Cholecystoduodenal drainage and gallstone removal in a patient with cholecystitis and unresectable cholangiocarcinoma

Cholecystitis is a complication that can develop in patients with malignant biliary strictures [1,2]. We describe the endoscopic ultrasound (EUS)-guided placement of a novel metal stent to create a cholecystoduodenostomy in a nonoperable candidate with cholecystitis. An 81-year-old woman with metastatic unresectable cholangiocarcinoma developed cholecystitis secondary to malignant involvement of the cystic duct. Following external percutaneous cholecystostomy drain insertion, the patient continuously drained ascites from around the percutaneous drainage tube. Given her advanced disease, creation of a cholecystoduodenostomy was proposed.

A linear array curvilinear EUS scope (Olympus Medical, Tokyo, Japan) was placed in the duodenal bulb (Video 1). Under color Doppler imaging, gallbladder access was accomplished with direct puncture using a 19-gauge needle (Echotip, Cook Medical, Winston-Salem, North Carolina, USA). A 0.035-inch guide wire was placed through the needle into the gallbladder body and the tract was dilated with a 4-mm Hurricane balloon dilator (Boston Scientific, Natick, Massachusetts, USA). The distal end of a 10-mm×15-mm Axios stent (Xlumena Inc., Mountain View, California, USA) was deployed under endosonographic guidance into the gallbladder body, while the proximal end was released in the duodenum (Fig. 1). Removal of stones was accomplished with aspiration and lavage of the gallbladder using a GIF-H180 diagnostic endoscope (Olympus Medical, Tokyo, Japan) (Video 2). The stent remained in place for palliation with no adverse events.

Prior to human studies, the Axios stent was tested in a swine model. Animals were kept alive up to 8 weeks and stents remained in place without migration [3]. Recently, a retrospective human study by Itoi et al. reported the successful use of this novel stent in four patients with cholecystitis [4].

In conclusion, the placement of this novel metal stent allowed resolution of the cholecystitis. Minimally invasive intervention using this novel stent might become the preferred approach for drainage in this patient population.

Endoscopy_UCTN_Code_TTT_1AS_2AD

Competing interests: Dr Kahaleh has received research grants from Xlumina, M.I. Tech, EMcision, Boston Scientific, and Maunakea. He is also a consultant for Boston Scientific.
B. G. Turner¹, S. Rotman², N. U. Paddu¹, D. Trost³, A. Jamal-Kabani¹, M. Gaidhane¹, M. Kahaleh¹

¹ Division of Gastroenterology, Weill Cornell Medical College – New York Presbyterian Hospital, 1305 York Avenue, New York, New York, USA
² Department of Medicine, Weill Cornell Medical College – New York Presbyterian Hospital, 1300 York Avenue, New York, New York, USA
³ Department of Radiology, Weill Cornell Medical College – New York Presbyterian Hospital, 1300 York Avenue, New York, New York, USA

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DOI http://dx.doi.org/10.1055/s-0032-1325968
Endoscopy 2013; 45: E114–E115
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

Corresponding author

M. Kahaleh, MD
Division of Gastroenterology
Weill Cornell Medical College – New York Presbyterian Hospital
1305 York Avenue, 4th Floor
New York
NY 10021
USA
Fax: +1-646-9620110
mkahaleh@gmail.com