

Difficult pyloric intubation during EUS: Forward viewing echoendoscope to the rescue (with videos)

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A 60-year-old male with a history of EBV-positive squamous cell nasopharyngeal cancer underwent neck dissection in 2011. He developed recurrent disease in 2017, and a follow-up Positron emission tomography/computed tomography showed disease progression and incidental finding of abnormal FDG-avid lesion in the head of pancreas [Figure 1].

EUS was performed with a conventional oblique-viewing linear echoendoscope (OV-EUS). However, the transducer was not able to pass the pylorus due to likely pyloric spasm and fixed acute angulation of the prepyloric area causing significant fixed-resistance [Video 1]. Multiple attempts to pass the scope through the pylorus were unsuccessful. With the transducer located in the gastric antrum, a 15 mm × 12 mm well-defined, hypoechoic mass was identified in the head of the pancreas [Figure 2]. An initial attempt at transgastric EUS-FNA proved difficult, requiring passage of needle through significant normal pancreas, and was nondiagnostic by rapid on-site cytopathology evaluation.

Consequently, the decision was made to use the forward-viewing linear echoendoscope (FV-EUS).

This was able to safely traverse the pylorus while still experiencing minimal resistance [Video 2]. Transduodenal EUS-guided FNA was performed of the pancreas head mass with the 25-gauge needle [Figure 3a and b]. The cytology examination revealed fragments of poorly differentiated carcinoma with morphologic features favoring adenocarcinoma.

Gastrointestinal tract perforation induced by linear echoendoscope intubation has been reported with an

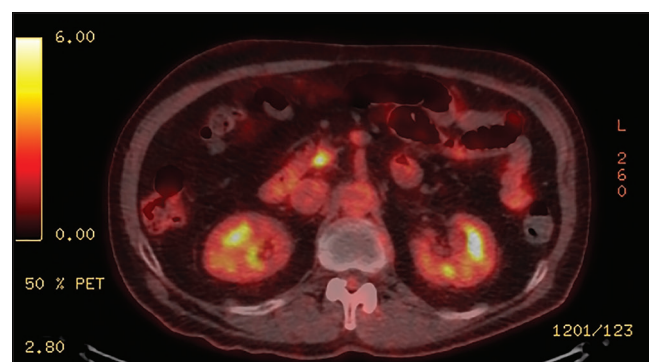


Figure 1. FDG-avid lesion in the head of the pancreas

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	DOI: 10.4103/eus.eus_64_19

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How to cite this article: Angsuwatcharakon P, Singh BS, Cazacu IM, Weston BR, Bhutani MS. Difficult pyloric intubation during EUS: Forward-viewing echoendoscope to the rescue (with videos). *Endosc Ultrasound* 2019;8:428-9.

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Received: 2019-07-05; **Accepted:** 2019-09-05; **Published online:** 2019-12-13

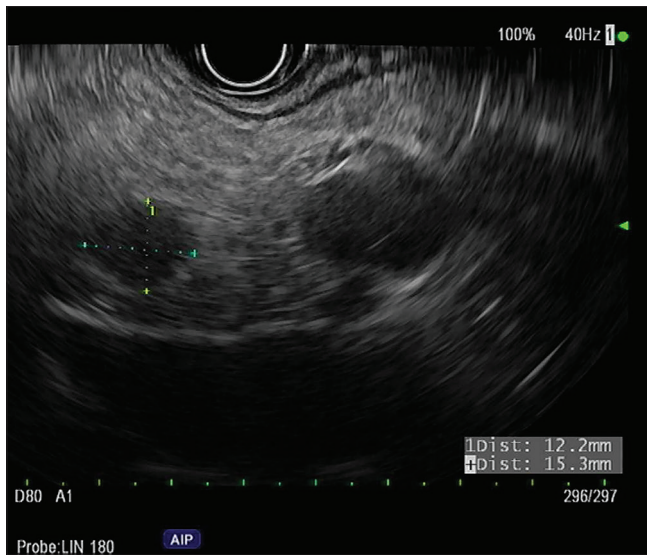


Figure 2. A 12 mm × 15 mm solid pancreatic lesion in the pancreatic head was identified by oblique-viewing-EUS when the transducer was in the gastric antrum

incidence of 0.1%, which is three times higher than that of radial echoendoscope.^[1] The oblique endoscopic view and the rigid tip can make the manipulation of the OV-EUS difficult and might increase risk of perforation. The FV-EUS has a forward endoscopic view and shorter tip with more bending ability than the OV-EUS.^[2] Although the FV-EUS has a limited scanning angle of 90° and lacks a balloon and elevator, a randomized study showed that FV-EUS is not inferior to OV-EUS in terms of identification of lesions in the gastrointestinal tract, technical success rate of tissue acquisition, and diagnostic accuracy.^[3]

In this case, we illustrate FV-EUS as a useful option to keep in mind for transduodenal pancreatic tissue acquisition in patients with difficult pyloric intubation with a conventional OV-EUS.

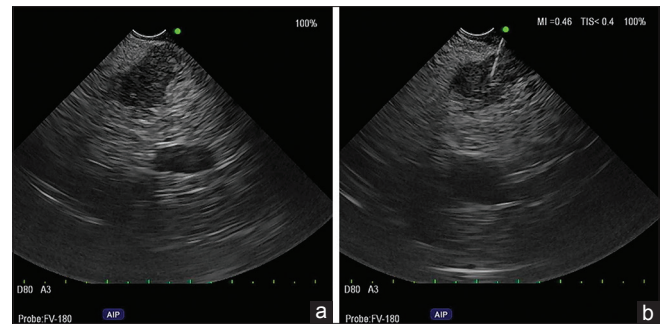


Figure 3. (a) EUS view using a forward-viewing echoendoscope showing a hypoechoic mass in the head of the pancreas. (b) EUS-guided FNA of the pancreatic head mass with forward-viewing echoendoscope

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initial will not be published, and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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