Endoscopic ultrasound-guided drainage of a complex kidney abscess penetrating to the gallbladder and right liver lobe

A 64-year-old woman with a past medical history of poorly controlled diabetes, morbid obesity, hypertension, and status post-oncological treatment for metastatic sigmoid colon cancer was admitted to the surgery department due to a 50 × 40 × 43-mm abscess in the right kidney on computed tomography (CT) (Fig. 1). The abscess penetrated the gallbladder, causing its perforation. It also penetrated the liver and was causing renal artery infiltration with pseudoaneurysm formation (21 mm and 16 mm in diameter) (Fig. 2). The patient was clinically and biochemically septic. CT ruled out other sites of abscess. Due to significant associated co-morbidities, poor general status, and poor percutaneous access, neither a standard surgical intervention nor percutaneous drainage was feasible.

As there was a connection between the kidney abscess and perforated gallbladder, endoscopic ultrasound (EUS)-guided drainage was performed under general anesthesia using a linear echoendoscope (Video 1). Through transduodenal access after endosonographic visualization of the gallbladder, fine-needle aspiration (FNA) with a 19G FNA needle was performed. The aspirated purulent content mixed with bile of the gallbladder confirmed the position. A 0.035-inch guidewire was advanced through the needle and looped in the abscess cavity under X-ray control. Then, the tract was dilated with a 10-Fr cystotome, followed by placement of a 20 × 16-mm cautery-enhanced lumen-apposing metal stent (LAMS). Immediately, purulent content outflow was observed from the stent lumen. The procedure was concluded with placement of a 7-Fr nasogastric tube through the LAMS lumen for active abscess lavage (50 ml of saline every 6 hours).

After 3 weeks of active transmural drainage, symptoms resolved and laboratory parameters normalized. CT showed a collection decrease to 3 mm, given that the nasogastric tube was replaced with a 7-Fr × 7-cm double-pigtail stent. The patient was discharged and followed up in outpatient settings. After 5 months, CT showed a collection size of 21 × 10 mm (decrease > 50%) and a healed gallbladder wall during follow-up endoscopic assessment (Fig. 3). One year after the procedure, the patient remains asymptomatic.
without collection, on LAMS stent and permanent double-pigtail drainage to prevent recurrence (▶ Fig. 4).

This case is important for three reasons. First, we show how a complex kidney abscess penetrating the gallbladder and liver can be successfully managed endoscopically. Second, EUS-guided drainage of a peritoneal cavity abscess might be an optimal alternative therapy for patients with multiple comorbidities, at high risk for life-threatening recurrent sepsis, and are poor surgical candidates. Lastly, similar to the management of other types of recurrent collections, long-term transmural drainage with an indwelling double-pigtail plastic stent seems to be an option for this group of patients [1].

Endoscopy_UCTN_Code_CCL_1AF_2AZ_3AD

Competing interests

The authors declare that they have no conflict of interest.

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Video 1 Endoscopic ultrasound-guided drainage of a complex kidney abscess through perforated gallbladder using lumen-apposing metal stent with double pigtail.

▶ Fig. 3 Computed tomography performed 5 months after the procedure: successful endoscopic treatment (collection size 21 × 10 mm; decrement >50%).

▶ Fig. 4 Surveillance esophagastroduodenoscopy 12 months after the procedure: healed gallbladder wall; patient remains asymptomatic.
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Reference


Bibliography

Endoscopy 2023; 55: E1139–E1141
DOI 10.1055/a-2186-3511
ISSN 0013-726X
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