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Intra-abdominal haemorrhage following an endoscopic retrograde cholangiopancreatography-related procedure: a rare complication

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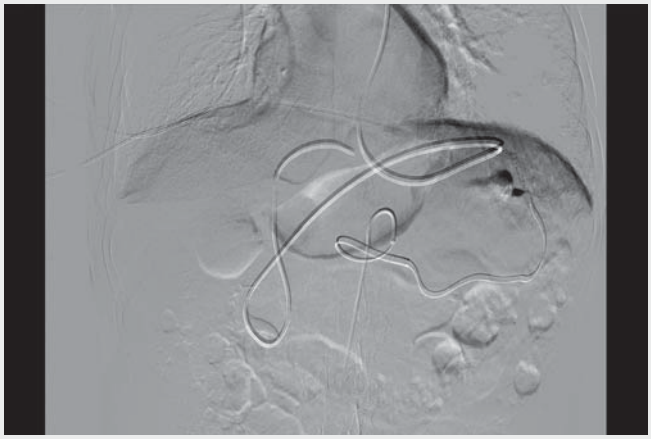
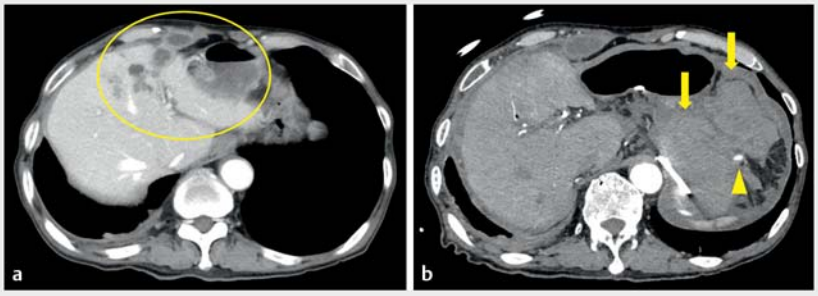
Endoscopic retrograde cholangiopancreatography (ERCP)-related procedures are used for the treatment of various pancreaticobiliary diseases. Bleeding is a complication of ERCP-related procedures (incidence 1.34 % [1]). Most bleeding is intraluminal [1, 2], which is readily diagnosed during the procedure, but intra-abdominal hemorrhage is extremely rare and may occur as a delayed event. Herein, we report a case of intra-abdominal hemorrhage associated with an ERCP-related procedure that was successfully treated by transcatheter arterial embolisation (TAE) [3] (▶ **Video 1**).

An 80-year-old man with bile leakage was due to undergo endoscopic nasobiliary drainage (ENBD) (▶ **Fig. 1 a**). Initially, the procedure was performed by a trainee with the patient in the prone position; however, the trainee could not reach the duodenal papilla with the endoscope under fluoroscopic guidance. An expert operator subsequently reached the duodenum with the patient in the left lateral decubitus position. An ENBD tube was placed across the bile leakage without difficulty. Around 3 hours post-procedure, the patient had severe epigastric pain and disordered consciousness, and his blood pressure was found to have decreased to 70/40 mmHg. Contrast-enhanced computed tomography (CECT) revealed intra-abdominal hemorrhage with evidence of extravasation (▶ **Fig. 1 b**). Emergency angiography from the celiac artery demonstrated extravasation from the short gastric arteries (▶ **Fig. 2 a**). Subsequently, TAE using gelatin sponge particles was performed to control the bleeding (▶ **Fig. 2 b**). After 7 days, the patient had recovered fully, without experiencing any other complications. Of note, CECTs performed before this procedure had not detected an aneurysm.

Several cases of intra-abdominal hemorrhage following esophagogastroduodenoscopy were reported in the era of rigid endoscopy [4, 5]. We speculate that excessive tension on the gastric or duodenal wall caused by endoscope manipulation causes perigastric arterial injury. It is important to avoid excessive push manipulation during endoscopic procedures, and fluoroscopic guidance and/or a postural change for the patient may be needed. Endoscopists should be aware of this rare but serious post-procedural complication, so as to avoid any delay in its diagnosis and treatment.



Video 1 Intra-abdominal hemorrhage following an endoscopic retrograde cholangiopancreatography procedure.



▶ **Fig. 1** Computed tomography images in an 80-year-old man who was planned to undergo endoscopic nasobiliary drainage showing: **a** bile leakage (yellow circle); **b** 3 hours post-procedure (when the patient had developed severe epigastric pain, disordered consciousness, and a low blood pressure), intra-abdominal hemorrhage (yellow arrow) with evidence of extravasation of contrast (yellow triangle).

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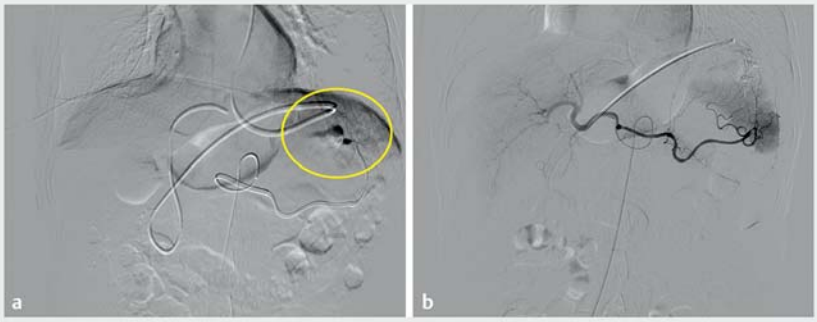
Competing interests

The authors declare that they have no conflict of interest.



▶ **Fig. 2** Images during emergency angiography from the celiac artery showing: **a** extravasation from the short gastric arteries (yellow circle); **b** subsequent transcatheter arterial embolisation (TAE) using gelatin sponge particles to control the bleeding.

The authors

Kayoko Kuno, Yasuki Hori, Kentaro Matsuura, Kazuki Hayashi, Itaru Naitoh, Michihiro Yoshida, Hiromi Kataoka
Department of Gastroenterology and Metabolism, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan

Corresponding author

Yasuki Hori, MD, PhD
Department of Gastroenterology and Metabolism, Nagoya City University Graduate School of Medical Sciences, 1 Kawasumi, Mizuho-cho, Mizuho-ku, Nagoya 467-8601, Japan
yhori@med.nagoya-cu.ac.jp

References

[1] Andriulli A, Loperfido S, Napolitano G et al. Incidence rates of post-ERCP complications: a systematic survey of prospective studies. Am J Gastroenterol 2007; 102: 1781–1788
[2] Hori Y, Naitoh I, Nakazawa T et al. Feasibility of endoscopic retrograde cholangiopancreatography-related procedures in hemodialysis patients. J Gastroenterol Hepatol 2014; 29: 648–652
[3] Alrashidi I, Kim TH, Shin JH et al. Efficacy and safety of transcatheter arterial embolization for active arterial esophageal bleeding: a single-center experience. Diagn Interv Radiol 2021; 27: 519–523
[4] Dehn TC, Lee EC. Intraperitoneal hemorrhage following fiberoptic gastroscopy. Gastrointest Endosc 1985; 31: 350
[5] Pricolo R, Cipolletta L. Intraperitoneal hemorrhage following upper gastrointestinal endoscopy. Gastrointest Endosc 1987; 33: 53–54

Bibliography

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