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**The surgical experience of extrahepatic cholangiocarcinoma associated with choledocholithiasis: a case report**

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**Purpose:** Choledocholithiasis has not been reported as a cause of extrahepatic cholangiocarcinoma to date, whereas it has been reported as a risk factor for intrahepatic cholangiocarcinoma. However, a recent study reported that choledocholithiasis showed an etiologic association with extrahepatic cholangiocarcinoma because persistent chronic stimulation by stones may lead to carcinogenesis in the biliary epithelium. Therefore, common bile duct (CBD) stones and extrahepatic cholangiocarcinoma may coexist in some cases. We report a rare case of extrahepatic cholangiocarcinoma associated with choledocholithiasis.

**Methods:** A 85-year-old man was admitted to our hospital with complaint of abdominal pain. On examination, he had marked tenderness in the right upper abdominal quadrant including Murphy's sign. The laboratory findings showed mild leukocytosis and abnormal liver function test results: White blood cell, 10,210/mm<sup>3</sup> (80.9% neutrophils); AST, 219 IU/L; ALT, 135 IU/L; total bilirubin, 1.28 mg/dL; and direct bilirubin, 0.69 mg/dL. CA 19-9 was 14.7 U/ml (normal range 0 to 34 U/ml). The initial diagnosis was acute cholecystitis and CBD stones based on his clinical presentation, laboratory findings, and computer tomography (CT). On magnetic resonance cholangiopancreatography, asymmetric wall thickening at extrahepatic duct containing choledocholithiasis was suggested as benign stricture or periductal infiltrative type cholangiocarcinoma. In addition, PET-CT showed a subtle metabolism in the extrahepatic duct area, and the possibility of cholangiocarcinoma could not be ruled out.

**Results:** At laparotomy, transverse choledochotomy was made on the middle CBD and CBD stones were extracted.

During exploration, the elevated mucosal lesion was identified, the intraoperative frozen section was done, and then it showed the adenocarcinoma of extrahepatic bile duct. Subsequently, bile duct resection from bifurcation to distal end with hilar lymph node dissection was performed including cholecystectomy and H-J stomy. Permanent pathologic result was also adenocarcinoma, well differentiated, papillary growth, and biliary type (pT1N0, pStage I). The postoperative course was uneventful, and the patient was discharged on fifteenth postoperative day.

**Conclusion:** This case shows that intraoperative frozen section is necessary for the suspicious cholangiocarcinoma associated with choledocholithiasis before surgery. When choledocholithiasis-related extrahepatic cholangiocarcinoma is suspected on preoperative radiological images, careful intraoperative assessment can help in establishing the definitive diagnosis and optimizing the surgical treatment.