ACCESORY AND ECTOPIC LIVER LOBE
AT SAME PATIENT: CASE REPORT

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Primljen/Received 27. 05. 2019. god. Prihvaćen/Accepted 20. 07. 2019. god.

Abstract: Introduction: Accessory liver lobes (ALL) are defined as supranumerary liver lobes, composed of normal liver parenchyma in continuity with the liver, in contrast to ectopic liver lobes (ELL) that have no anatomical continuity with the normal liver. Case report: In this article we report on a rare radiological diagnosis of an synchronous accessory and ectopic liver lobe using ultrasonography (US) and computed tomography (CT). A 59-year-old female with no symptoms was admitted to our hospital due to preventive exam. Abdominal ultrasonography revealed a high echoic 6 cm x 5 cm soft tissue area in right anterior subhepatic space with distinct margins, a uniform echo and blood flow and was suspected to be abdominal tumor. An enhanced abdominal computed tomography (CT) showed the irregular 65 mm x 48 mm x 32 mm mass in the right hypochondrium below IV and V liver segment with clear margins, a uniform density, texture and contrast enhancement as normal liver tissue. In same patient CT also showed small 16 mm x 12 mm mass in posterior mediastinum in right retrocruural space so diagnosis of accessory and ectopic liver lobe was confirmed. An accessory liver lobe is adjacent and attached to the liver by its own mesentery, while an ectopic liver lobe is one that is completely detached from the normal liver parenchyma. Conclusion: Ultrasound can show mass in the abdomen, which is most common in the subhepatic area, but very rarely can initially diagnose ALL or ELL due to different echogenicity of the liver parenchyma in different acoustic windows. In the case of an atypical CT presentation, an MR examination of the abdomen is indicated but it is very rarely. Fast and accurate radiological diagnosis of ALL and ELL is important in the prevention of unnecessary invasive diagnostic procedures such as laparotomy and thoracotomy which are needed only in cases of complications.

Key words: ultrasound, CT, accessory, ectopic, liver.

INTRODUCTION

Accessory liver lobes (ALL) are defined as supranumerary liver lobes, composed of normal liver parenchyma in continuity with the liver, in contrast to ectopic liver lobes (ELL) without anatomical continuity with the normal liver (1). ALL and ELL were considered as a rare development anomaly. Most cases with an ALL are asymptomatic, and usually accidentally find on cross-sectional imaging, laparotomy or autopsy (2). Although, in rare cases, it can cause abdominal pain and liver dysfunction. It is presented a rare radiological case of synchronous accessory and ectopic liver lobe, using ultrasonography (US) and computed tomography (CT).

CASE PRESENTATION

A 59-year-old female with no symptoms was admitted to our hospital for routine exam. She had no relevant past medical or surgical history. The abdomen was soft, with no palpable masses. Abdominal ultrasonography revealed a high echoic 6 cm x 5 cm soft tissue area in right anterior subhepatic space with distinct margins, a uniform density, texture and contrast enhancement as normal liver tissue. In same patient CT also showed small 16 mm x 12 mm mass in posterior mediastinum in right retrocruural space so diagnosis of accessory and ectopic liver lobe was confirmed. An accessory liver lobe is adjacent and attached to the liver by its own mesentery, while an ectopic liver lobe is one that is completely detached from the normal liver parenchyma. Conclusion: Ultrasound can show mass in the abdomen, which is most common in the subhepatic area, but very rarely can initially diagnose ALL or ELL due to different echogenicity of the liver parenchyma in different acoustic windows. In the case of an atypical CT presentation, an MR examination of the abdomen is indicated but it is very rarely. Fast and accurate radiological diagnosis of ALL and ELL is important in the prevention of unnecessary invasive diagnostic procedures such as laparotomy and thoracotomy which are needed only in cases of complications.
texture and contrast enhancement as normal liver tissue (Figure 2a-b). Mass was attached to the caudal part of segment V of the liver by a thin stalk of liver tissue, that contained a vascular pedicle. After CT exam abdominal ultrasonography was performed again, and color-doppler signal of the hepatic vein (Figure 3) was seen at the level of the stalk. These findings suggest the diagnosis of ALL. CT also showed small 16 mm x 12 mm mass in the right retrocrural space of posterior mediastinum (Figure 4a-b), with the same CT features as liver tissue but without tissue or vascular connection to the liver. That helped to confirm diagnosis of ELL.

