

# Inflammatory pseudotumor of liver secondary to migrated fishbone - a rare cause with an unusual presentation

Ulagendra Perumal Srinivasan, Appasamy Benet Duraisamy, Sethu Ilango, Arunachalam Rathinasamy, Servarayan Murugesan Chandramohan

Madras Medical College, Chennai, Tamilnadu, India

## Abstract

A 35-year-old woman presented with a history of vague epigastric pain which lasted for one day. She had no other gastrointestinal symptoms and had an unremarkable past history and physical examination. An ultrasound scan abdomen showed a 3x3.5 cm mass in the left lobe of liver. A CT scan showed an abnormal hypodense lesion with mild enhancement in the arterial phase, with a central calcification. Complete blood count, liver function test and alpha-fetoprotein were normal. A left lateral segmentectomy was performed after adequate pre-operative assessment. The specimen contained a 3 cm long fishbone. The post-operative period was uneventful. Histopathological examination revealed chronic non-specific inflammation with fibrosis. Inflammatory pseudotumor of liver is a rare benign tumor with uncertain etiopathogenesis. Suggested etiologies include a septic or a viral origin and it can occur after migration of sharp objects, including migrated fishbone. Inflammatory pseudotumor of liver can be a diagnostic challenge and may end up in major resection.

**Keywords** foreign body, fish bone, inflammatory pseudotumor

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## Introduction

Inflammatory pseudotumors of liver are rare benign tumors with uncertain etiopathogenesis. They can form around migrated sharp objects like chicken bones, toothpicks, wooden clothespins etc., but migration of a fish bone resulting in the formation of an inflammatory pseudotumor of liver is rare [1,2]. Usually patients present with acute hepatic abscess culminating in severe morbidity and even mortality before a definitive diagnosis. Rarely, they may present very late as an incidentaloma [3].

## Case report

A 35-year-old woman presented to the surgical gastroenterology outpatient department with a short history of vague epigastric pain for one day only. She had no other gastrointestinal symptoms like vomiting or anorexia or weight

loss. She had no history of fever or jaundice and no history of similar episodes before, with a normal physical examination. She was referred to us with an ultrasound abdominal scan done in another public hospital, showing a 3x3.5 cm mass in the left lobe of liver. A contrast-enhanced CT scan in our hospital showed an abnormal hypodense lesion with mild enhancement in the arterial phase and with a central calcification (Fig. 1). Complete blood count, liver function test and alpha-fetoprotein were within normal limits.

A diagnostic laparoscopy was done as a routine protocol in our unit, followed by an exploratory laparotomy, since a definitive diagnosis could not be established. Intraoperatively, a dense fibrotic lesion was felt in the region of liver segments II and III. No peri-hepatic adhesions were seen. Right lobe was normal. A left lateral segmentectomy was done. Dissection of the specimen revealed a 3 cm long fish bone within the fibrotic mass (Fig. 2). There was no purulent material in the lesion. A thorough search for evidence of healed perforation in stomach, duodenum and colon was made and none was found. She had an uneventful post-operative period. The histopathological examination revealed chronic non-specific inflammation with fibrosis consistent with an inflammatory pseudotumor.

Department of Surgical Gastroenterology, Madras Medical College, Chennai, Tamilnadu, India

