

RE: Communication between the Cystic Lesions of the Liver and Biliary Tree: How Can We Evaluate Efficiently and Safely?

Sebahattin Sari, MD, Veysel Akgun, MD,
Bilal Battal, MD, Bulent Karaman, MD

All authors: Department of Radiology, Gulhane Military Medical School, Ankara 06018, Turkey

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We have read the recent interesting article titled "Monosegmental Hepatobiliary Fibropolycystic Disease Mimicking a Mass: Report of Three Cases" by Kwon et al. (1), published in Korean Journal of Radiology. In this article, the authors briefly discussed the management of the biliary cystic lesions of the liver particularly fibropolycystic liver disease such as Caroli's Disease. As mentioned by the authors in the article, these cystic lesions are formed by remodeling the ductal plate and communicating with the biliary tree. The authors stated that different types of fibropolycystic liver disease demonstrate characteristic findings at computed tomography (CT) and magnetic resonance (MR) imaging. Ultrasonography (US), CT, magnetic resonance cholangiopancreatography (MRCP), percutaneous transhepatic cholangiography, and endoscopic retrograde cholangiopancreatography can show the dilated

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Corresponding author: Veysel Akgun, MD, Department of Radiology, Gulhane Military Medical School, Etlik, Ankara 06018, Turkey.

• Tel: (90) 530 5525151 • Fax: (90) 312 3044700

• E-mail: akgunveysel@yahoo.com

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biliary trees (1). However, in the precise evaluation of the communication of cysts with biliary tree, MRCP and US may be insufficient. Percutaneous transhepatic cholangiography and endoscopic retrograde cholangiopancreatography can precisely show the communication of the cysts with the biliary tree, but these diagnostic methods are rather invasive.

In our clinical practice, we use hepatocyte-specific contrast agents such as gadolinium ethoxybenzyl diethylenetriamine pentaacetic acid (Gd-EOB-DTPA) or gadobenate dimeglumine (Gd-BOPTA) for the demonstration of the communication between cystic lesion and the biliary tree in MR imaging (2, 3). These contrast agents are excreted via biliary system and induces the enhancement of the biliary tree and cytic lesions related with biliary system such as those cysts seen in fibropolycystic liver disease. In this technique, firstly, high T1 relaxivity hepatocyte-specific contrast agent such as Gd-EOB-DTPA or Gd-BOPTA is administrated after a sufficient delay time for a contrast excretion into the biliary tree, 20 and 60 minutes respectively, T1-weighted fat suppressed three dimensional gradient recalled echo MR sequence is performed. Axial and reconstructed multiplanar reformatted images can precisely reveal the communication between the cystic structures and the biliary tree. Moreover, this method can also be used efficiently, non-invasively and without radiation exposure to determine other complicated pathologies of the biliary tree such as stones, leakages, and fistulas (2, 3).

REFERENCES

1. Kwon JH, Kim MJ, Kim YH, Kang KJ, Kang YN, Kwon SY. Monosegmental hepatobiliary fibropolycystic disease mimicking a mass: report of three cases. *Korean J Radiol* 2014;15:54-60
2. Akgun V, Battal B, Hamcan S, Karaman B. Hepatobiliary and pancreatic: cyst of the cystic duct. *J Gastroenterol Hepatol* 2014;29:232
3. Battal B, Akgun V, Sari S. Re: aberrant vascular structures and its effect on the adjacent organs: how can we evaluate efficiently and safely? *Korean J Radiol* 2013;14:863-864