

Case Report

A rare case of long subserosal paracolic subhepatic appendix

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ABSTRACT

Appendicitis is the most common surgical emergency worldwide with variable presentation and unusual positions of appendix. Subhepatic appendicitis is a rare presentation due to congenital malpositioning of the appendix under the liver rather than its typical location in right iliac fossa. This atypical location of appendix leads to recurrent episodes of appendicitis, delayed diagnosis and increased risk of complications. In this case report, A 17-year-old female presented to the emergency room with complaints of pain in right lower abdomen associated with vomiting and fever for 3 days, diagnosed with sub-acute appendicitis. She also had similar 3 episodes in past with complaints of pain in the abdomen for the last one year. She managed conservatively and with advice of a laparoscopic interval appendectomy. Intra-operatively, she was diagnosed with long subserosal paracolic subhepatic appendix. Through previous literature reviews and case analysis, this case report highlights the importance of the unusual position of the appendix and its surgical management. Clinicians should keep all anatomical variants in mind while diagnosing appendicitis for early recognition, prevention of recurrent episodes and complications associated with delayed treatment.

Keywords: Subhepatic appendicitis, Anatomical variants of appendix, Recurrent appendicitis, Subacute appendicitis

INTRODUCTION

Acute appendicitis is a common clinical entity encountered in day to day life of general surgeons. However, in some rare case, the appendix could be found on abnormal positions due to congenital malformations such as subhepatic position in which either abnormally located caecum beneath the liver or normally located caecum with abnormally long appendix reaching upto inferior surface of liver beneath to ascending colon.¹ These atypical positions present with atypical presentation, complicating the diagnosis and leading to recurrent attacks of appendicitis and its complications. It was misdiagnosed with other upper abdominal conditions.^{2,3}

This case report underscores the importance of the clinical dilemma of recurrent subacute appendicitis and review on its surgical options available.

CASE REPORT

A 17-year-old female patient presented to the emergency room with complaints of pain in the right lower abdomen for the last 3 days. The pain was gradual in onset, progressive in nature and dull-aching type and colicky in nature, aggravating on food intake. She also experienced multiple episodes of vomiting with on and off low grade fever episodes, which was managed by oral medication. She also had similar 3 episodes in the past with complaints of pain in the right lower abdomen for the last one year. She did not have any ultrasonography and contrast enhanced computed tomography (CECT) abdomen earlier done for recurrent complaints of abdominal pain prior to coming to our hospital. Her other past medical history was unremarkable. On physical examination, her abdomen was soft and mild tenderness in the right iliac fossa present. Her lab investigations revealed white blood cell (WBC) 18,963/uL, with shift to left, neutrophilia being 80% and other investigations were

within normal range. Abdominal sonography showed evidence of blind ending, tubular, a peristaltic structure with gut like signature and non compressible measuring 12mm in maximum caliber noted in right iliac fossa suggestive of inflamed appendix. She was managed conservatively and discharged with the advice of plan for laparoscopic interval appendectomy after 6 weeks. She was again admitted for laparoscopic interval appendectomy and intra-operatively laparoscopic procedures converted to open appendectomy due to inability to locate appendix. She had Rutherford Morrison's incision given and mobilization of caecum done from its normal position.

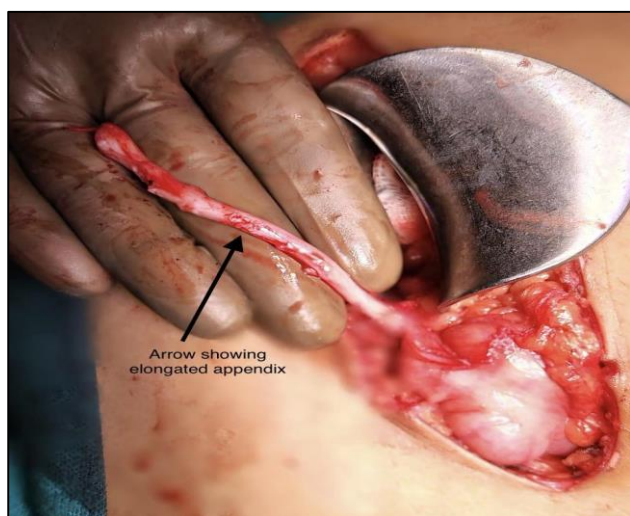


Figure 1: Abnormally long approximately 15-18 cm.

Intraoperative findings were as follows: Appendix was abnormally long approximately 15-18 cm and appendix was buried in the subserosa of ascending colon starting from caecum to subhepatic region (hepatic flexor).