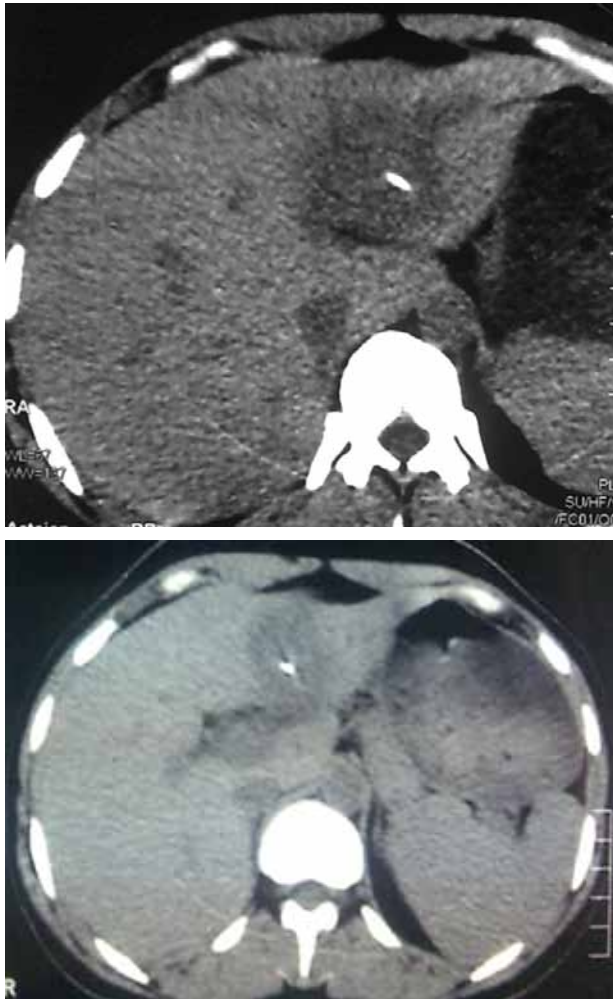
Conflict of Interest: None

Correspondence to: Ulagendra Perumal Srinivasan, MS MCh Surgical Gastroenterology, 6/2, Indra Nagar 29th Cross Road, Adyar, Chennai, Tamilnadu, 600 020 India, Tel.: +91 94 43 657670, e-mail: upssge@gmail.com

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## Discussion

Perforation of gastrointestinal tract following ingestion of sharp objects like chicken bones, toothpicks, wooden



**Figure 1** CT Scan showing a mildly enhancing hypodense lesion with a central calcification in the left lobe of liver

clothespins etc. are known to occur usually at the pharynx or esophagus with patients presenting with cutaneous neck masses or occasionally with acute mediastinitis or cardiac tamponade [1,2]. However, foreign body migration to liver is rare with fewer than 50 cases reported since Lambert's first report of a case of hepatic abscess secondary to migration of a foreign body through the gastrointestinal wall in 1898 [4].

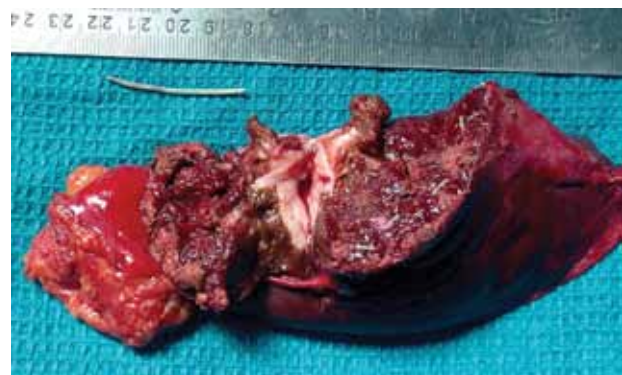
Inflammatory pseudotumors of liver are rare benign tumors commonly mistaken for malignant tumors or liver abscesses [5]. These tumors are characterized by proliferating fibrovascular tissue mixed with a variety of cells, mainly plasma cells and plump spindle cells, although monocytes and lymphocytes have also been found [6]. The etiopathogenesis of these tumors is uncertain. In their clinicopathologic study about inflammatory pseudotumors of the liver, Horiuchi *et al* suggested a septic origin from aberrant inflammatory reaction to migrating microorganisms from the large bowel [7]. No definite microorganisms could be isolated from specimen cultures in most of the cases, though *Escherichia coli* and *Klebsiella pneumoniae* have been reported in a few

cases [8]. The suggestion by some authors about the role of Epstein-Barr virus needs to be verified by further studies [9].

The most likely mechanism to explain the fish bone in the liver is penetration through the wall of the first part of duodenum and the migration from the posterior surface of liver into its substance [10,11]. Most foreign bodies pass through the gastrointestinal wall within 7 days [12,13], but perforation is rare, occurring in only 1% of cases [14,15].

Most of the reported cases of fish bone migration to liver have presented with hepatic abscess in a relatively short period of days to weeks, rarely months. Our patient presented after a period of 6 months, which was brought out during a post-surgery questioning that revealed history of treatment for a stabbing abdominal pain for one day following a fishmeal, six months ago. At the time of presentation to our out-patient department she was symptom-free, with an unremarkable past history. Most patients do not remember having swallowed a foreign body, which makes the diagnosis difficult as in this case [14]. The ultrasound scan abdomen report with which she was referred, prompted us to investigate. In spite of our efforts to find a definitive diagnosis, we could not establish the nature of the lesion, finally ending up with a left lateral segmentectomy aiming to offer her a better chance of a cure, had the lesion turned out to be malignant. However, it turned out to be an inflammatory pseudotumor secondary to migration of a fish bone. This case is presented for its rarity and unusual late presentation as an incidentaloma rather than an acute hepatic abscess.

In conclusion inflammatory pseudotumor of liver can be a diagnostic challenge and may end up in major resection. Clinical features, imaging and markers may not aid in diagnosis. Adequate and proper history taking and a high index of suspicion is needed for an early diagnosis and management. Liver resection in doubtful cases is safe in high-volume centers.



**Figure 2** Left lateral segmentectomy specimen showing the lesion with the fish bone retrieved from

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