

**PERIAMPULLARY DIVERTICULUM CAUSING BILIARY STRICTURE AND OBSTRUCTION**

Dear Sir

An 80-year-old woman presented with fever and non-specific abdominal pain for two weeks. Clinically, she was noted to be jaundiced and abdominal signs were essentially normal. Blood tests showed total bilirubin of 97.4  $\mu\text{mol/L}$  (normal range 37-51), alkaline phosphatase of 211 U/L (normal range 32-103), mild transaminitis and Ca 19-9 was 19.7 U/mL (normal range 3.0-50.0). Computed tomography (CT) showed gallstones and dilation of the whole biliary tree, with impression of a distal common bile duct (CBD) obstruction. There was no periampullary mass seen. There was also an early abscess seen in segment IVb of the liver.

Endoscopy showed a large periampullary diverticulum with the papilla located at its opening (Fig. 1), and endoscopic retrograde pancreaticography (ERCP) showed a distal extrinsic compression (Fig. 2). This compression was smooth and coincided with the position of the diverticulum. A stent was placed and after stabilisation, she underwent surgery. Intra-operatively, the common bile duct was dilated but no stones were seen. Cholelithotomy revealed distal common bile duct stricture due to extrinsic compression by the diverticulum. The removed gallbladder had small cholesterol stones. There was no mass in the periampullary region. A Roux-en-Y choledochojejunostomy was performed. She made an uneventful post-operative recovery. Follow-up CT at three and six months showed no growth in the periampullary region.



Fig. 1



Fig. 2

Periampullary diverticulum usually causes problems to the endoscopist as it makes cannulation difficult during ERCP. Rajnakova et al<sup>(1)</sup> found that periampullary diverticulum was associated with a more trying cannulation, as well as higher risk of retained stones in the CBD. Several reports have also shown that it can cause biliary obstruction and cholangitis<sup>(2-4)</sup>. Vassilakis et al described a Roux-en-Y choledochojejunostomy and duodenojejunostomy for four patients with complicated duodenal diverticulum<sup>(2)</sup>. In this series, the patients suffered either complicated cholangitis and/or pancreatitis.

In our case, the diverticulum was causing a definite stricture in the distal CBD. The stricture was smooth, coincided exactly with the duodenal diverticulum, and was seen only on one side of the CBD (i.e. not concentric). In comparison, benign strictures secondary to stones although also smooth, are usually concentric. Malignant strictures cause concentric, irregular stricturing with “shouldering” – features definitely absent in our case. However, tumour must always be excluded for strictures in these areas by tests, including a thin-slice CT and Ca 19-9 levels.

The option for this patient would have been repeated ERCP and change of stents if she had been unfit for surgery. However, she was fit for a definitive surgery and did well with a simple biliary bypass. A biliary

bypass allowed us to avoid the diverticulum altogether. The diverticulum was not causing any pancreatic obstruction and could be left alone. However, if the diverticulum was also causing pancreatic obstruction and pancreatitis, a pancreatico-duodenectomy or pancreatic-enteric bypass may have to be considered instead.

Yours sincerely,

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