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Case Report

Fish Bone Penetration of the Duodenum: A Rare Cause of Liver Abscess☆

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SUMMARY

We present a case of an elderly patient who visited our emergency department owing to a pyogenic liver abscess. A linear calcified object extending from the stomach to the liver was found on images from a computed tomography scan. The patient underwent laparotomy and a retained fish bone and a hepatoduodenal fistula were discovered during surgery. The bacteriological presentation of foreign-body-related liver abscesses are unique and most of the patients require surgical interventions to remove the foreign bodies. However, it is difficult to obtain a reliable history of accidentally swallowed foreign bodies. Physicians should exam the images carefully for any clues of retained foreign bodies in patients with pyogenic liver abscess.

1. Introduction

Elderly individuals are known to have difficultly in processing food in the mouth owing to poor dentition, neurologic disorders and the intake of sedatives[1]. Therefore, geriatric patients have a higher risk for accidentally swallowed foreign bodies. We report herein an elderly female admitted for pyogenic liver abscess, which related to an accidentally swallowed fish bone. The abscess was cured by adequate antibiotic treatment and surgical removal of the foreign body.

2. Case report

A 60-year-old female with a history of hypertension, treated with a calcium channel blocker, presented in the emergency department with a 4-day-long history of intermittent chills, fever, and abdominal pain. On arrival, her vital signs were as follows: body temperature of 37.7°C, pulse of 118 beats/minute, respiratory rate of 20/minute, and blood pressure of 124/70 mmHg. Physical examination revealed a soft abdomen, which was tender to palpation in the epigastric area. Laboratory investigations demonstrated a white cell count of 13200/μL, C-reactive protein (CRP) of > 250 mg/dL, and elevated aspartate aminotransferase and alanine aminotransferase (76 and 96 IU/mL, respectively). Plain radiographs of the chest and abdomen were normal. Abdominal ultrasound showed a heterogeneous lesion in the left hepatic lobe. Therefore, an abdominal computed tomography (CT) scan was performed, which demonstrated an irregular low-density lesion with a diameter of 5 cm involving the left lobe of the liver, which was considered as a pyogenic liver abscess. In addition, a linear calcified lesion extending from the gastric antrum to the liver parenchyma was discovered (Fig. 1). The abscess was drained using an ultrasound-guide procedure, and the patient was given antibiotic treatment. Bacteriological culture of the pus revealed *Streptococcus viridans*. After a 1-week course of antibiotic treatment, she underwent laparotomy, which revealed a 5 cm fish bone penetrating the duodenum wall into the lateral segment of the liver and a hepatoduodenal fistula. The patient had an uneventful postoperative course.

3. Discussion

The clinical manifestations and laboratory tests of patients with liver abscess are variable[2]. Therefore, the diagnosis of liver abscesses relies on both the suspicions of the physicians and wide application of imaging. Ultrasound is a good tool for diagnosing liver abscess. The liver abscess can present as hypoechoic round lesions with well defined mildly echogenic rims and distal acoustic enhancement in ultrasound images[3]. However, CT is currently the best imaging tool to diagnose liver abscesses. The CT images provide details about the locations and extent of liver abscesses, which facilitate the procedure of percutaneous drainage[4]. Most

