Identification of retrograde peristalsis determines the afferent limb during double-balloon ERCP: the tidal wave sign

Double-balloon endoscopy is used in endoscopic retrograde cholangiopancreatography (ERCP) in patients with surgically altered gastrointestinal anatomy [1]. In this procedure, it is difficult to identify the afferent limb of a Roux-en-Y anastomosis; therefore, intraluminal injection of indigo carmine and carbon dioxide enterography has been used [2, 3]. We report a novel method to identify the afferent limb.

The endoscope is inserted into the Roux-en-Y site without an antispasmodic agent. Retrograde peristalsis is detected in the afferent limb and antegrade peristalsis in the efferent limb (▶ Fig. 1a). The finding of intestinal mucosal involvement in the attachment can be seen in retrograde peristalsis (▶ Fig. 1b), whereas this finding cannot be seen in antegrade peristalsis (▶ Fig. 1c). We called this the “tidal wave sign”; the limb with this sign is the afferent limb (▶ Fig. 2), and the limb without it is the efferent limb (▶ Fig. 3).

▶ Video 1 shows the findings in a typical patient. At the Roux-en-Y site, one lumen was judged to have antegrade peristalsis; the intestinal mucosa was not involved in the attachment. We evaluated this lumen as negative for the tidal wave sign and identified it as the efferent limb. The other lumen had retrograde peristalsis and the intestinal mucosa was involved in the attachment. We evaluated this lumen as positive for the “tidal wave sign” and identified it as the afferent limb.

We analyzed consecutive cases between January 2013 and August 2018; this technique was used after March 2016. The tidal wave sign was evaluated prospectively in 31 examinations involving 17 patients with a Roux-en-Y anastomosis. In 26/31 examinations (83.9 %), the afferent limb was accurately identified, while accuracy without this technique was 50 % in 10 cases. The accuracy when using this sign was significantly higher.
than when not using it ($p=0.009$). This sign helps to determine the afferent limb during double-balloon ERCP in patients with a Roux-en-Y anastomosis.

Endoscopy_UCTN_Code_TTT_1AP_2AD

Competing interests

None

The authors

Tetsuya Iwasaki, Tomofumi Akasaka, Yuko Sakakibara, Shoichi Nakazuru, Hisashi Ishida, Eiji Mita
Department of Gastroenterology and Hepatology, National Hospital Organization Osaka National Hospital, Osaka, Japan

Corresponding author

Tetsuya Iwasaki, MD
Department of Gastroenterology and Hepatology, National Hospital Organization Osaka National Hospital, 2-1-14 Hoenzaka, Chuo-ku, Osaka 540-0006, Japan
Fax: +81-6-69463569
iwasaki@onh.go.jp

References


Bibliography

DOI https://doi.org/10.1055/a-0866-9226
Published online: 25.3.2019
Endoscopy 2019; 51: E141–E142
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

Endoscopy E-Videos is a free 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.

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