



EUS-guided drainage of a segment VI liver abscess using a lumen-apposing metal stent

Carlos Robles-Medranda, MD, Jorge Baquerizo-Burgos, MD, Juan Alcivar-Vasquez, MD, Raquel Del Valle, MD, Daniela Tabacelia, MD

CASE PRESENTATION

A 66-year-old male patient with hypertension, unstable angina with antiplatelet treatment, and previous cholecystectomy presented to our institution with a fever and abdominal pain for the past 3 weeks. Blood analyses revealed leukocytosis and increased reactive C protein levels. A contrast-enhanced CT scan and abdominal US identified a 5.7- × 6- × 4.8-cm uniloculated collection in the sixth segment of the right liver lobe that persisted despite previous treatment with broad-spectrum antibiotic therapy (Fig. 1). Because of cardiovascular comorbidities, antiplatelet treatment with clopidogrel increased the surgical morbidity and bleeding risk of percutaneous drainage. The home medication was replaced with aspirin 75 mg daily, 5 days prior to the procedure. The multidisciplinary team decided to attempt EUS-guided drainage despite the difficult-to-reach location and long distance between the abscess and the first portion of the duodenal wall. The EUS transducer was placed at a minimum distance of 16.8 mm from the liver collection, avoiding vessel or bowel loop interposition. FNA was performed with a 19-gauge needle and revealed purulent content. Afterward, a 0.035-mm guidewire was left in place, and exclusively under EUS guidance, a 15- × 10-mm electrocautery-enhanced delivery system lumen-apposing metal stent (LAMS) (HotAxios; Boston Scientific, Marlborough, Mass, USA) was inserted successfully into the collection (Fig. 2). A balloon dilation up to 15 mm was performed through the stent, and the cavity was rinsed with sterile water, 160 mg of gentamicin, and 500 mg metronidazole (Fig. 3; Video 1, available online at www.videogie.org).



Figure 1. Abdominal US showing a hepatic 6.23- × 4.84-cm uniloculated collection.

The patient was discharged the same day, and the CT evaluation 2 weeks later showed the complete disappearance of the abscess (Fig. 4). The cultured pus was positive for trimethoprim-sulfamethoxazole sensitive *Burkholderia spp.* Granulation tissue was noticed through the LAMS at the 1-month follow-up (Fig. 5). After stent removal, an over-the-scope-clip (Ovesco Endoscopy AG, Tübingen, Germany) was used for duodenal defect closure (Video 2, available online at www.videogie.org). The 4-month follow-up showed no recurrence.

DISCUSSION

A study comparing percutaneous drainage and EUS-guided drainage of liver abscesses using self-expandable metal stents (SEMSs) in 27 patients showed no significant differences in technical and clinical success but a shorter relapse rate for the EUS group. This is probably because of the large caliber of the stents (30F LAMS vs 12F percutaneous tubes).¹ Double-pigtail plastic stents are preferred for drainage because of the low costs and vast experience, but there is a high risk of peritoneal contamination and bleeding while dilating the tract, a long procedure time, and need for multiple interventions.² A SEMS is a better option but poses a high risk of migration.² LAMSs have low intra-abdominal spillage and migration rates because

Abbreviations: LAMS, lumen-apposing metal stent; SEMS, self-expandable metal stents.

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Instituto Ecuatoriano de Enfermedades Digestivas (IECED), Guayaquil, Ecuador.

