CASE REPORT

Incidental finding of heterotopic supradiaphragmatic liver

Shaurya Jhamb¹,*, Harshil Pillai², Christopher Maguire¹ and Pranavan Palamuthusingam¹

¹Department of Surgery, Townsville University Hospital, Townsville 4814, Australia and ²College of Medicine and Dentistry, James Cook University, Townsville 4814, Australia

*Correspondence address. Department of Surgery, Townsville University Hospital, 100 Angus Smith Dr, Townsville 4814, Australia. Tel: 0400514326; E-mail: shauryajhamb@gmail.com

Abstract

Here we describe a case of heterotopic, supradiaphragmatic liver in a 65-year-old woman who was referred for investigation of a soft tissue gallbladder mass. Contrast-enhanced magnetic resonance imaging revealed adenomyomatosis of the gallbladder and supradiaphragmatic accessory liver tissue. This is a remarkably rare normal variant.

INTRODUCTION

Heterotopic, supradiaphragmatic liver tissue is a rare phenomenon. Since 1957, only 28 cases have been reported in the literature [1]. Clinically, it presents a diagnostic challenge as most patients are asymptomatic and it is often discovered incidentally [2]. Here, we present a case of intrathoracic liver diagnosed on contrast-enhanced magnetic resonance imaging (MRI) in a patient with no significant previous surgical history or trauma.

CASE REPORT

A 65-year-old Caucasian woman was referred to our hospital for further workup of a soft tissue gallbladder mass. The patient initially presented to their primary care physician with a history of postprandial, non-specific epigastric pain. She denied any associated symptoms or history of trauma and clinical examination was unremarkable. Her past medical history included hypertension, thoracic spine arthritis and hypercholestrolaemia. A subsequent ultrasound scan (USS) showed an irregular thickening of the anterior wall of the gallbladder measuring 12 × 9 × 20 mm. Contrast-enhanced computed tomography (CT) of the abdomen revealed ill-defined, lobulated soft tissue masses within the gallbladder.

Given the ambiguous morphology of the lesions and the inconclusive CT and USS findings, an abdominal MRI was arranged. The MRI showed a distended gallbladder with multiple calculi in the lumen measuring 2–3 mm. In addition, segmental focal concentric thickening consistent with adenomyomatosis was identified at the body and fundus of the gallbladder. Notably, a multilobulated solid lesion measuring 5.7 × 2.9 × 3.6 cm was described in the right hemithorax, closely abutting the right costophrenic recess (Fig. 1). The mass appeared to be continuous with the right hepatic lobe via a narrow pedicle and demonstrated similar architecture and vessel continuity with the liver.
The intrathoracic accessory liver lobe poses a diagnostic challenge for clinicians. Patients are frequently asymptomatic or present with non-specific symptoms such as dyspnoea, cough and chest pain [1, 8]. Furthermore, most imaging modalities often result in equivocal findings. X-rays only reveal a radio-opaque thoracic mass [9] and while contrast-enhanced CT scans are useful in elucidating the relationship of the mass to surrounding structures, they are unable to provide a precise diagnosis [4, 8]. However, contrast-enhanced MRI has emerged as an effective tool in differentiating supradiaphragmatic liver from other potential diagnoses. On T2 weighted sequences, the ectopic tissue demonstrates similar signal intensity to the liver parenchyma and on contrast-enhanced T1-weighted images, the tissue exhibits equal enhancement when compared to liver parenchyma [1]. Furthermore, as presented in this case, the presence of a transdiaphragmatic pedicle connecting the mass to the liver, as well as evidence of vessel continuity with branches of the hepatic and portal veins further aids the diagnosis of a supradiaphragmatic accessory liver lobe.

Despite its exceptional rarity, supradiaphragmatic liver should enter the differential diagnosis for an intrathoracic mass with similar signal to orthotopic liver—particularly when newly identified in patients with a history of trauma. The vast majority of patients are asymptomatic and require no surgical intervention; however, these ectopic masses should be followed up to ensure there is no interval progression or development of disease.

CONFLICT OF INTEREST STATEMENT

None declared.

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