

## Case Report

# Subhepatic appendicitis: diagnostic dilemma: a case report

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### ABSTRACT

Appendicitis in a subhepatic appendix causes confusion about the diagnosis and management. It is a very rare and complicated condition. This occurs due to malrotation of the gut. Very few cases of subhepatic appendicitis have been described in the literature. This paper reports a rare case of a subhepatic appendicitis and describes its management. A case of acute abdomen was admitted with diagnostic dilemma and managed successfully.

**Keywords:** Subhepatic Appendicitis (SHA), McBurney's point, Tenderness, Malrotation

## INTRODUCTION

Although the clinical presentation of appendicitis has not changed considerably since its first description in 1886 by Reginald Fitz, its mortality has diminished dramatically since

Willard Packard performed the first surgery in 1867. It is one of the most common surgical diseases.<sup>1</sup> The appendix is retrocecal in 65% of patients and is in the pelvis in 20%. This variability contributes to the difficulty in diagnosing appendicitis. Subhepatic appendicitis occurs due to malrotation of the gut.<sup>2</sup> Appendix is a very common problem which is diagnosed on clinical examination per se but its unusual locations can pose diagnostic dilemmas.<sup>3</sup> Subhepatic location is one of the most uncommon locations which is usually diagnosed late and it often perforates.<sup>4</sup>

Subhepatic appendicitis was first described in 1955 by King.<sup>5</sup> We present one rare case report of subhepatic appendicitis and advocate surgical management.

## CASE REPORT

A 21 year old male presented with complaints of pain in abdomen more at the right (rt) upper quadrant with few episodes of vomiting, mild fever and bowel symptoms since 2 days. Pain was moderate in intensity, non radiating and continuous with minimal associated bowel and urinary symptoms. Pain was mainly aggravated by standing or coughing. There was no history of other chronic abdominal pain, fever or loss of appetite, dyspeptic symptoms or renal colic.

On clinical examination, there was tenderness in rt. upper quadrant and minimal tenderness in other abdominal sites. Mild increase in temperature was noted at the same quadrant with sluggish bowel sounds. No significant tenderness was there at Mc Burney's point with negative Blumberg's sign. Rest of the examination were essentially normal.

His routine investigations were within normal range except for raised total leucocyte count. All blood serology reports were negative. Ultrasonography revealed small collection with echogenic content in right iliac fossa with tail artifact was noted in the upper limits of right

iliac fossa. X-ray abdomen was normal. Based on clinical, sonological parameters and alvarado's score, diagnosis of acute appendicitis was made.

After confirming the diagnosis the patient was taken for surgery. Informed consent, including risk, benefit and alternatives given to the patient and family & documented. Open appendectomy through Mc Burney's incision was planned, on exploration after extending the Gridiron incision appendix was found near the inferior border of liver in the posterior abdominal wall with pulled up caecum with empty right iliac fossa. The appendectomy was done and abdominal drain was kept in situ. The specimensend for histopathological examination which reveals acute inflammation of appendix. Patient recovered well and discharged with no untoward complication after surgery. Figure 1 showing intraoperative picture of infected appendix with liver margin.



**Figure 1: Intraoperative photo of subhepatic appendix and liver.**

## DISCUSSION

Acute appendicitis remains one of the most common diseases treated by the general surgeon.<sup>6</sup> Because of abnormal location of subhepatic appendix and high up caecum its disease creates a lot of confusion in both diagnosis and surgical exploration. This case report demonstrates the same diagnosis dilemma and management.

In SHA, presentation of appendicitis is often atypical and the diagnosis delayed. In SHA the symptoms are same except pain in upper abdomen; similarly the tenderness and other palpating sign demonstrate the pathology in rt upper quadrant whereas in normally descended appendix the sign are there in rt iliac fossa as described in various text.

Very young and very elderly patients are notorious for atypical or delayed presentation. With atypical clinical presentation, radiological studies take an increased

importance in the diagnosis of acute appendicitis.<sup>7</sup> The good imaging modalities also demonstrate the pathology in rt sub hepatic region and not in rt iliac region. So based on these clinical and imaging techniques the diagnosis of SHA can be made with minor confusion. Abdominal CT scan is frequently required for diagnostic clarification of abdominal pain in elderly or a non-typical case.<sup>8</sup>

If the preoperative diagnosis is fairly certain, the surgeon will probably choose a small rt iliac fossa incision.<sup>9</sup> It is difficult to remove subhepatic appendix through Mc Burney's incision.<sup>10</sup> In this case we have to extend the incision due to SHA. If there is difficulty, the wound must be enlarged for adequate access. The clinical diagnosis of appendicitis remains difficult; there is 10% to 30% incidence of unnecessary surgical exploration for an incorrect diagnosis of appendicitis.<sup>11</sup> One study involving 908 patients noted a drop in the negative appendectomy rate from 20% to 7% and a drop in the perforation rate from 22% to 14%. The authors concluded that CT Scan should be performed in nearly all female and many male patients.<sup>12</sup>

## CONCLUSION

Appendicitis is an extraordinarily common disease, and can result in a great deal of difficulty for patient and surgeon alike. Due to unusual location of appendix in sub hepatic region, its diagnosis may delay or can create confusion in case of appendicitis. High degree of suspicion, good knowledge and higher imaging modalities can aid in diagnosis and results in earlier management.

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## REFERENCES

1. Jonathan A, Myers, Keith W. Millikan, Theodore J. Saclarides. Common Surgical Diseases. Appendicitis. 2nd ed. 2008;38:137.
2. Shenoy KR. Manipal Manual of Surgery. 2nd ed. 2005:537.
3. Scott KJ, Sacks AJ. Subhepatic Appendicitis, Am J Gastroenterol. 1993;88:1173-4.
4. Kulvatunyou N, Schein M. Perforated Subhepatic appendicitis in the laparoscopic era. Surg Endosc. 2001;15:769.
5. King A, SA, AMA Arch Surg. 1955;71(2):265-7.
6. Lowry SF, Hang JJ. Mastery in Surgery. Appendicitis and Appendiceal disease. 2007;1430.
7. Lowry SF, Hang JJ. Mastery in Surgery. Appendicitis and Appendiceal disease. 2007:1431.
8. Kraemer M, Franke C, Ohmann C, Yang Q. Acute appendicitis in late adulthood; Incidence, presentation, and outcome, Result of a prospective multicentre acute abdominal pain study and a

- review of the literature. *Langenbecks Arch Surg.* 2000;385(7):470-81 .
9. Margaret Farquharson, Brendan Moran. Farquharson's textbook of operative general surgery. 2005;9:379.
  10. Bhat SR, Rao MP. SRB's Manual of surgery, Appendix. 2009;3:881.
  11. Lowry SF, Hang JJ. Mastery in Surgery. Laparoscopic Appendectomy. 2007;130:1434.
  12. Lowry SF, Hang JJ. Mastery in Surgery. Laparoscopic Appendectomy. 2007;130:1435.

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