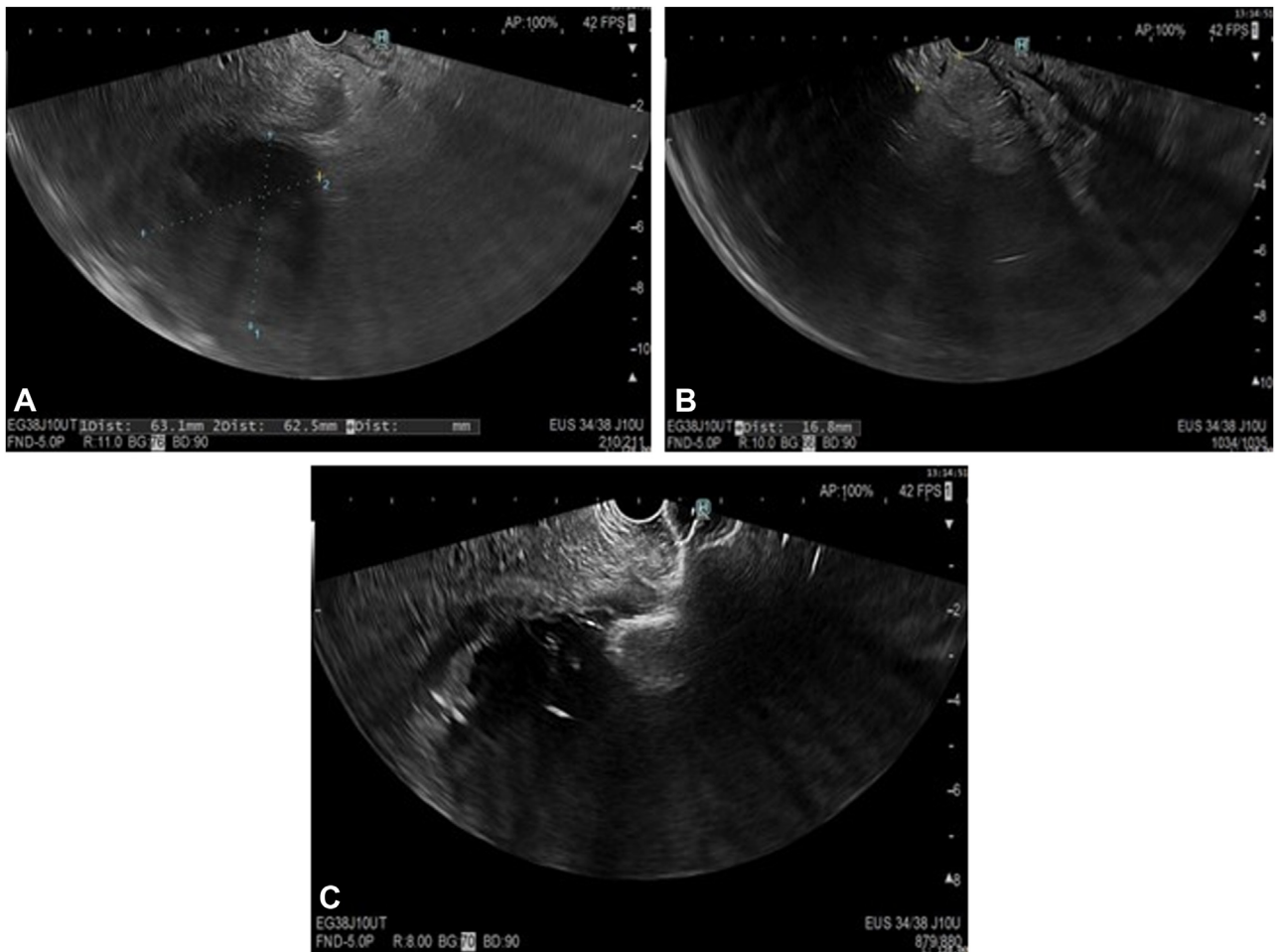


Figure 2. A, EUS appearance of the liver abscess. B, Distance between duodenal wall and collection. C, Drainage with lumen-apposing metal stent.

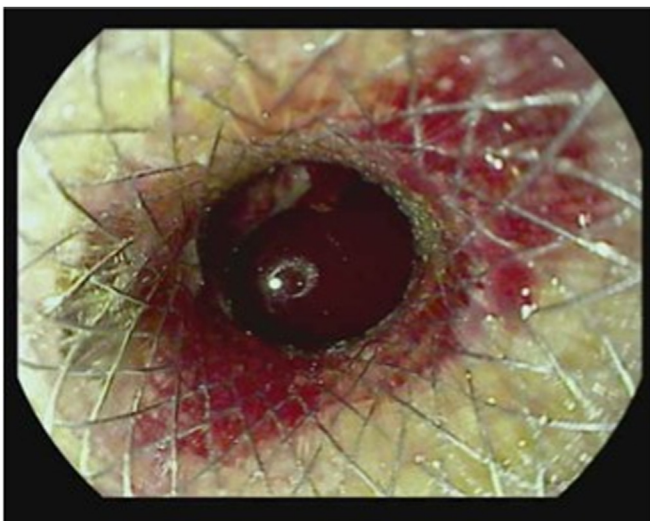


Figure 3. Intracavity appearance after lumen-apposing metal stent insertion and antibiotic instillation.

of the anchor flanges, but the short length does not permit the drainage of collections located at far distances.^{2,3}

In contrast to the left side of the liver, right-sided hepatic abscesses are not adherent to the gastric or duodenal wall and are even more difficult to access through EUS because of the long distance from the GI lumen. To date, only 10 cases with EUS-guided drainage of a right-sided liver abscess using a SEMS have been described.^{2,4} The technical and clinical success rate was 83.3% at the end of the first session but 100% in the second.⁴ Stent migration of SEMS was encountered in 2 cases.⁴

A LAMS was successfully used in 4 patients with left liver lobe abscesses without adverse events.^{2,3} Despite being an off-label indication for LAMSs, this stent seems to be a better alternative to SEMSs. However, there are no previous cases of its use for right liver lobe abscess drainage in the literature. Regardless of the main limitation represented by the length of the stent, we managed to successfully drain the abscess with the help of the guidewire.

