Continuation of common bile duct clearance with gallbladder stenting after duodenal perforation with subsequent treatment for tension pneumoperitoneum and pneumothorax

An 88-year-old woman underwent endoscopic retrograde cholangiopancreatography (ERCP) because of septic cholangitis with acute calculous cholecystitis. Unfortunately, incidental duodenal perforation (Stapfer classification type 1) [1] occurred during duodenoscope intubation by our trainee endoscopist. Gastroscopy with a transparent cap revealed a linear 4-cm defect with active oozing at the duodenal apex (▶ Video 1). Perforation closure was attempted with preceding guidewire insertion into the downstream duodenal lumen (▶ Fig. 1) to prevent accidental luminal closure [2]. The first traumatic type over-the-scope clip (OTSC, 12/6t; Ovesco) was deployed by suction on the lacerating tissue at the caudal side of the defect (▶ Fig. 2). However, the defect did not close completely; therefore, a second OTS clip was deployed using twin graspers to appose the edges of the defect. Contrast enterography revealed no intraperitoneal leakage (▶ Fig. 3). Immediately after closure, ERCP with stones removal and transpapillary gallbladder stenting with a double-pigtail plastic stent to prevent recurrent cholecystitis was successfully performed. At almost 40 minutes before completion of the procedure, the patient developed marked abdominal distension, hypotension, and desaturation. Tension pneumoperitoneum with right pneumothorax was confirmed by fluoroscopy (▶ Fig. 4). Emergency needle decompression was performed using an 18 G needle to release the tension pneumoperitoneum, and the patient was then intubated. Her abdomen gradually softened with an improvement in oxygen saturation. At 4 hours later, plain radiography showed no free air (▶ Fig. 5). The patient was extubated and resumed oral intake the following day.

Duodenal wall perforation can occur during ERCP, especially when performed by a less experienced endoscopist. ERCP can be completed safely if the patient is stable after early detection of the perforation with immediate endoscopic closure. The OTS clip is preferred for a defect larger than 1 cm, and more than one clip may be required if the defect is larger than 3 cm [3]. Tension pneumoperitoneum after endoscopy-related perforation is life-threatening, and early detec-
tion with emergency needle decompression is the key to saving the patient’s life [4].

Endoscopy_UCTN_Code_CPL_1AK_2AC

Competing Interest

The authors declare that they have no conflict of interest.

The authors

Natee Faknak1,2,3, Santi Kulpatcharapong1,2, Salin Samutransgi1,2, Parit Mekaroonkamol1,2, Wiriyaporn Rditid1,2, Rungsun Rerknimitr1,2,3
1 Division of Gastroenterology, Department of Medicine, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand
2 Excellence Center for Gastrointestinal Endoscopy, King Chulalongkorn Memorial Hospital, Bangkok, Thailand
3 Division of Gastroenterology, Department of Medicine, Sawanpracharak Hospital, Nakhonsawan, Thailand

Corresponding author

Rungsun Rerknimitr, MD
Division of Gastroenterology, Department of Internal Medicine, Faculty of Medicine, Chulalongkorn University, Bangkok 10310, Thailand
Fax: +66-2-2527839
ERCP@live.com

References


Bibliography

Endoscopy
DOI 10.1055/a-1949-0494
ISSN 0013-726X
published online 2022
© 2022. The Author(s).
This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (https://creativecommons.org/licenses/by-nc-nd/4.0/)
Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

E-Videos

Endoscopy E-Videos is an open access online section, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online. Processing charges apply (currently EUR 375), discounts and waivers acc. to HINARI are available.

This section has its own submission website at:
https://mc.manuscriptcentral.com/e-videos

Fig. 4 Fluoroscopy showed right pneumothorax.

Fig. 5 Plain radiography 4 hours later showed no free air.