DISCUSSION

An accessory liver lobe is a rare congenital development anomaly that is usually asymptomatic and mostly detected accidentally at laparotomy (4). It occurs from an error in the development of the endodermal caudal foregut, during the third gestational week,
and segmentation of the hepatic bud (5). An accessory liver lobe is adjacent and attached to the liver by its own mesentery, while an ectopic liver lobe is one that is completely detached from the normal liver parenchyma (6). Four types of accessory liver has been described in the literature: big accessory hepatic lobe (>30 g), small accessory hepatic lobe (<30 g), ectopic liver with no liver connection, and microscopic accessory lobe in the gallbladder wall (3).

The development of new imaging methods such as US, CT and MR detect an increasing number of ALLs during examination performed for unrelated cause.

Ultrasonography is the mostly used initial imaging method in the abdominal pathology. Ultrasound can show mass in the abdomen, which is most commonly located in the subhepatic space, but rarely can initially confirm ALL or ELL, due to different echogenicity of the liver parenchyma in different acoustic windows. In some cases, the doppler scan can be useful in detection a blood supply within the liver parenchyma, but it can not exclude pedunculated liver tumors. Therefore, the ultrasound examination could raise suspicion of the presence of abdominal tumor, but CT scan is necessary as a next diagnostic step, to confirm diagnosis.

CT findings of ALL are following: (i) significant part of the accessory lobe has the same density or signal as normal liver tissue; (ii) the ALL have distinct and smooth margins, with complete demarcation; (iii) the ALL is connected with normal liver tissue over a stalk of tissue or base; (iv) vein presentation in ALL was apparent during enhanced CT scanning (7). In the rare case of atypical CT presentation, abdominal MR image is indicated. Ectopic ALL within the thorax may be misdiagnosed for pulmonary, pleural or diaphragmatic tumor, depending on its location (8).

Asymptomatic patients with ALL and ELL accidentally discovered, do not require any treatment. Complications related to ALL includes torsion, infarction, hemorrhage and fracture of the accessory lobe, and may require urgent laparotomy (2).

**CONCLUSION**

Prompt and accurate radiological diagnosis of ALL and ELL is important in the prevention of unnecessary invasive diagnostic procedures such as laparotomy or thoracotomy, which are needed only in cases of complications.

**Abbreviations**

MR — magnetic resonance
ALL — Accessory liver lobes
ACKESORNI I EKTOPIČNI LOBUS JETRE
KOD ISTOG PACIJENTA: PRIKAZ SLUČAJA

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Uvod: Akcesorni lobusi jetre (ALL) se definišu kao prekobrojni lobusi jetre, koji su sastavljeni od normalnog parenhima jetre, u odnosu na ektopične lobuse jetre (ELL), koji nemaju anatomski kontinuitet sa normalnom jetrom.

Prikaz slučaja: U ovom radu je prikazan slučaj retke radiološke dijagnoze sinhronog postojećeg akcesornog i ektopičnog jetreza koristeći ultrazvuk (UZ) i kompjuterizovanu tomografiju (CT). 59-godišnja pacijentkinja bez simptoma je bila primljena u našu bolnicu, radi preventivnog pregleda. Ultrazvukom abdomena otkriveno je izraženo ehogeno polje mekog tkiva 6x5 cm na desnom prednjem subhepatičnom prostoru sa jasnim marginama. S obzirom na postojanje kolor-dopler signala postavljena je sumnja na tumorsku promenu u abdomenu. Kompjuterizovana tomografija (CT) nakon intravenske aplikacije kontrasta je pokazala mekotkivnu promenu dijama 65 mm x 48 mm x 32 mm u desnom hipohondrijumu ispod IV i V segmenta jetre, oštri kontura, uniformnih denziteta, teksture i kontrastne opacifikacije koja bi odgovarala normalnom tkivu jetre. Kod istog pacijenta CT je pokazao malo polje 16 mm x 12 mm u posteriornom medijastinumu u desnom retrokruralnom prostoru. S toga je dijagnoza akcesornog i ektopičnog jetreza bila potvrđena.

Zaključak: Akcesorni režanj jetre se najčešće javlja u subhepatičnom prostoru ali se retko inicijalno dijagnostikuje iz razloga različite ehogenosti od parenhima jetre koja je posledica različitih akustičnih procesa. Brza i precizna radiološka dijagnoza ALL i ELL je važna u prevenciji nepotrebnih invazivnih dijagnostičkih procedura, kao što su laparotomija i torakotomija, koje su potrebne samo u komplikoovanim slučajevima.

Ključne reči: ultrazvuk, CT, akcesorni deo, ektopičnost, jetra.

REFERENCES

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