Inadvertent submucosal esophageal tunnel complicating ERCP

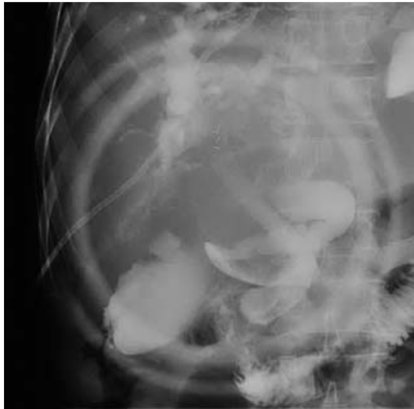

Fig. 1 Endoscopic retrograde cholangiopancreatography showing dilated bile ducts with metal stent in proper position.

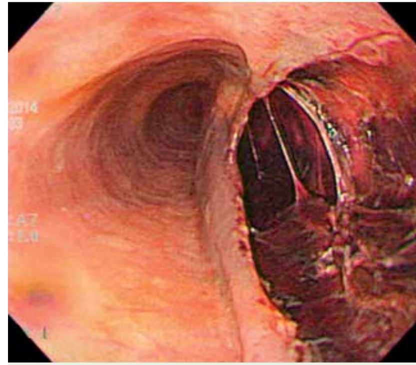

Fig. 2 Forward-viewing gastroscope showing laceration and submucosal tunnel in the middle third of the esophagus.

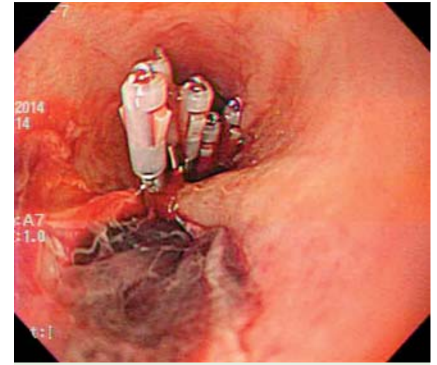

Fig. 3 Single-channel gastroscopic closure of the laceration wound with endoclips.

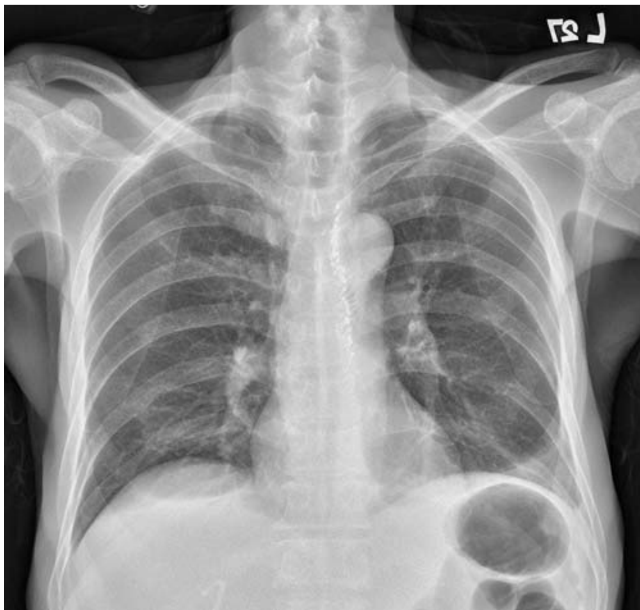

Fig. 4 Chest radiograph revealing an array of endoclips, with no evidence of pneumothorax.

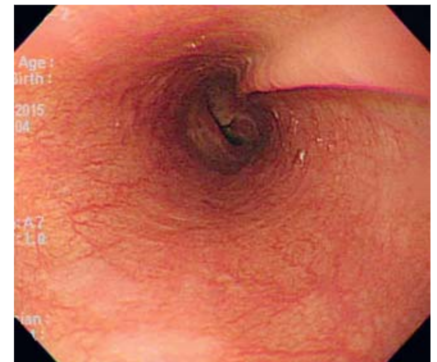

Fig. 5 Follow-up endoscopy 23 days later revealed healing of the laceration with ridge formation. No residual endoclips were found.

A 62-year-old man presented with a 2-month history of cholestatic jaundice. Abdominal computed tomography revealed a heterogeneous tumor in the hepatic hilum, with dilated biliary tracts. Endoscopic retrograde cholangiopancreatography (ERCP) was performed. Following papillotomy, a partially covered metal stent was inserted for bile drainage (**Fig. 1**).

On withdrawal of the duodenoscope, bloody material was observed along the entire length of the esophagus. A forward-viewing gastroscope was used and revealed a 10-cm longitudinal tear with a submucosal tunnel in the middle-third of the esophagus (**Fig. 2**). A total of 28 endoclips were used to seal the laceration (**Fig. 3**). A chest radiograph revealed no pneumomediastinum (**Fig. 4**). The patient was treated with broad-spectrum antibiotics and parenteral nutrition. Repeat endoscopy 23 days later showed complete healing of the laceration, with ridge formation along the esophagus (**Fig. 5**). The patient had an unremarkable recovery.

ERCP is a minimally invasive procedure that is widely used for the diagnosis and treatment of biliary and pancreatic diseases. ERCP is still associated with several distinct complications including pancreatitis, hemorrhage, and duodenal or esophageal perforation [1]. Overall, complication rates range from 2% to 10%, with mortality rates ranging from 0.5% to 1% [2]. For esophageal perforations, the mortality rates are about 10% to 50% [3].

The rare complication of esophageal submucosal tunneling during an ERCP procedure has not been reported previously. The laceration may have resulted from injury during advancement of the duodenoscope. Careful maneuvers, especially when slightly increased resistance is encountered, could have prevented the complication. Immediate recognition of the laceration in the current case permitted timely closure of the wound to avoid further perforation.

Stent placement has been shown to be a safe option for treating esophageal lacera-

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tions, but stents are not beneficial for mucosal healing [4]. Endoscopic clip closure has been advocated for esophageal perforations, with satisfactory results [5]. The current case highlights the potential risks of esophageal laceration during ERCP. The clip closure technique is effective and safe in treating esophageal submucosal lacerations.

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Competing interests: None

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Bibliography

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