

**A Case report : Magnetic resonance imaging (MRI), and Magnetic resonance cholangiopancreatography (MRCP)
in Diagnosis of Biliary Microhamartomas**

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Introduction

Biliary hamartomas, which are known as von Meyenburg complexes (VMCs), are benign liver malformations. They histologically include cystic dilated bile ducts which are surrounded by numerous fibrous stroma[1,2] up to 5 mm in diameter. It is hard to notice them by autopsy incidentally.

Detecting modalities through imaging is difficult due to their asymptomatic nature and small size[3]. VMCs are rare. However, they are easily confused with metastatic diseases of the liver especially in imaging[4].

Therefore, understanding the imaging traits of VMCs is needed for the differential diagnosis, which decreases the needs for methods such as biopsy or laparotomy[5].

Our goal is to report the routine magnetic resonance imaging (MRI), and magnetic resonance cholangiopancreatography (MRCP) in diagnosis of biliary Microhamartomas.

Keyword: VMC, MRI, MRCP, Liver, Stroma.

Case :

A 39-year-old male applied to our hospital with a complaint of recurrent unspecific abdominal pain for years. Physical examinations were unremarkable.

Laboratory examinations were normal except for slight elevation of GGT:142 mg/dL (normal range, 0-55 mg/dL) we made abdominal ultrasonography (US), but we were detected multiple cystic lesion in liver as metastases. MRI, and MRCP were done afterwards. MR imaging showed multiple small cysts of hypointense on T1 weighted images (image 1) and hyperintense on T2 weighted images, which were scattered in the parenchyma of the liver. (images 2a-2b) MR cholangiopancreatography showed small cysts distributed uniformly within contour of the liver, creating "starry sky" configuration. (images 3a-3b)

A diagnosis of multiple biliary hamartomas seemed to be necessary because of the typical MR imaging features. Verifying data from these imaging techniques within the 6 month follow-up showed that the final diagnosis was biliary hamartoma (complex von Meyenburg).

Discussion

Biliary hamartoma is a benign congenital malformation of the biliary duct. It was defined for the first time in 1918 by von Mayenburg [6]. For that reason, it is also described as von Mayenburg complex (VMCs). Though jaundice and portal hypertension might come out as a result of

mass effect, patients are usually asymptomatic [7]. The biliary hamartomas might be single or multiple, with sizes ranging between 1 and 15 mm [1]. Due to the small size of the lesions, the ultimate description is not easy.

The autopsy prevalence ranges from 0.6 to 2.8% [8]. Histologically, it includes disorganized and dilated bile ducts and ductules environed by fibrous stroma [9].

US imaging shows hypoechoic, hyperechoic or mixed heterogenic echoic structures [1,3,4]. The multiple comet-tail sign is considered to be the specific US finding of VMCs (3). It has been considered that lesional echogenicity might be related to the number and size of the dilated bile ducts and on the degree of fibrosis [9]. In contrast, enhanced CT, biliary hamartomas are usually of low attenuation with irregular margins. The majority of cases which has been reported suggest that VMC does not demonstrate contrast enhancement [3,9].

On MRI, VMCs are defined as hypointense on T1 and hyperintense on T2 compared to the surrounding liver parenchyma [1,9].

Even though biliary hamartoma is a benign condition, there are some reports of hepatic malignancies with a background of VMC, including hepatocellular carcinoma and cholangiocarcinoma [10,11]. Biliary hamartomas, which are rare, are usually seen to be multiple small nodules. They might sometimes be confused with liver metastatic disease, microabscesses, diffuse primary hepatocellular carcinoma, biliary cysts or Caroli's disease [1,6,8].

Conclusion

Relating different imaging modalities with the follow-up have proven to be helpful in order to be able to diagnose biliary hamartoma. A correct diagnosis is easier to reach when we have typical imaging findings. Otherwise, histological verification may be needed.

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