

# Unexpected characteristics of cirrhotic liver tumors

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A 64-year old man with liver cirrhosis caused by hepatitis C virus (HCV) infection was admitted to the hospital and diagnosed with focal liver lesions. In 1989, the patient experienced a trauma at work that affected multiple organs. Then, the patient underwent a splenectomy and left nephrectomy. Twenty years later, in 2009, the patient was diagnosed with HCV infection and advanced liver fibrosis. Two courses of interferon-based therapy were ineffective. He was later treated with sofosbuvir/ledipasvir in 2016. In 2011, abdominal computed tomography (CT) scans revealed a tumor between the left lobe of the liver and the stomach (FIGURE 1A). Further diagnostic work-up using magnetic resonance imaging (MRI), endoscopic ultrasound, and consecutive CT scans could not determine the type of the tumor. There was no increase in the tumor size until August 2015 when a CT showed 2 tumors of 20 mm in diameter in the right lobe of the liver (FIGURE 1B). Due to the long-term HCV infection and liver

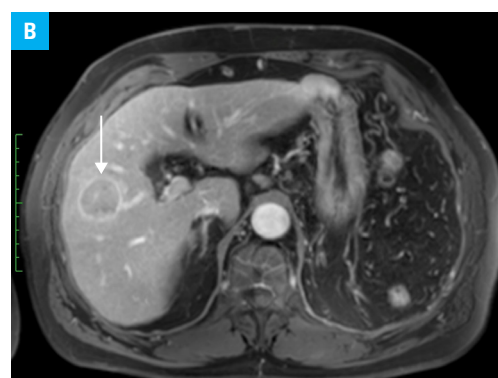
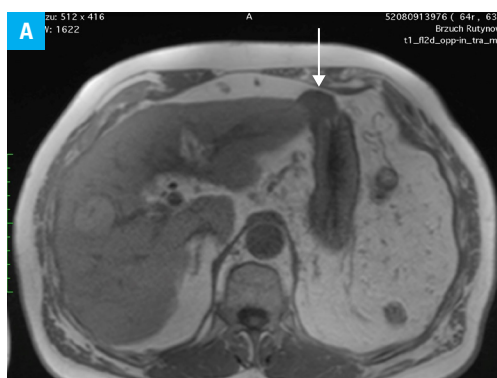
cirrhosis, the most probable diagnosis was hepatocellular carcinoma (HCC) despite only a slightly elevated level of alpha-fetoprotein. HCC constitutes 85% to 90% of primary liver tumors and is more common in men. Approximately 80% of HCC cases worldwide are associated with chronic hepatitis B virus or HCV infection, and almost 90% of cases occur in patients with cirrhosis.<sup>1</sup>

Due to the possibility of liver transplantation in the patient who had portal hypertension and the unclear origin of the tumors, the tumor located outside the liver was removed during abdominal laparotomy. Microwave ablation was performed on the tumors in the right lobe of the liver after biopsy. The histological examination revealed that the extrahepatic tumor was part of the spleen (FIGURE 1C). The newly discovered tumors in the right lobe of the liver were diagnosed as focal liver steatosis (FIGURE 1D).

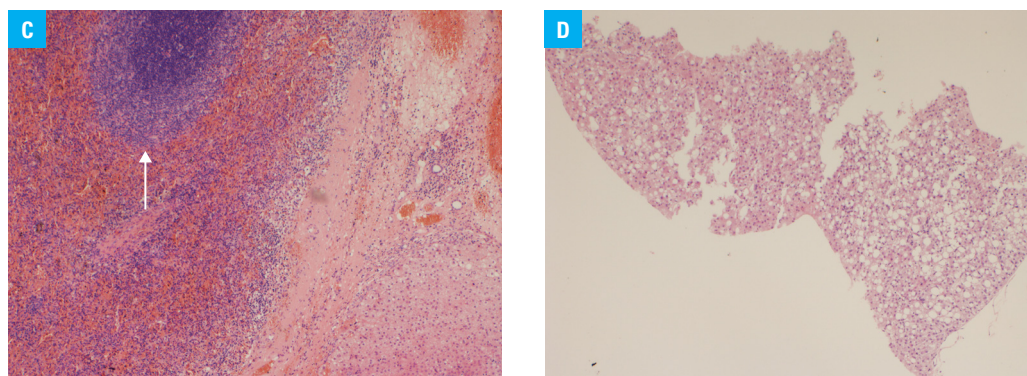
In this case, the spleen disintegrated into smaller fragments probably after the accident at work.

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**FIGURE 1** **A** – a hypointense mass (arrow) adhering to the second segment of the liver (axial, T1-weighted magnetic resonance imaging [MRI]); **B** – a well-demarcated hypointense mass with hyperintense rim (arrow) located in the liver (axial, T2-weighted fat saturated MRI)



**FIGURE 1** **C** – histology of the extrahepatic tumor located between the stomach and left lobe of the liver showing the splenic tissue with lymph nodule (arrow; hematoxylin and eosin staining,  $\times 40$ ). An adjacent fragment of the liver parenchyma is visible in the lower right corner. **D** – histology of the tumor located in the right lobe of the liver showing hepatic cirrhosis and steatosis (needle biopsy, hematoxylin and eosin staining,  $\times 40$ )

One of these fragments may have implanted close to the liver, mimicking a tumor. On the other hand, it is possible that the patient had an accessory spleen in an unusual location since birth. The liver tumors, diagnosed as focal steatosis, were located in an uncommon location as they are most frequently found in the fourth segment of the liver.<sup>2</sup> Usually, MRI is useful in establishing the diagnosis of focal hepatic steatosis. However, in the presented case, the lesions were well-demarcated and their circular shape and heterogeneous amplification pattern with hyperintensive rim were remarkably suggestive of HCC in a patient with liver cirrhosis and long-term HCV infection. Thus, it is worth emphasizing that liver steatosis follows 6 known patterns: diffuse, geographic, subcapsular, multifocal, perivascular, and focal.<sup>3</sup> On ultrasound, CT, and in some cases MRI, these patterns can mimic other benign or malignant hepatic lesions.

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## REFERENCES

- 1 Mittal S, El-Serag HB. Epidemiology of hepatocellular carcinoma: consider the population. *J Clin Gastroenterol*. 2013; 47 Suppl: S2-S6.
- 2 Decarie PQ, Lepanto L, Billiard JS, et al. Fatty liver deposition and sparing: a pictorial review. *Insights Imaging*. 2011; 2: 533-538. [↗](#)
- 3 Cassidy FH, Yokoo T, Aganovic L, et al. Fatty liver disease: MR imaging techniques for the detection and quantification of liver steatosis. *Radiographics*. 2009; 29: 231-260. [↗](#)