

A case of a hemorrhagic hepatic cyst with a contrast-enhancing mural nodule for which it was possible to retrospectively examine the process from a simple cyst

Kanna KIYAMA¹, Masafumi HASHIGUCHI¹, Kaori MUROMACHI¹, Tsutomu TAMAI¹,
Yuji IWASHITA¹, Yuichiro NASU¹, Takeshi HORI¹, Yuki NAGATA²,
Kazunobu SUEYOSHI³, Akio IDO⁴

Abstract

Hepatic intracystic hemorrhage is a rare complication of congenital cysts. The imaging findings are often nonspecific and complicated, so it is difficult to differentiate from hepatic cystic tumors. Hemorrhagic hepatic cysts show an internal heterogeneous echo level, intracystic mass-like structure, and septum-like structure on ultrasonography (US), but they are difficult to detect on computed tomography (CT) because the clot has a CT value equivalent to that of the fluid in the cyst, so it is characterized by a discrepancy between the US and CT findings. On the other hand, hepatic cystic tumors have mural nodules that can also be recognized on CT, and various contrast studies show contrast enhancement of mural nodules and septa. We herein report a case with a hemorrhagic hepatic cyst that was suspected at first glance to be a hepatic cystic tumor because CT showed an enhanced mural nodule. A comprehensive evaluation with various modalities is necessary to differentiate cystic lesions of the liver, and contrast-enhanced US (CEUS) in particular may be effective. In the post-vascular phase of CEUS, hepatic cystic tumors were reported to have a contrast effect, which hepatic hematomas due to intracystic hemorrhage were reported not to have, suggesting that this may be a key finding for differentiation. Furthermore, we were able to retrospectively examine the process from a simple cyst by investigating the past imaging studies. It was an interesting change in imaging findings as it showed the natural history from a simple cyst to a hemorrhagic cyst.

Keywords

hemorrhagic hepatic cysts, contrast-enhancing mural nodules, hepatic cystic tumors, organized hematomas

1. Introduction

Most cases of simple liver cysts are incidentally detected on ultrasonography (US) or computed tomography (CT) during medical health checks and do not require treatment. Hepatic cysts with intracystic hemorrhage are rare, accounting for less than 10% of them¹⁾. Hemorrhagic hepatic cysts often show complicated imaging findings, particularly when they are accompanied by mural nodules, resulting in difficulty in differentiating them from hepatic cystic tumors²⁾.

We herein report a case with a hemorrhagic hepatic cyst that was suspected at first glance to be a hepatic cystic tumor, but by investigating the past imaging studies, we were able to retrospectively examine the process of the disease, which started as an enlarged simple hepatic cyst, subsequently showed intracystic hemorrhage, and ultimately became an enlarged contrast-enhancing mural nodule.

2. Case report

This case was a 70-year-old Japanese woman who had undergone valve replacement surgery for aortic stenosis at the age of 55 and was taking warfarin. She was also on other medications prescribed by her primary physician for hypertension, dyslipidemia, and Basedow's disease.

Abdominal CT had been performed by her primary physician because of abdominal distension about 6 months previously. A large cystic mass measuring 90 × 75 × 65 mm was found in segment 7 (S7) of the liver, with a 15 × 15 × 10-mm mural nodule (**Fig. 1**). PET/CT showed no obvious abnormal uptake, so her primary physician performed a follow-up CT examination. However, this follow-up CT showed that the cystic mass had enlarged to 93 × 83 × 80 mm, and the mural nodule was 28 × 25 × 28 mm and showed a contrast effect (**Fig. 2**). A hepatic cystic tumor was suspected, prompting referral to our

¹Department of Gastroenterology, ²Department of Digestive Surgery, ³Department of Pathology, Kagoshima City Hospital, 37-1 Uearatacho, Kagoshima-city, Kagoshima 890-8760, Japan, ⁴Digestive and Lifestyle Diseases, Department of Human and Environmental Sciences, Kagoshima University Graduate School of Medical and Dental Sciences, 8-35-1 Sakuragaoka, Kagoshima-city, Kagoshima 890-8520, Japan
Corresponding Author: Masafumi HASHIGUCHI (m.hsgc.0626@gmail.com)

Received on August 3, 2021; Revision accepted on September 7, 2021 J-STAGE. Advanced published. date: December 2, 2021