Title: **Isolated caudate lobe liver abscess in an immunocompetent young male**

**Key clinical message**

Isolated caudate lobe liver abscess in an immunocompetent young male is very rare. Because of its deep anatomical location and surrounded by major vessels, caudate lobe is usually inaccessible to percutaneous approach and pertains several challenges performing any invasive or even minimally invasive procedure. However, we treated the patient successfully with the laparoscopic approach.

**Keywords:** isolated; caudate lobe; liver abscess; laparoscopy

A 24-year-young gentleman without any comorbid illness presented with pain in the epigastric region for 3 days. The pain was presumed to be due to acute gastritis and was managed with proton pump inhibitor and analgesics by the Gastroenterologists. Two days later, the patient landed up in surgical emergency department in the midnight with increasing severe epigastric pain, associated with nausea and high grade fever. On examination, there was an epigastric tenderness. He was hemodynamically stable. His blood investigations revealed leukocytosis (17,600 cells/mm3), and C-reactive protein positivity. The liver and renal function tests including chest radiograph was normal. The ultrasound (USG) of the abdomen too was normal. The patient was initially managed with injectable analgesics and broad spectrum antibiotic (Pipercillin-Tazobactum). Later, he underwent contrast-enhanced computed tomography (CT) abdomen, which showed a hypodense lesion in the caudate lobe of the liver of 5 cm size, with an enhancing and edematous wall suggestive of abscess (Figure 1).

The patient was planned for USG-guided needle aspiration of abscess, but because of the overlying portal triad and vein, and deep location, it was not feasible. Finally, the abscess was drained laparoscopically. The three port technique, with 2-working port in the right and left hypochondrium was used. The caudate lobe was identified and approached via the anterior route. The abscess was needle aspirated for localization and drained with further extension of the cavity by harmonic device. Around 10 ml of thick, yellowish pus was aspirated and the cavity irrigated with saline (Figure 2). The operating time was 45 minutes and the blood loss was minimal. The patient did well, fever subsided and was discharged on day 5. The pus culture was sterile, however, he received total 2 weeks of oral antibiotics. At 1-year follow-up, he is doing well.

Pyogenic liver abscess remains a rare disease with a high risk of mortality, up to 19 %.1 Advances in imaging have allowed earlier diagnosis and a change in management away from open drainage to percutaneous aspiration or tube (catheter) drainage.2 Among large-scale surveillance of patients with pyogenic liver abscess, the first 3 major possible causes are cryptogenic, diabetic, and biliary in origin.3 Because of its deep anatomical location and surrounded by major vessels, caudate lobe is usually inaccessible to percutaneous approach and pertains several challenges performing any invasive or even minimally invasive procedure.3 However, we treated the patient successfully with the laparoscopic approach.

**Conflict of interests:** None

**Consent:** Written informed consent was obtained from the patient for the accompanying images.

**Data Availability Statement**

Relevant data is available on the manuscript.

**References**

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Figure 1. Contrast-enhanced computed tomography (CT) abdomen, shows a hypodense lesion in the caudate lobe of the liver of 5 cm size, with an enhancing and edematous wall suggestive of abscess (red arrow)

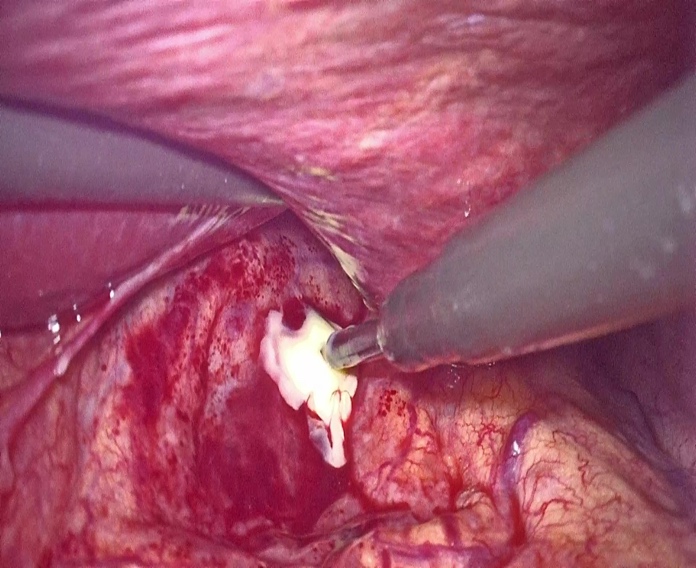


Figure 2. Thick, yellowish pus aspirated and the cavity irrigated with saline