

Elastic Rubber Band Migration into the Common Bile Duct After C-tube Drainage

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Received: 7 May 2012 / Accepted: 27 August 2012 / Published online: 15 September 2012
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To the editor,

In our manuscript, we showed the efficacy of intraoperative real-time cholangiography and C-tube use to prevent biliary tract complications.¹ These methods definitely contribute to reduce biliary tract complications not only for living-related liver transplantation donors, but also for patients who have undergone hepatectomy, especially central hepatectomy, i.e., anterior segmentectomy, medial segmentectomy, and central bisegmentectomy. We always use two elastic rubber bands to fix the C-tube to the cystic duct. However, we have encountered four cases of elastic rubber band migration in the common bile duct after C-tube drainage in patients who had central hepatectomy recently.

From December 2007 to February 2012, we performed C-tube drainage in 58 cases. All cases underwent hepatectomy due to malignancy or being a donor for living-donor liver transplantation. During the follow-up, computed tomography or magnetic resonance imaging was performed every 3–6 months routinely to detect recurrence of malignancy or liver regeneration. Among them, choledocholithiasis was detected in four cases (6.9 %). Although they had no symptoms, endoscopic retrograde cholangiography and lithotomy were performed from the papilla of Vater. As the results indicated, elastic rubber band migration was identified. The average interval from the operation to elastic rubber band migration was 244 days.

Clip migration after laparoscopic cholecystectomy has been reported as extremely rare.² Considering the number of laparoscopic cholecystectomies, our migration rate of

6.9 % is thought to be very high. In addition, a 244-day interval is also markedly short. Comparing an elastic rubber band with a clip, the shape and adhesion to the surrounding tissues of the elastic rubber band may make it easier to migrate into the common bile duct. Fortunately, none of the four cases have suffered from cholangitis or pancreatitis, which may relate to the doughnut shape and tissue adhesion of an elastic rubber band. The pathogenesis of migration has been reported whereby a clip caused necrosis of the cystic duct and wall of the common bile duct by compression and inflammation.³ The C-tube drainage is a feasible technique to prevent biliary fistula, but it is necessary to reconsider the material or procedure to fix the C-tube.

Sincerely,

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