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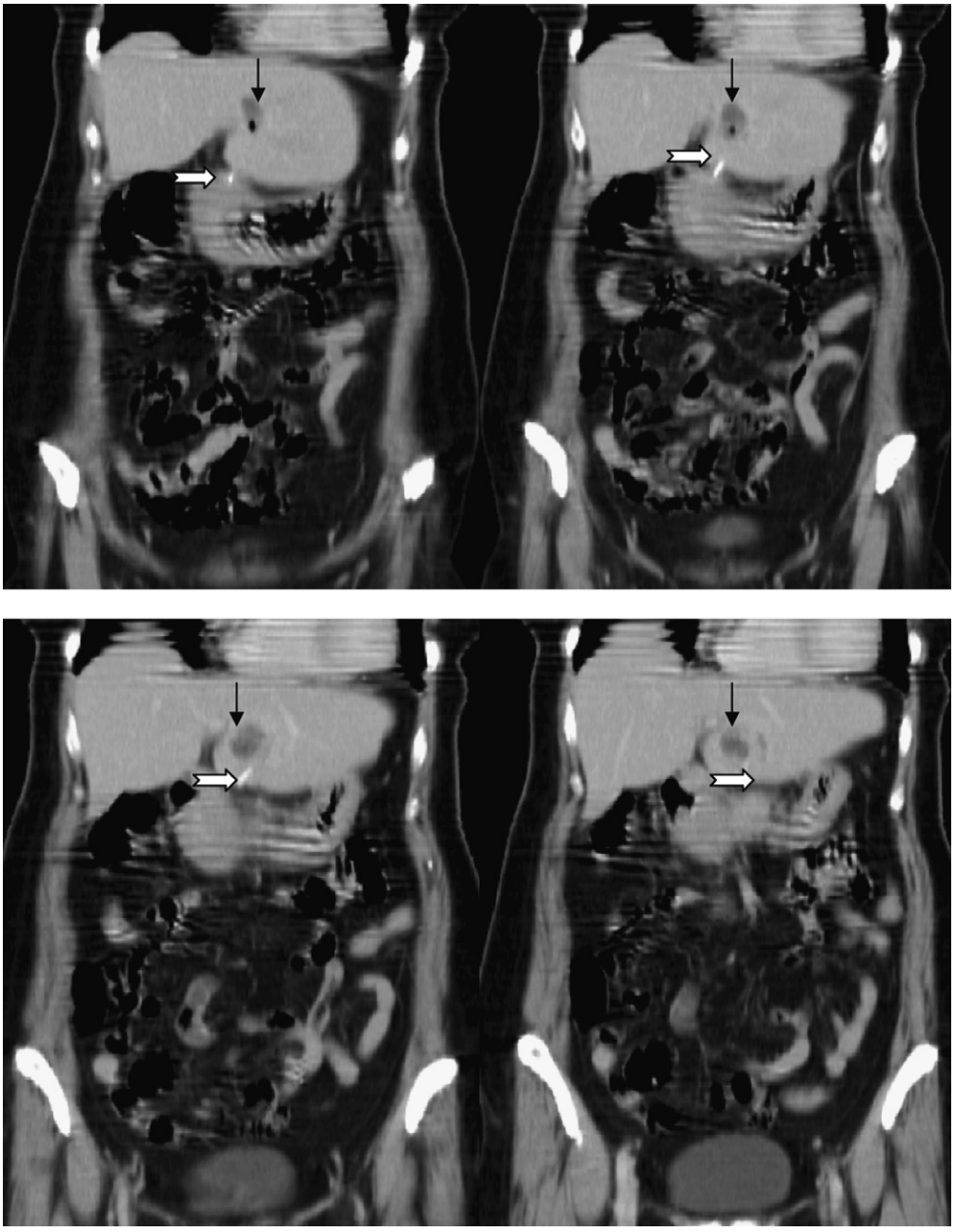

Fig. 1. Contrast-enhanced CT image shows a heterogeneous lesion in the left lobe of the liver, consistent with liver abscess (black arrow). The white arrow indicates a fish bone extending from the gastric antrum to the liver parenchyma.

liver abscesses respond well to adequate drainage and antibiotic treatment; thus, surgery is seldom required.

Liver abscess caused by foreign-body perforation of the gastrointestinal tract is rare and most of these patients are unaware of having swallowed a foreign object[5]. Therefore, it is difficult for physicians to obtain a reliable history confirming that the abscess present is related to an accidentally swallowed foreign body. In addition, most of the foreign-body-related liver abscesses require surgery to remove the foreign body. A retained and unrecognized foreign body might lead to the recurrence of a liver abscess even after adequate drainage and antibiotic treatment[6]. Furthermore, the bacteriological presentations of foreign-body- and non-foreign-body-related pyogenic liver abscesses are different. Gram-negative aerobes, such as *Klebsiella pneumonia* and *Escherichia coli*, constitute the majority of bacteria in non-foreign-body-related pyogenic liver abscess[1]. On the contrary, normal oral flora, especially *Streptococcus* spp., are the most common pathogens of foreign-body-related pyogenic liver abscess[5]. Therefore, whenever a liver abscess is diagnosed, the physicians should examine the CT images carefully to search for clues of any retained foreign body and conduct surgical treatment for the foreign-body-related liver abscess.

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