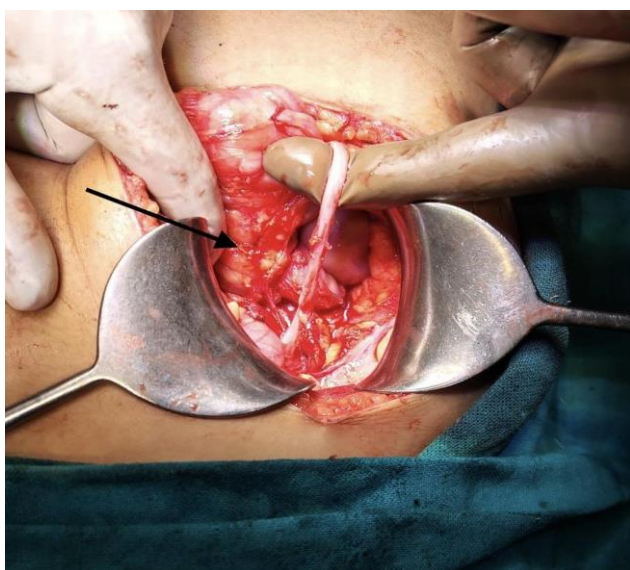


Figure 2: Appendix buried in the subserosa of ascending colon.

Excised specimen of appendix sent for histopathological examination. Patient's postoperative course was uneventful and she was discharged on 5th-postop day with the advice of follow-up instructions. Histopathological report suggestive of sub-acute appendicitis.

DISCUSSION

Appendicitis is a common clinical entity encountered in day to day life of general surgeons. However, sometimes the diagnosis and management can be challenging to the experienced surgeons because of the atypical presentation of the appendicitis. This case report shows the same diagnosis dilemma and management.

Appendicitis is among the most common causes of abdominal pain. It is more common in males and predominantly found in young age groups than in elderly. It also has shown seasonal effect, by increasing the number of cases (frequency) in young males in summer.⁴

It has been found that “the incidence and prevalence of acute appendicitis in most developing countries is largely unknown because of the poor medical record maintenance and unreliable population census”.

The prevalence of anatomical variation in position of appendix, such as subhepatic appendicitis, has garnered attention in the recent decade. While the vermiform appendix is conventionally located in the right lower quadrant of the abdomen, anatomical abnormalities can lead to atypical positioning. Studies have suggested that prevalence of subhepatic appendicitis is approx. 0.08% in the general population.⁵

The very first case of subhepatic appendicitis was reported by King in 1955.⁶ The subhepatic position of appendix has mainly two origins i.e. a) an exceptional one called subhepatic appendix, of which very few cases has been reported in literature and b) amore common one is retrocaecal appendix ascended below the liver. The exception is due to abnormal rotation of the primary intestine during the 11th week of embryonic development thus placing the caecum in the upper quadrant of the abdomen.⁷

There are various causes of appendicitis including infection, feces (appendicolith), tumor, etc. Patients mostly present with pain in the right lower quadrant of abdomen but sometimes clinical features of appendicitis could be deceptive like subhepatic appendicitis can clinically manifest as acute cholecystitis, acute gastritis and other upper gastrointestinal disorders. The diagnosis of appendicitis is usually done by ultrasonography as the first investigation modality but the definitive investigation of choice is contrasting enhanced computed tomography of the abdomen. As it also helps in delineating abnormal anatomical anomalies of appendix and associated other congenital malformations. Since our case was diagnosed by abdominal sonography, we did not

contemplate using a contrast enhanced computed tomography which entails additional costs and radiation.⁸

The laparoscopy is a valuable tool in situations where diagnosis is in doubt. during laparoscopic approach, not only the appendix other organs could be visualized and location of the appendix can be identified. In case of obese patients, laparoscopy is a better choice.⁹ In case of open appendectomy, incision could be extended from gridiron to Rutherford Morrison's.

The prognosis of subhepatic appendicitis is entirely dependent on early detection and prompt intervention. The delay in diagnosis could lead to complications like burst appendix, peritonitis, abscess formation and even damage to liver due to proximity of liver to subhepatic appendix.

CONCLUSION

Subhepatic recurrent appendicitis, though rare, congenital malformations is a diagnostic challenge. Clinicians should keep high suspicion of index in patients presenting with recurrent right abdominal pain of these rare conditions of subhepatic appendicitis for timely diagnosis and management. These variants of appendicitis present with atypical signs and symptoms, often mimicking other upper abdominal conditions such as acute cholecystitis and acute gastritis etc. resulting in delayed diagnosis and recurrent episodes of appendicitis. Diagnostic Imaging modalities are essential in diagnosing subhepatic appendicitis and differentiating from other provisional diagnosis of right upper abdominal pain. Early recognition and prompt surgical intervention preferably via laparoscopy, essential in reducing morbidity, preventing recurrence and associated complications.

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