Endoscopic ultrasound-guided drainage of a right liver abscess with a self-expandable metallic stent

Percutaneous drainage is one of the first options for the treatment of liver abscesses [1]. However, this method has several limitations, such as the requirement for external drainage and the risk for self-removal of the tube. On the other hand, endoscopic ultrasound (EUS)-guided drainage of liver abscesses overcomes both of these limitations. In addition, EUS-guided liver abscess drainage with a self-expandable metallic stent (SEMS) has a greater effect than percutaneous drainage, and leakage of the infected fluid is not likely to occur.

To date, only a few cases of EUS-guided liver abscess drainage with a SEMS have been reported [2]. Furthermore, EUS-guided drainage of an abscess in the right hepatic lobe has not previously been reported. Herein, we describe our technique for performing EUS-guided drainage of an abscess of the right hepatic lobe with a SEMS.

An 81-year-old woman was admitted to our hospital with fever and abdominal pain. Computed tomography revealed a liver abscess with a maximum diameter of 64 mm in the right hepatic lobe parenchyma (Fig. 1, Fig. 2). The patient had previously undergone metallic stent placement in the right hepatic bile duct because of unresectable cholangiocarcinoma. In addition, she had dementia; therefore, to avoid the risk for self-removal of the tube, we selected a transluminal approach with EUS.

First, the echoendoscope was advanced into the duodenum, and with counterclockwise rotation the right hepatic lobe was visualized. We punctured the liver abscess with a 19-gauge fine-needle aspiration needle (Medi-Globe GmbH, Rosenheim, Germany), and the infected fluid was aspirated. Next, contrast medium was injected (Fig. 3), and a 0.025-inch guide-wire (VisiGlide; Olympus Medical Systems, Tokyo, Japan) was inserted. After the fistula had been dilated with a 4-mm Hurricane Balloon Dilatation Catheter (Boston Scientific, Tokyo, Japan), the stent delivery system was inserted. Finally, we successfully placed a fully covered SEMS (Bonastent, 10 mm × 10 cm; Standard SciTech, Seoul, Korea) from the liver abscess.
The liver abscess was punctured with a 19-gauge fine-needle aspiration needle, and contrast medium was injected. Then, a guidewire was inserted into the liver abscess. First, an endoscopic retrograde cholangiopancreatography (ERCP) catheter was inserted to dilate the fistula. Next, balloon dilation was performed. Finally, a stent was successfully placed from the liver abscess to the duodenum.

**Video 1**

The liver abscess was punctured with a 19-gauge fine-needle aspiration needle, and contrast medium was injected. Then, a guidewire was inserted into the liver abscess. First, an endoscopic retrograde cholangiopancreatography (ERCP) catheter was inserted to dilate the fistula. Next, balloon dilation was performed. Finally, a stent was successfully placed from the liver abscess to the duodenum.

**Fig. 4** A fully covered self-expandable metallic stent was successfully placed from the liver abscess to the duodenum.

**Inset** A massive amount of infected material seen on the endoscopic image.

The treatment resulted in a decrease in the size of the liver abscess, and the patient was discharged without any adverse events. EUS-guided liver abscess drainage has the potential to become the first-line method for draining liver abscesses because it can be used even for abscesses of the right hepatic lobe, as in the present case.

**Competing interests:** None

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