Single-session fluoroless endoscopic ultrasound-guided fine-needle aspiration and choledochoduodenostomy with a biliary lumen-apposing stent

A 56-year-old woman with unresectable pancreatic cancer causing obstructive jaundice and anorexia was referred to our unit for tissue diagnosis and biliary drainage before undergoing evaluation by a medical oncologist. Previous endoscopic retrograde cholangiopancreatography (ERCP) to attempt biliary cannulation because of signs of severe tumoral invasion in the papilla area had failed, and biopsy specimens were negative for malignancy.

Endoscopic ultrasound (EUS) revealed a solid tumor of the pancreatic head, signs of vascular and duodenal wall invasion, and severe dilatation of the common bile duct (CBD) of up to 13 mm. During a single session, first EUS-guided fine-needle aspiration (FNA) was done with a 22-gauge needle, and rapid on-site cytopathologic evaluation revealed a malignant diagnosis (Fig. 1); second, EUS-guided biliary drainage was performed successfully.

All procedures were carried out under endosonographic guidance alone, without fluoroscopic assistance. The Hot AXIOS System (Xlumena, Mountain View, California, USA) was used to puncture the CBD directly from the duodenal bulb, without needle or guidewire insertion. A specific lumen-apposing stent was deployed successfully (Fig. 2).
diabolo-shaped biliary lumen-apposing metal stent (inner diameter 6 mm, length 8 mm) was successfully placed. All four steps of placing the delivery system were done under EUS guidance (Fig. 2). Transmural drainage, as a choledochoduodenostomy, was obtained, and a large amount of dark bile drained into the antrum and duodenum. The total duration of the procedure, from insertion to withdrawal of the linear echoendoscope, was 28 minutes.

This case is a good example of the successful development of dedicated devices designed to be used in interventional EUS, in such a way as to reduce procedure time, device exchange, technical steps, and possibly adverse events [1–3] and at the same time improve the final clinical outcome. As can be seen in Video 1, this cautery-tipped stent delivery system simplifies technique, making the difficult easy and allowing fluoroless EUS-guided FNA plus a choledochoduodenostomy [4,5] to be conducted in a single session.

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Joan B. Gornals¹, Claudia Consiglieri¹, Victoria Gallarreta¹, Juli Busquets², Isabel Catala³, Berta Laquente⁴

¹ Endoscopy Unit, Department of Digestive Diseases, Hospital Universitari de Bellvitge, IDIBELL, Barcelona, Spain
² Department of Surgery, Hospital Universitari de Bellvitge, IDIBELL (Bellvitge Biomedical Research Institute), Barcelona, Spain
³ Pathology Department, Hospital Universitari de Bellvitge, IDIBELL, Barcelona, Spain
⁴ Department of Medical Oncology, Institut Català d’Oncologia DíR, IDIBELL, Barcelona, Spain

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Corresponding author
Joan B. Gornals, MD, PhD
Endoscopy Unit
Department of Digestive Diseases
Hospital Universitari de Bellvitge, IDIBELL
Feixa Llarga s/n
08907 L’Hospitalet de Llobregat
Barcelona
Spain
Fax: +34-93-260-7681
jgornals@bellvitgehospital.cat

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