Duplication of the common bile duct – A case report

A. Schulz1, F. Boxberger2, A. Heinle3, S. Schär3, C. von der Lippe2, F. Hetzer1

1 Department of Surgery, Spital Linth, Uznach, Switzerland, 2 Department of Medicine, Gastroenterology, Spital Linth, Uznach, Switzerland, 3 Department of Radiology, Cantonal Hospital of St. Gallen, St. Gallen, Switzerland

Introduction

Anatomical variants of the extrahepatic bile duct system occur in approximately 42% of the population. On the other hand, duplication of the common bile duct is a very rare congenital abnormality, which is often associated with recurrent cholangitis or pancreatitis, as well as an increased risk of malignant degeneration. Therefore diagnostics using MRI and ERCP as well as the therapeutic strategy are a challenge. Classification and division according to Choi et al. describe 5 different types of anatomical variants of the common bile duct. Our case presents a patient with a duplication of the DHC type Vb (Fig. 1).

Case Report

We have treated a 50-year-old woman, who presented herself with severe coliform epigastric pain and febrile temperature. The gall bladder has been removed several years ago due to severe cholecystitis with cholecystolithiasis. A cholestatic hepatopathy was found as well. However the duplication of the common bile duct was not detected. At present the patient showed increasing inflammation values under antibiotic therapy and the suspicion of cholangitis.

Results

The performed MRCP showed a duplication anomaly (Fig. 2a) and a choleodocholithiasis (Fig. 2b) of the right common bile duct. The following ERCP procedure for stone removing was only partially successful. After recurring of inflammatory and cholestasis parameters, the choleodochus duplicate was resected (Fig. 3) by means of biliodigestive anastomosis. Intraoperatively, a massive dilated ductus hepatocholedochus is shown, as well as a slender left main bile duct (Fig. 4a,b). After resection of the right bile duct on the pancreatic upper edge, the latter measures 2 cm in diameter (Fig. 4a,b). The intraoperative preparation follows the two bile ducts up to cranial, which is continued into the normal intrahepatic bile duct system (Fig. 1). Immediately proximal to the communicating connection between the two ducts, the resection occurs at the border to the intrahepatic normal bile duct system and attachment of a biliodigestive anastomosis by means of a retrocolic pull out Roux-y jejunal loop. There was an uncomplicated postoperative course with an antibiotic therapy administered over 10 days, because of the existing cholangitis. Histology showed no signs of malignancy. The final control 14 days postoperatively was inconspicuous with a decrease of transaminases. One month after operation the patient was already 20% more workable, after another month the patient worked at full capacity.

Conclusion

In patients with recurrent cholangitis an anatomical variant must be considered, especially after removing the gall bladder and the lack of complete recovery. In the rare cases of types Va (5) and Vb (1) is a risk of malignancy up to 25%, as well as frequently occurring complicated choleodocholithiasis. Therefore according to recommended literature the preoperative diagnosis is essential for the planning of the therapeutic strategy by means of biliodigestive anastomosis.

References

2. Hammod T. et al. Two cases of Type Va extrahepatic bile duct duplication with distal Klatskin Tumor surgically treated with Whipple procedure and Hepaticojejunostomy. ACG Case Rep J 2015;3 (1) : 49-52