Aberrant right posterior hepatic duct opening into the cystic duct: a very rarely seen biliary anatomic variation

Table 1 Huang classification of biliary tract variations [1].

Type	Description
A1	Right posterior hepatic duct opens into the right anterior hepatic duct
A2	Right posterior hepatic duct opens into the confluence
A3	Right posterior hepatic duct opens into the left hepatic duct
A4	Right posterior hepatic duct opens into the main hepatic duct
A5	Right posterior hepatic duct opens into the cystic duct

Fig. 1 A 64-year-old woman complaining of abdominal pain and jaundice underwent endoscopic retrograde cholangiopancreatography (ERCP) to treat choledocholithiasis. During ERCP, the cystic canal was observed to open into the right posterior hepatic duct.

Embryological development of the biliary tract is a complex process and may result in various anatomic variations. The classification commonly used in the literature for the assessment of biliary tract variations, was developed by Huang et al. [1]. This classification has five types (Table 1) based on the point of opening of the right posterior branch [2]. In this case study of a patient who was undergoing endoscopic retrograde cholangiopancreatography (ERCP) to treat choledocholithiasis, we present a right posterior hepatic duct opening into the cystic duct (Huang type A5), which is a biliary anatomic variation that is very rarely seen. A 64-year-old woman presented to our hospital with complaints of abdominal pain and jaundice. On transabdominal ultrasonography, the intrahepatic biliary

ducts were bilaterally dilated, the common bile duct was measured to be 12 mm at its widest portion, and a stone with posterior shadowing was observed at its distal portion. On ERCP, the common bile duct and intrahepatic biliary ducts were observed to be dilated and small stones were seen inside the lumen. Furthermore, the cystic canal was observed to open into the right posterior hepatic duct (Fig. 1). The stones were removed with a stone extraction balloon by performing an endoscopic sphincterotomy. Cholecystectomy was planned, and the patient was then transferred to the surgery department with a note warning the surgeon about this rare biliary variation. Lack of previous knowledge on the type of biliary anatomical variation may lead to bile leakage, bilioma, biliary fistula, biliary

peritonitis, or abscess and cholangitis complications as a result of iatrogenic traumas during hepatobiliary surgery [2–5]. These complications can be more common, particularly in right hepatic duct variations that drain into the cystic duct [1,2,4]. Consequently, knowledge and evaluation of the anatomic variations of the biliary tracts are important before surgery and interventions.

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