Endoscopic ultrasonography-guided transmural drainage (EUS-TMD) is an effective treatment for collections of infected peripancreatic fluid [1]. A novel one-step device consisting of a combined lumen-apposing metal stent (LAMS) and an electrocautery-enhanced delivery system (Hot AXIOS; Boston Scientific, Marlborough, Massachusetts, USA) was recently developed [2, 3]. The stent flange interval is 10-mm long; therefore, the recommended indication for this stent is a fluid collection with a wall of <10 mm. Evaluating the precise thickness of the cavity wall before this procedure is crucial, and a LAMS should not be used if the operator cannot be certain. Here, we report a case of successful drainage of an infected hematoma using the Hot AXIOS under contrast-enhanced harmonic endoscopic ultrasonography (CH-EUS) guidance.

A 70-year-old man was diagnosed with infected walled-off necrosis (WON) caused by acute necrotizing pancreatitis (▶Fig. 1 a). The infection was uncontrolled, even after multiple percutaneous and endoscopic drainage procedures. A step-up surgical necrosectomy [4] was performed and the infection was controlled temporarily; however, a newly formed blood vessel ruptured and the cavity where the WON had previously existed was filled with blood. Although the bleeding was controlled by vascular embolization, re-infection occurred 20 days after the procedure (▶Fig. 1 b).

We decided to perform EUS-TMD for the infected hematoma using the Hot AXIOS. However, the lesion contained a large number of blood clots and the wall thickness could not be precisely determined using only B-mode EUS imaging (▶Fig. 2 a). Therefore, we scanned the lesion with CH-EUS. Immediately after injecting a sonographic contrast agent, the contents of the cavity were clearly defined (▶Fig. 2 b).

▶Fig. 1 Computed tomography scan showing: a an area of infected walled-off necrosis caused by acute necrotizing pancreatitis; b an infected hematoma in the cavity of the previous walled-off necrosis, which was found 20 days after embolization to control bleeding from a ruptured newly formed blood vessel, which had filled the cavity with blood after surgical necrosectomy.

▶Fig. 2 Endoscopic ultrasonography images of the infected hematoma showing: a on B-mode, a large number of blood clots that made it impossible to precisely determine the wall thickness; b after injection of sonographic contrast agent, the clearly defined cavity wall, allowing accurate measurement.

▶Fig. 3 Computed tomography scan after successful transgastric endoscopic ultrasound-guided infected hematoma drainage using a lumen-apposing metal stent.
were clearly identified as an avascular area, and the cavity wall was accurately detected (Fig. 2b). Subsequently, we punctured the lesion safely, which enabled proper deployment of the LAMS (Fig. 3; Video 1). These findings indicate that CH-EUS could be a useful modality to clearly visualize target lesions in cases where the cavity wall cannot be precisely evaluated for standard EUS-TMD.

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Competing interests

None

References


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Video 1 Endoscopic ultrasonography-guided transluminal drainage of an infected hematoma using a lumen-apposing metal stent under contrast-enhanced harmonic endoscopic ultrasonography guidance.