstract

Although it is the most common cause of acute abdomen in adults, acute appendicitis can present variably. Acute appendicitis causing left upper quadrant abdominal pain is an extremely uncommon event. The authors report a case of generalized abdominal and left upper quadrant pain in a 25-year-old male, where subsequent imaging was directed to exclude common causes of left upper quadrant abdominal pain. Upon further investigations which included abdomen-computed tomography (CT) and ultrasound imaging, a perforated left upper quadrant acute appendix was discovered. This case illustrates an instance of unusual presentation of acute appendicitis.

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Introduction:-

Not only it is one of the most common and significant causes of severe abdominal pain of acute-onset worldwide, it is also the most common condition that requires abdominal surgery in children and young adults, and the most common condition associated with lawsuits against emergency physicians [1].

Here, we report a rare case of left upper quadrant perforated appendix, most likely due to mobile cecum syndrome. Delay in the diagnosis in this case is thought to result from absent objective signs of typical acute appendicitis.

Case History:-

A 25-year-old male presented to the emergency department with acute onset of generalized abdominal pain radiating to the left upper quadrant, associated with nausea and vomiting. Biochemical profile revealed leukocytosis $15.1 \times 10^9/L$ with $11.9 \times 10^9/L$ Neutrophils. All other tests including liver function tests, amylase and lipase were within normal range.

The initial investigations were directed toward excluding common causes of acute abdomen in a young adult, where an abdominal and pelvic ultrasound showed perisplenic fluid and unusual appearance of right lower quadrant bowel loops.

Given the unusual presentation of this patient along with the essentially inconclusive initial abdominal and pelvic ultrasound, further evaluation was needed to make the diagnosis. Therefore, an abdominal and pelvic computed tomography scan was performed (SIEMENS SOMATOM Definition Flash as multi-detector scanner) and images were obtained in three orthogonal scans with a slice thickness of 3 mm.

The scan showed absent right colon, which was malrotated towards the left upper quadrant, as well as findings suggestive of complicated appendicitis with early signs of abscess formation. [figure 1 and 2].

The patient was managed conservatively. Two weeks later, abdominal ultrasound was obtained and showed resolution of the appendicular abscess.

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Discussion:-

The most common presentation of acute appendicitis is periumbilical pain radiating to the right lower quadrant. Although patients can present with different patterns of abdominal pain, left upper quadrant pain as a manifestation of acute appendicitis is extremely unusual [2].

Left sided appendicitis are commonly seen due to midgutmalrotation (MM), situsinversustotalis (SIT) and mobile cecum syndrome. However, renal ectopia or agenesis are also other congenital anatomical anomalies which are usually associated with malpositioning of specific portions of the bowel. In case of absence of left kidney, as in our patient, the left renal fossa will be occupied by splenic flexure [3],[4] However, in our case the left renal fossa was free and the patient has only the cecum and right colon shifted to the left upper quadrant.

A mobile cecum is a very rare congenital developmental disorder, which occurs during gestational age when the posterior peritoneum fails to cover the cecum and ascending colon retroperitoneally. Accordingly, the cecum and ascending colon may be pendent on a mesentery that allows free rotation to the colon. This uncommon condition is usually detected during early life stage. [5]. therefore, the clinical suspicion of such a condition will be decreased in adulthood.

In the diagnosis of acute appendicitis, ultrasound (US) examination has excellent accuracy, however, during US a mobile caecum may be misdiagnosed as Meckel's diverticulitis, mesenteric cyst, infected urachal cyst, or sigmoid diverticulitis. [6]

Computed tomography is a highly reliable non-invasive diagnostic tool to assess for acute appendicitis. Abdominal CT is a well-established technique in the study of acute abdominal pain and has shown high sensitivity and specificity for diagnosing and differentiating appendicitis, providing an accurate diagnosis in the early stages of the disease [7],[8]. Barium studies may be used to demonstrate abnormally located caecum and ascending colon. But, in patients with acute abdomen symptoms barium studies may delay the diagnosis and may lead to peritonitis in the case of perforation.

