### Case Report

DOI: https://dx.doi.org/10.18203/2349-2902.isj20214398

# Sub hepatic acute appendicitis: a challenging case to diagnose and successfully managed by laparoscopic procedure

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Received: 22 July 2021 Accepted: 02 September 2021

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#### **ABSTRACT**

Sub hepatic acute appendicitis is a rare condition to occur. It can present as right upper quadrant pain and makes challenging in diagnosis and early management. Sub hepatic appendix normally due to malrotation of intestine during developmental period. This condition can mimic as acute cholecystitis, liver abscess. We are presenting a case of sub hepatic acute appendicitis and successfully managed by laparoscopic appendectomy. Sub hepatic acute appendicitis is challenging case to diagnosis and early management. Because late in diagnosis can cause to perforation of appendix and its complications.

Keywords: Appendix, Sub hepatic appendicitis, Laparoscopy appendectomy, CECT, Cecum, right upper quadrant

#### INTRODUCTION

Acute appendicitis is common indication for surgery in emergency departments worldwide. Acute appendicitis can present as acute abdominal pain, right iliac fossa pain, anorexia, nausea, vomiting, and fever. The common anatomical position of appendix is retrocecal (74%) followed by the pelvic (21%) region.<sup>1</sup> Other anatomical positions of the appendix are subcecal, retroileal, ectopic, preileal and post ileal. The site of a normally placed appendix and its classical presentation of appendicitis are well documented in the literature. The presentation of acute appendicitis can be changed according to its anatomical variation. Sub hepatic appendicitis is very rare condition with having incidence of 0.08%.<sup>2</sup> Sub hepatic acute appendicitis is rare clinical condition which makes difficulty in diagnosis. Sub hepatic appendicitis could mimics as acute cholecystitis, liver abscess and it can results in appendicular rupture due to delay in diagnosis.3

We are presenting one challenging case of sub hepatic acute appendicitis, which is a rare condition, can make difficulties in the diagnosis and its early management.

#### CASE REPORT

30 year gentle man came to our hospital with chief complaints of right upper abdominal pain since 2 days, nausea, vomiting and fever. On examination he was uncomfortable due to pain. On abdominal examination tenderness present at right upper quadrant of abdomen. Guarding and rigidity were not present. Temperature of the body was-100.8FHis vitals were BP-100/70 mmHg. PR-22/min. According to his presentation initially we thought it was case of acute cholecystitis. He was resuscitated and stabilized initially. Blood investigations were Total leukocyte count was 13600 per cub mm. Serum creatinine 1.1 mg/dl. Then radiological investigations were done. USG abdomen showed gallbladder was distended without any acoustic shadows.

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It showed one tubular blind ended structure with aperistalsis in sub hepatic region. Then we planned to get done Contrast enhanced computed tomography (CECT) abdomen which showed blind ended tubular structure with edema and inflammation in sub hepatic region. Cecum placed in higher in position without any malrotaion. So, our preoperative diagnosis was sub hepatic acute appendicitis. We did laparoscopic appendectomy with adhesiolysis. Intra operative findings were small amount reactionary fluid was present in sub hepatic region. Cecum was situated higher in position. A tubular structure was present at posterior-lateral part of cecum. Tip of appendix is situated near to gallbladder surface. It was around length of 8 cm. After some adhesiolysis and mobilization of cecum, we were able to do appendectomy and we did successfully. Postoperative period was uneventful. He was discharged on post operative day 2.

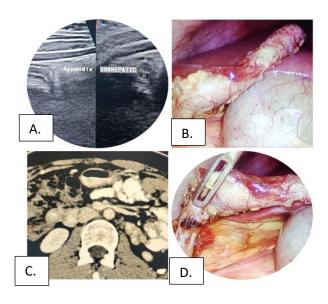


Figure 1: (A) Ultrasound picture showing sub hepatic appendix with surrounding inflammation. (B)
Showing sub hepatic appendicitis with thickening surrounding tissue. (C) Laparoscopic view of sub hepatic appendix with edema and inflammation. (D)
Sub hepatic appendectomy in laparoscopic view.

#### DISCUSSION

Sub hepatic appendicitis is a rare condition with annual incidence rate of approximately 0.09 per 100000 population. Depending on the anatomical location of appendix the presenting features of appendicitis could be different from usual presentation. Sub hepatic appendix and cecum was reported by King in 1955.<sup>4</sup> Sub hepatic appendicitis can mimic as acute cholecystitis and liver abscess which can cause in to delay in the diagnosis of the condition.

In this report we are presenting a challenging case of sub hepatic acute appendicitis. It is a unique case to make diagnosis early and its management. Because this condition is a diagnostic dilemma.<sup>5</sup> So delay in the management this condition can cause to perforation, abscess formation and leads to localized peritonitis.

It is difficult to diagnose the sub hepatic appendicitis with history and clinical examination. So radiological investigation like ultrasound abdomen could be helpful. But CECT abdomen is modality of investigation to diagnosis this condition with having specificity (97%) and sensitivity (94-98%).

Sub hepatic appendix is occurred due to developmental malrotation of intestine and may be due to lack descent of cecum from sub hepatic region during developmental period. Sub hepatic acute appendicitis without perforation of appendix can be managed with laparoscopic approach. Ates et al study showed that when patients with appendicitis with doubtful diagnosis on clinical examination, laparoscopic approach modality of choice.

In our index case of sub hepatic acute appendicitis, we did laparoscopic appendectomy with adhesiolysis. His post-operative period was uneventful.

#### **CONCLUSION**

Acute sub hepatic appendicitis is rare condition, can make difficulty in correct diagnosis and early management. So the surgeons should cognizant about this rare condition and also familiar with other conditions like biliary colic, gastri and liver diseases can have similar presentation.

#### **ACKNOWLEDGEMENTS**

We are thankful to the husband of the patient for providing information regarding patient.

Funding: No funding sources Conflict of interest: None declared Ethical approval: Not required

#### **REFERENCES**

- 1. Rappaport W, Warneke J. Subhepatic appendicitis. Am Fam Physician. 1989;39(6):146-8.
- 2. Palanivelu C, Rangarajan M, John S. Laparoscopic appendectomy for appendicitis in uncommon situations: the advantages of a tailored approach. Singapore Med J. 2007;48:737-40.
- 3. Patel R, Lakshman S, Hays T, Thomas E. Sub hepatic appendix with fecolith mimicking acute cholecystitis with gall stone. J Clin Ultrasound. 1996;24:45-7.
- King A. Sub hepatic appendicitis. AMA Arch Surg. 1955;71(2):265-7.
- 5. Ball W, Privitera A. Sub hepatic appendicitis: a diagnostic dilemma. BMJ Case Rep. 2013;2013:bcr2013009454.

- 6. Chalazonitis A, Tzovara I, Sammouti E, Ptohis N. CT in appendicitis. Diagn Interv Radiol. 2008;14:19-25.
- 7. Schumpelick V, Dreuw B, Ophoff K. Appendix and cecum. Embryology, anatomy, and surgical applications. Surg Clin North Am. 2000;80:295-318.
- 8. Ates M, Sevil S, Bulbul M. Routine use of laparoscopy in patients with clinically doubtful

diagnosis of appendicitis. Journal of laparoendoscopic &Advanced Surgical Techniques. 2008;18(2):189-93.

Cite this article as: Palle P, Ramavath K, Sindhu N, Parmeswar T, Tailor SBB, Malpuri VB. Sub hepatic acute appendicitis: a challenging case to diagnose and successfully managed by laparoscopic procedure Int Surg J. 2021;8:3479-81.