



CASE REPORT

Subhepatic acute appendicitis in a 10-year-old male child; typical presentation with atypical location: A case report.

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ABSTRACT... Acute appendicitis, the most frequent emergency in digestive surgery, is a well-known pathology in children and young adults. Its diagnosis presents some difficulties in the elderly. Appendicitis taking place in the subhepatic space (i.e., subhepatic appendicitis) is largely not common, and it occurs as a result of intestinal malrotation and/or mal-descent of the cecum during embryonic development. In our case a 10 year old male child has presented in the emergency department of Pakistan Railway Hospital, with complaints of pain at the right iliac fossa, associated with nausea and three episodes of vomiting. The child also had decreased oral intake since developing the pain. On examination, the child had a pulse rate of 100 beats per min and a blood pressure of 100/60mmHg. The abdomen was soft with marked tenderness at the right iliac fossa along with guarding in the lower abdomen. There was associated rebound tenderness and psoas sign was also positive. After optimization open appendectomy planned, The caecum was found to be reaching the lower border of the liver and upon mobilizing the caecum, the appendix was located in a sub-hepatic retrocecal position (Image 1). The appendix was markedly inflamed and was tortuous in its course with adhesions attaching it to the wall of the caecum. It has been concluded that among 0.009 percent subhepatic acute appendicitis presentation our 10-year-old child was an addition but with typical symptoms of acute appendicitis.

Key words: Subhepatic Appendix, Acute Appendicitis, Right Iliac Fossa.

INTRODUCTION

Acute appendicitis, the most frequent emergency in digestive surgery, is a well-known pathology in children and young adults. Its diagnosis presents some difficulties in the elderly.¹ Appendicitis is one of the most common causes of abdominal pain in the younger population and accounts for over 40,000 hospital admissions per year across England.² Although classical symptoms and signs include nausea, vomiting, anorexia, constipation and pain in right iliac fossa but in case of atypical presentation like in our case study of subhepatic appendicitis, patient might not present with classical signs and symptoms making diagnosis more challenging.³⁻⁵ Appendicitis taking place in the subhepatic space (i.e., subhepatic appendicitis) is largely not common, and it occurs as a result of intestinal malrotation and/or mal-descent of the cecum during embryonic

development.^{2,6,7}

CASE PRESENTATION

A 10-year-old male child has presented in the emergency department of Pakistan Railway Hospital, with complaints of pain at the right iliac fossa. The pain was sudden in onset since the morning of the day of presentation. There was associated nausea and three episodes of vomiting, consisting of undigested food particles and gastric secretions. The child also had decreased oral intake since developing the pain. On examination, the child had a pulse rate of 100 beats per min and a blood pressure of 100/60mmHg. The abdomen was soft with marked tenderness at the right iliac fossa along with guarding in the lower abdomen. There was associated rebound tenderness and psoas sign was also positive.

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His Complete Blood Picture (CBC) showed an elevated neutrophil count of 20,000. The child was thus planned for open appendectomy. During the surgery, a gridiron incision was given over the McBurney's point and after entering the peritoneal cavity, loops of ileum were found with mildly enlarged mesenteric lymph nodes. Upon sweeping the small gut towards the side, the caecum was found higher-up than its normal position and the incision was further extended cranially. The caecum was found to be reaching the lower border of the liver and upon mobilizing the caecum, the appendix was located in a sub-hepatic retrocecal position (Image 1). The appendix was markedly inflamed and was tortuous in its course with adhesions attaching it to the wall of the caecum. The tip of the appendix was grasped and adhesions were dissected with a combination of blunt and sharp dissection. The mesoappendix was ligated and incised, which further released the tortuosity of the appendix, after which the base of the appendix was crushed, ligated with Vicryl 2/0 suture and incised. The surrounding gut was inspected for any other pathological changes after which the incision was Closed in a conventional manner. The patient was shifted back to the in-patient facility and on the first postoperative day there was resolution of all clinical features, as a result of which the patient was discharged on oral medications.

DISCUSSION

It is rare for the caecum and appendix to be located sub-hepatically since subhepatic appendicitis makes up an annual incidence of 0.09 per 100,000 population.²

Malrotation of the caecal pole resulted in the caecum being located at the hepatic flexure and appendix base posteroinferior to the inferior border of the liver.⁶ The subhepatic position of the appendix results in unusual, nonspecific clinical symptoms, delaying diagnosis to the stage of appendicular rupture.⁶ There are many positional variations of the appendix in relation to the caecum: mediocecal, the most frequent, retrocecal (Image 2), in contact with the right iliac psoas muscle, anterior or posterior subcecal, prececal, and anterior or posterior ileocecal.^{3,5,6}

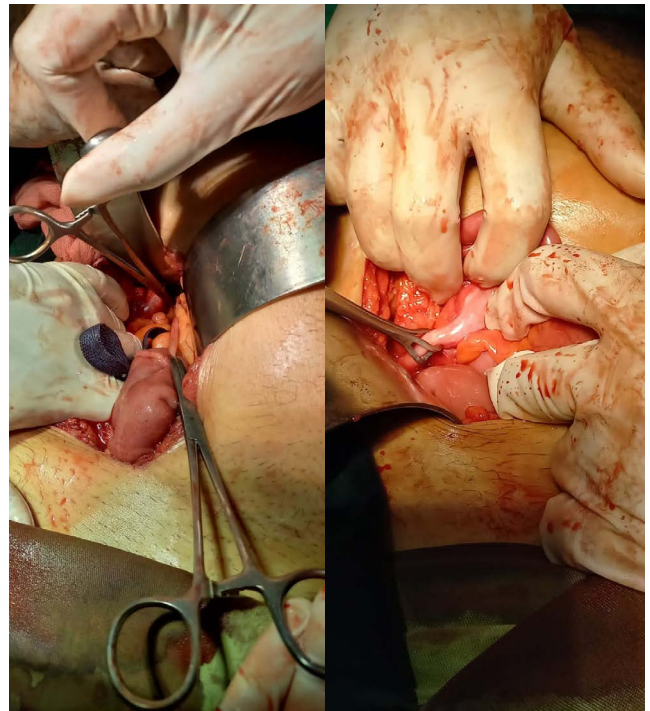


Image 1

Image 2

Similarly, positional variations of the cecum or length of the appendix will determine subhepatic, pre- or retrocolic appendicitis and pelvic appendicitis.¹⁻³

The most reliable examination findings for acute appendicitis have been noted as tenderness on percussion, guarding, and rebound tenderness at the RIF.¹ When considering the anatomically higher appendix, it is noteworthy that examination findings are consistent with an appendix lying in the standard RIF location. Similar cases of subhepatic appendicitis accounted by Hafiz et al. (2017) and Ball et al. (2013) both report predominant RUQ pain as opposed to RLQ pain prompting an inaccurate consideration of biliary pathology.^{3,5,7} In the case observed by Hafiz, a positive Murphy's sign was also elicited despite previous cholecystectomy.^{2,3}

In our case presentation, the patient had a classical presentation of acute appendicitis but on exploration there was difficulty in finding the appendix. Upon further dissection it was found to be located as a subhepatic retrocecal appendix.

CONCLUSION






It has been concluded that among 0.009 percent subhepatic acute appendicitis presentation our 10-year-old child was an addition but with typical symptoms of acute appendicitis.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

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| 3 | Afsheen Zafar | Conception author of project. |  |
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| 5 | Abdul Aziz | Planned study |  |