In radiological point of view, Plain radiographs have no role for establishing the diagnosis of appendicitis. Never the less, detection of dextrocardia on chest X-ray and right-sided gastric bubble on abdominal plain X-ray is a valuable consideration in determining SIT.

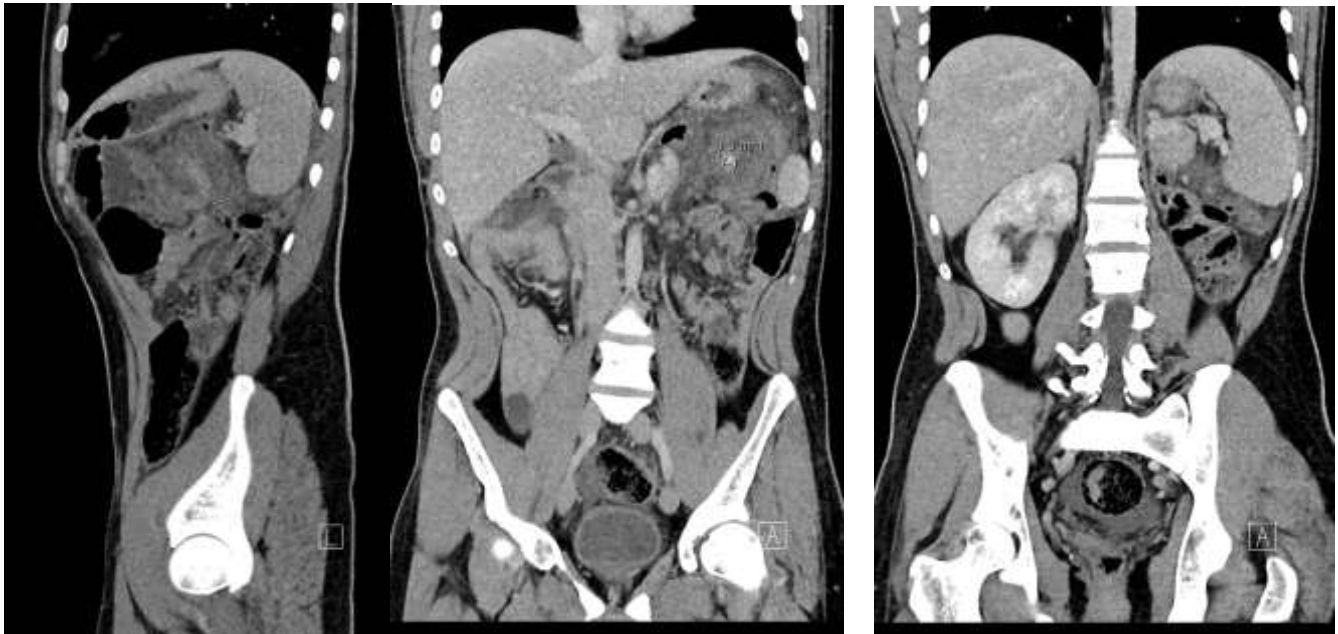
In literatures, a study reviewed a total of 95 case reports about left-sided appendicitis. According to the study, 66 patients had SIT, 23 had MM and only three had ceacalmalrotation. Furthermore, only seven presented with left upper quadrant pain, but none of them were reported to have renal agenesis. [9]

Another case was reported in 2015 of 6-year-old boy with gangrenous appendicitis in the epigastric area and underwent surgery. In contrast to their case, we found acute gangrenous appendicitis in an adult, extending laterally to the left upper quadrant and treated conservatively. [10].

The aimed message from this case report is to keep clinicians aware of possible unusual presentations of acute appendicitis. Early CT scan should be performed in patients with acute abdomen and inconclusive US study to prevent any delay in the diagnosis and thus the complication of the disease.

Figures 1 and 2:-

Sagittal and coronal views, a distended appendicular structure (9-10 mm) originating from the malpositioned cecum located in the left upper quadrant is seen with an underlying appendicolith, extraluminal air, moderate amount free fluid and surrounding inflammatory changes, consistent with perforated appendix.

Figure 3:- A note is made of absent left kidney**Figures 1 and 2:-****Figure 3:-****References:-**

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