

# Postpancreatitis Abscess of Falciform Ligament: An Unusual Presentation

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## ABSTRACT

Pathologies of the falciform ligament are extremely rare entities ranging from cyst and hematoma to abscess and gangrene. Intestinal obstruction, secondary to extensive falciform ligament abscess, has not been reported to date. On account of being rare, diseases of falciform ligament have perplexing presentations leading to unwanted delays in diagnosis and management. These may present with abdominal wall ecchymoses (Cullen's sign - pancreatitis, portal hypertension), an abdominal mass, features of abscess, intestinal obstruction or peritonitis. Abscess may be an indicator of underlying liver or biliary pathology. Appreciating these as important differentials while working up patients with similar features, would markedly reduce missed diagnoses and improve surgical management. We present the case of a 40-year Pakistani gentleman who had duodenal obstruction owing to the presence of falciform ligament abscess resulting from a rather ignored episode of pancreatitis, mimicking malignancy.

**Key Words:** *Falciform ligament. Abscess. Pancreatitis. Cullen's sign. Duodenal obstruction.*

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## INTRODUCTION

Falciform ligament is one of the hepatic ligaments developed from ventral mesentery in embryonic life attaching the antero-superior surface of liver to anterior abdominal wall. It divides the liver into right and left lobes, anatomically. It is formed of two peritoneal layers, providing a potential space.<sup>1</sup> The free edge of this sickle shaped ligament contains ligamentum teres.

Owing to its rarity, abscess of falciform ligament is usually mistaken for an abdominal wall abscess; and inappropriate management leads to its persistence and complications.<sup>2</sup> Following is such a case of an unusual yet alarming presentation of postpancreatitis falciform ligament abscess, not reported up till now.

## CASE REPORT

A 40-year Pakistani gentleman was referred to the Surgical Unit from the Gastroenterology Department where he had been admitted for the workup and management of his 6-month episodic history of epigastric pain, weight loss, anorexia and vomiting. There recently he had also noticed a painful, enlarging mass in his epigastrium. Patient denied any history of jaundice, pruritis, dark colored urine (bilirubinuria), flatulent dyspepsia, fever, altered stool color or bowel habits.

Upon examination there was a non-tender, hard mass in

the epigastrium and right hypochondrium with normal overlying skin and a negative cough impulse.

Investigations revealed a normal hemoglobin level (13.8 g/dL) and normal liver function tests. Moreover, serum amylase, lipase and LDH were also within normal limits. Upper gastrointestinal endoscopy demonstrated a small hiatal hernia and extrinsic mass causing compression of first part of duodenum, leading to suspicion of malignancy. Hence biopsy was taken and sent for histopathology, whereby no malignancy was observed. A normal ultrasound (US) of the abdomen was followed by a Computerized Tomography (CT) scan of abdomen; whereby, thick walled duodenum and phlegmon formation in hypogastric and hepatoduodenal areas and along with attachment of ligamentum teres hepatis were seen (Figures 1a-d). After seeking pulmonary fitness and optimizing the patient, exploratory laparotomy was scheduled.

On the 8th of February 2014, laparotomy was commenced. A falciform ligament abscess communicating with a para-duodenal abscess was found which was causing extrinsic duodenal compression. Falciform ligament was completely excised along with removal of the para-duodenal debris. Abdomen was washed and closed after placing a subhepatic and a left para-colic Nelaton drain. Postoperatively, patient was retained in the intensive care setting. Unremarkable recovery warranted his return to the general ward, where his para-colic drain was removed on day-05 while sub-hepatic was taken out on day-07.

Histopathology of the specimen was consistent with organized abscess. Patient was discharged on day-09 and followed up in the outpatient department with uneventful postdischarge period.

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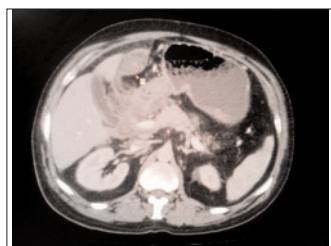
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**Figure 1(a):** Phlegmon in falciform ligament at its attachment to anterior abdominal wall. (arrow).



**Figure 1(b):** Abscess tracking along falciform ligament (arrow).



**Figure 1(c):** Abscess near hepatic attachment (arrow).



**Figure 1(d):** Abscess in falciform ligament and para-duodenal area (arrow).

### DISCUSSION

As was the case with this patient, falciform ligament abscess is usually misdiagnosed or diagnosed with a delay leading to unnecessary investigations or concerns, involving both the surgeon and the patient. Sparsity of literary accounts of this confounding surgical entity riddles up the diagnostic and management process.<sup>3-7</sup> A falciform ligament abscess would not be the usual differential in the surgical setting where it might as well be mimicking a simple abdominal wall abscess,<sup>1</sup> hernia or, more drastically, a malignancy, as in this patient.

An abdominal wall abscess with a thickened ligamentum teres on CT scan is a diagnostic of falciform ligament abscess. Underlying pathology could be residing in the liver, biliary tree or umbilicus.<sup>1,7</sup> Unusual causes reported previously state portal pyemia in adults,<sup>3</sup> omphalitis and ventriculoperitoneal shunt in children.<sup>8,9</sup> However, in the case under discussion, our main culprit was postpancreatitis falciform ligament hematoma. The mechanism described states the collection of hemorrhagic fluid in retroperitoneum after pancreatitis, which then trickles along the ligamentum teres hepatis to the umbilicus (Cullen's sign).<sup>10</sup> This hematoma got secondarily infected, producing an abscess communicating with a para-duodenal abscess. The para-duodenal abscess caused extrinsic compression of first part of duodenum explaining patient's epigastric pain, anorexia and vomiting. Since the episode of pancreatitis went unnoticed and medical attention was not sought for, there was considerable delay in reaching the actual diagnosis which was rather made per-operatively. Cause of pancreatitis was found to be steroid intake, at a later stage.

Falciform ligament was completely excised, as is agreed upon in a number of publications,<sup>2,9</sup> more recently being done laparoscopically.<sup>5</sup> Although drainage and antibiotic treatment have been offered but are, at times, faced with recurrences.<sup>1</sup> Moreover, in our patient the diagnosis was not confirmed until upon laparotomy, so excision was the right answer.

There are a few things worth noting in this case. Firstly, patient was unaware of his episode of pancreatitis so its relation to the falciform ligament abscess could not be dug up from history. Secondly, falciform ligament abscess is such a rare condition that the final diagnosis could not be reached upon pre-operatively despite a handful of investigations.

Hence, when facing a perplexing situation as is the falciform ligament abscess, apart from a detailed relevant history, complete physical examination and appropriate investigations, a high index of suspicion is instrumental in diagnosing and planning surgical management. The surgeon and radiologist should both work in collaboration bringing comprehensive anatomic and pathophysiological knowledge to use and ensure timely and accurate decision-making. This would cut down patient's distress and unnecessary fears and concerns.

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