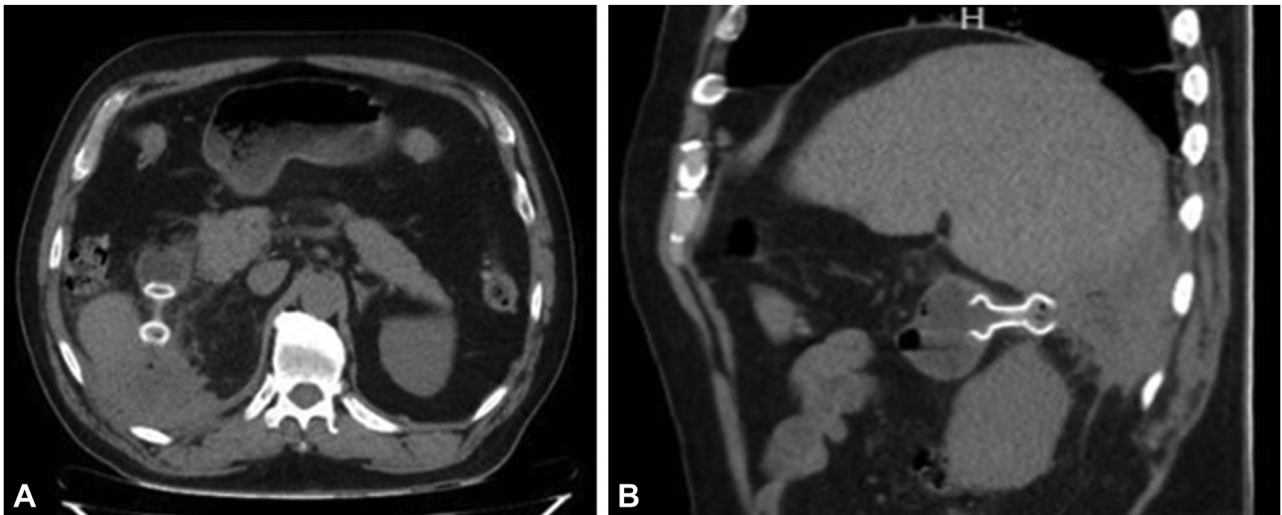


Figure 4. CT evaluation 2 weeks later showing complete disappearance of the abscess in axial view (A) and sagittal view (B).

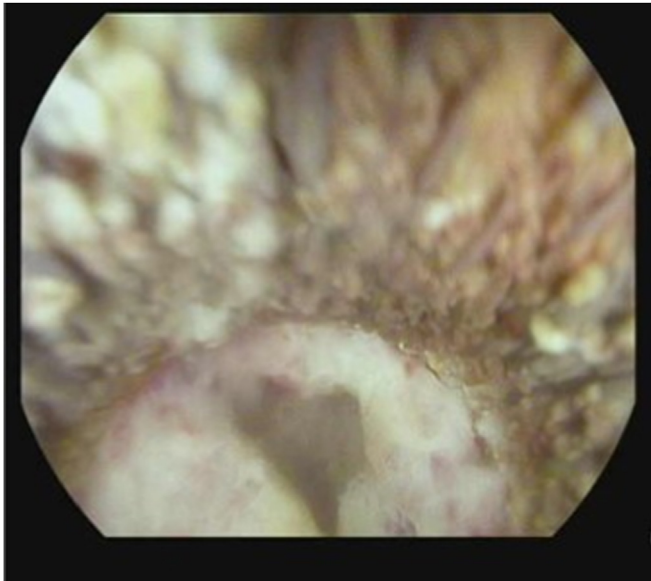


Figure 5. Granulation tissue inside the stent 4 weeks after drainage.

DISCLOSURE

Dr Robles-Medranda is a consultant and key opinion leader for Pentax Medical, Boston Scientific, Steris, Medtronic, Motus, Microtech, G-Tech Medical Supply, CREO Medical, EndoSound, and Mdconsgroup. All other authors disclosed no financial relationships.

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