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Case Report

Aberrant Bile Duct in the Left Triangular Ligament of the Liver

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ABSTRACT

A 67-year-old man underwent partial resection of the lateral segment of the liver for recurrent hepatocellular carcinoma. During mobilization of the lateral segment of the liver, an aberrant bile duct was encountered between the left edge of the left triangular ligament and ventral surface of the lateral segment, which was ligated. The patient made a satisfactory recovery and was discharged on the 10th post-operative day without complications. For partial resection with mobilization of the lateral segment including the left triangular ligament, the appendix fibrosa hepatis should be ligated to prevent postoperative bile leakage. (Jikeikai Med J 2017 ; 64 : 11-2)

Key words : aberrant bile duct, left triangular ligament, hepatic resection

INTRODUCTION

Division of an aberrant bile duct in the left edge of the left triangular ligament of the liver without ligation can be associated with postoperative bile leakage due to subcapsular networks of bile ducts outside the hepatic parenchyma[1, 2].

Although there are some reports about the aberrant bile duct, an intraoperative photograph of the aberrant bile duct seems rare.

CASE REPORT

A 67-year-old man, who had undergone central bisegmentectomy of the liver for hepatocellular carcinoma (HCC) in February 2010 with alcholic steatohepatitis at 20 months earlier, was diagnosed as a recurrent HCC in the segment 2. Enhanced computed tomography and magnetic resonance imaging confirmed recurrent HCC with a diameter of 16 mm in segment 2. Serum tumor markers were within normal limits, and the patients' Child-Pugh classification was A. With a diagnosis of recurrent HCC without extra-hepatic metastases, partial hepatic resection was performed under general anesthesia. The tumor was at the ventral surface of the lateral segment of the liver. During mobilization of the lateral segment of the liver, a pedicle was encountered between the left edge of the left triangular ligament and ventral surface of the lateral segment. Because bile leakage was observed from the cut end of the pedicle, we diagnosed as an aberrant bile duct, which was ligated (Fig. 1). The partial hepatic resection was performed using Cavitron® ultrasonic surgical aspirator without Pringle's maneuver. The estimated intraoperative blood loss was 160 g. No drain was placed. The patient made a satisfactory recovery and was discharged on the 10th post-operative day.

DISCUSSION

The incidence of the aberrant anatomy of the bile ducts varies from 16 to 31%[3,4]. The Aberrant or accessory hepatic ducts from the right side of the liver are more common with drainage into the right hepatic duct, cystic duct, and occasionally into the gall bladder. There have been isolated re-

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Fig. 1. Aberrant bile duct (arrow) was present between the left edge of the left triangular ligament and inferior surface of the lateral segment, and was ligated and isolated for mobilization of the lateral segment of the liver.

ports of separate entry of the right and left hepatic ducts into the duodenum[5].

Aberrant bile duct is sometimes present in the left edge of the left triangular ligament of the liver, and named appendix fibrosa hepatis. Healy et al.[6] investigated the anatomy of the biliary system in detail, using the vinyl acetate cast model of 100 human livers prepared by the injection-corrosion method. According to their report, the superior duct of the lateral segment extended into the appendix fibrosa hepatis as vas aberrans hepatic was in 5% of the livers. Rapant et al.[1] and Iso et al.[2] reported intra or postoperative bile leakage due to division of the aberrant bile duct in the left triangular ligament without ligation. In order to prevent bile leakage after mobilization of the left triangular ligament, therefore, the appendix fibrosa hepatic should be ligated or sealed securely.

Authors have no conflict of interest.

REFERENCES

1. Rapant V, Hromada J. A Contribution to the surgical significance of aberrant hepatic ducts. Ann Surg. 1950 ; 132 : 253-9.
2. Iso Y, Kusaba I, Matsumata T, Okita K, Murakami N, Nozoe T, et al. Postoperative bile peritonitis caused by division of an aberrant bile duct in the left triangular ligament of the liver. Am J Gastroenterol. 1996 ; 91 : 2428-30.
3. Adams DB. The importance of extra-hepatic biliary anatomy in preventing complications at laparoscopic cholecystectomy. Surg Clin North Am. 1993 ; 73 : 861-71.
4. Crist DW, Gadacz TR. Laparoscopic anatomy of the biliary tree. Surg Clin North Am. 1993 ; 73 : 785-98.
5. Mascarenhas R, Varadarajan R, Mathias J, Traynor O, Geoghegan J. Accessory left biliary duct draining into the lesser curve of the stomach. Gut. 2002 ; 51 : 884.
6. Healey JE Jr, Schroy PC. Anatomy of the biliary ducts within the human liver ; analysis of the prevailing pattern of branchings and the major variations of the biliary ducts. AMA Arch Surg. 1953 ; 66 : 599-616.