A newly defined biliary anatomic variation

Yeni tanımlanmış bir safra sistemi anatomik varyasyonu

To the Editor,

The development of the liver and biliary system is a complex process that can lead to several anatomic variations. These are based on studies using cadaver dissection, resin casts, direct surgical observations, or radiologic contrast studies. In most cases, right and left hepatic ducts merge to form a common hepatic duct (CHD) in the hepatic hilar plate (in 57-72%) (1,2). The formation of the CHD can be variable. In 11-19%, there may be trifurcation of the right posterior and left and right anterior hepatic ducts. Extrahepatic distal bifurcation of the right and left hepatic ducts is very rare (3). Cystic duct abnormalities are also numerous. A short or very long cystic duct, high or low fusion with the CHD, anterior or posterior loop around the CHD, and entrance of the cystic duct into the right or left hepatic ducts are some of these variations. The rotation anomaly (anterior or posterior loop) occurs at a rate of about 8-20% (4,5). Drainage of the cystic duct to the right hepatic duct has been reported in 0.6-2.3% (4). However, the rotation anomaly with the fusion variation has not been defined yet.

We report a case with a triple anatomical variation. A 26-year-old female presented with a history of recurrent cholangitic episodes. She was referred to our endoscopic retrograde cholangiopancreatography (ERCP) unit with suspicion of common bile duct stone. On the cholangiogram, we found three anatomical variations. The first was distal extrahepatic bifurcation of the left and right main hepatic ducts; the second was the drainage of the cystic duct to the right hepatic duct; and the third was the rotation anomaly of the cystic duct around the right hepatic duct (posterior loop) (Figures 1 and 2). The combination of these anomalies has not been defined yet. Hence, it is first described herein, and we have designated it as 'Koruk anomaly'. This anomaly is important especially in patients who are candidates for surgery for cholecystectomy. The right hepatic duct can be transected instead of the cystic duct. This my cause severe biliary leakage and may require second operation(s).

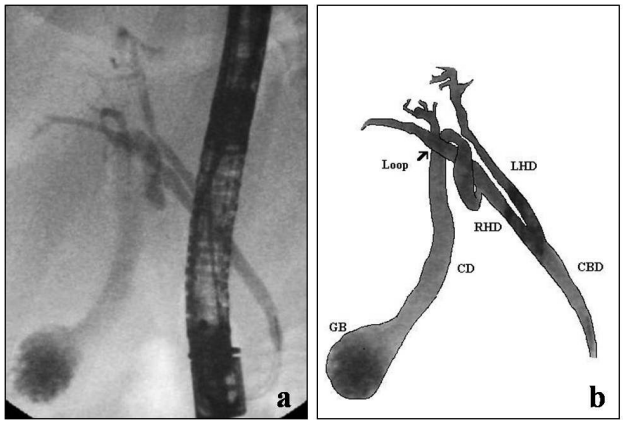

Figure 1. The ERCP image **(a)** and illustration **(b)** of the biliary tree. CBD: Common bile duct. LHD: Left hepatic duct. RHD: Right hepatic duct. CD: Cystic duct. GB: Gallbladder.

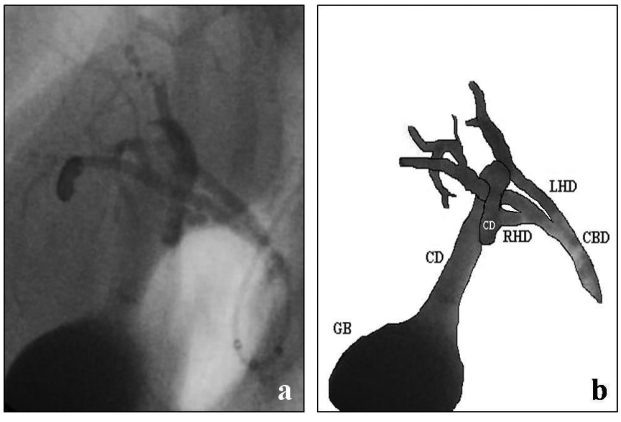

Figure 2. The ERCP image **(a)** and illustration **(b)** of the biliary tree in oblique position. CBD: Common bile duct. LHD: Left hepatic duct. RHD: Right hepatic duct. CD: Cystic duct. GB: Gallbladder.

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Successful endoscopic removal of fractured basket traction wire during mechanical lithotripsy

Mekanik litotripsi esnasında kırılan taş basketi germe telinin endoskopik olarak başarılı şekilde çıkarılması

To the Editor,

Endoscopic retrograde cholangiopancreatography (ERCP) is the best choice for management of choledocholithiasis. Complications of ERCP have been reported to occur in 5-10% of cases, ranging from minor bleeding to severe pancreatitis. Rare complications of ERCP are the impaction of baskets and balloons. Fracture of the basket traction wire can occur during endoscopic mechanical lithotripsy (1). Herein, we report an unusual complication of ERCP with fracture of the traction wire. We used a new method for the removal of the fractured traction wire.

A 71-year-old woman was consulted to our department with complaints of jaundice and abdominal pain. Her physical examination was remarkable for scleral icterus, jaundice and right upper quadrant tenderness. Laboratory tests revealed total bilirubin: 5.5 mg/dl (0.3-1), conjugated bilirubin: 3.19 mg/dl (0.1-0.3), alanine aminotransferase (ALT): 602 IU/ml (0-40), aspartate aminotransferase (AST): 303 IU/ml (0-40), ALP: 635 IU/ml (0-270), and gamma glutamyl transpeptidase (GGT): 422 IU/ml (0-55). Other laboratory tests were normal. Serological markers for acute viral hepatitis were negative. Hepatobiliary ultrasonography was performed and showed that the common bile duct (CBD) and intrahepatic ducts were dilated. Based on these findings, ERCP was performed and demonstrated a filling defect compatible with a stone in a 15 mm CBD. After sphincterotomy, a balloon catheter was used to extract the stone but the attempt failed. Then, a Dormia basket was passed into the CBD and the stone was engaged into the basket. Nevertheless, the stone could not be fragmented and the basket could not be withdrawn into the duodenum. The basket handle was then cut off and mechanical lithotripsy with Soehendra lithotripter was applied. During the lithotripsy procedure, the basket traction wire was fractured at the level of the stomach (Figure 1). Another basket was placed into the CBD to extract the stone, which was engaged in the fractured basket, and it

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