Hemorrhage after laser-cut covered self-expandable metal stent removal

Endoscopic covered self-expandable metal stent (CSEMS) placement is widely used for distal malignant biliary obstruction (MBO) as the stent prevents ingrowth and is easily removed [1, 2]. The usefulness of the laser-cut CSEMS (LC-CSEMS) and its endoscopic removal have been reported [3–5]; there have been no previous reports of complications related to LC-CSEMS removal. We here report a case of hemorrhage following LC-CSEMS removal.

An 83-year-old woman was referred for cholangitis. She had undergone endoscopic LC-CSEMS (X-Suit NIR covered biliary metal stent; Olympus Medical Systems, Tokyo, Japan) placement 7 months previously for unresectable pancreatic cancer. Endoscopic retrograde cholangiopancreatography (ERCP) was performed because recurrent biliary obstruction was suspected (Fig. 1; Video 1). Cholangiography revealed defects suggestive of sludge (Fig. 2). We therefore decided to remove the LC-CSEMS and replace it with a new one.

A snare forceps was used to hold the LC-CSEMS, which was moved toward the papilla by pushing, along with clockwise torsion of the endoscope while adjusting the axis of the bile duct [3]. The initial attempt to pull the LC-CSEMS out was effective; however, the snare subsequently could not be released, with the plan having originally been to release it from the LC-CSEMS and reposition it nearer the papilla (Fig. 3 a). Consequently, the LC-CSEMS was instead removed by withdrawing the endoscope. After stent removal, we inserted the endoscope to the papilla and found that a hemorrhage had been induced from the papilla during LC-CSEMS removal (Fig. 3 b). Although biliary cannulation was possible, the hemorrhage disturbed the endoscopic view, so re-insertion of the new LC-CSEMS was performed under fluoroscopic guidance. The LC-CSEMS suffers from minimal stent shortening because of the laser-cut structure; therefore, it could be placed easily in an accurate position (Fig. 4 a) and the hemorrhage was finally stopped by compression from the LC-CSEMS (Fig. 4 b). Although this hemorrhage was induced by LC-CSEMS removal, it was easily stopped after the LC-CSEMS was replaced.

Video 1 Difficult removal of a laser-cut covered self-expandable metal stent (LC-CSEMS) causing hemorrhage from the papilla that was subsequently controlled by insertion of a replacement LC-CSEMS.

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Competing interests

The authors declare that they have no conflict of interest.
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The authors

Yuki Tanisaka, Masafumi Mizuide, Akashi Fujita, Tomoya Ogawa, Hiromune Katsuda, Yoichiro Saito, Shomei Ryozawa

Department of Gastroenterology, Saitama Medical University International Medical Center, Hidaka, Saitama, Japan

Corresponding author

Yuki Tanisaka, MD, PhD

Department of Gastroenterology, Saitama Medical University International Medical Center, 1397-1, Yamane, Hidaka, Saitama 350-1298, Japan
tanisaka1205@gmail.com

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