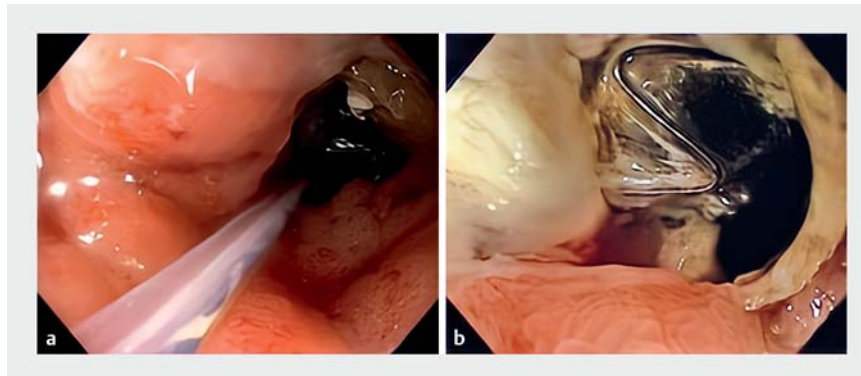


Duodenal stent fixation using through-the-scope helix tack and suture device

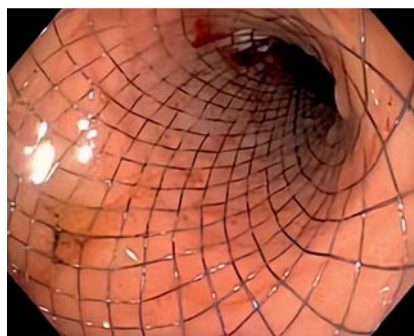
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Malignant gastroduodenal strictures are often managed with endoscopic stent placement [1]. One of the main limitations of duodenal self-expanding metal stents (SEMSs) is the risk of migration [2]. Multiple techniques have been used to prevent stent migration, including stent fixation using through-the-scope (TTS) clips, over-the-scope stent fixation devices, and endoscopic suturing [3,4]. TTS suturing using the helix tack and suture device is a novel suturing method that is generally used for defect closure, though it has been rapidly gaining popularity for alternate uses [5].

A 73-year-old man with pancreatic adenocarcinoma on neoadjuvant chemotherapy presented with 3 weeks of vomiting and abdominal distension. Imaging showed pancreatic adenocarcinoma with duodenal obstruction. Esophagogastroduodenoscopy showed duodenal stenosis caused by tumor infiltration at the duodenal sweep (► Fig. 1 a,b). The adult upper gastrointestinal (GI) endoscope was able to traverse the stenosis, which measured 2 cm in length, albeit with significant resistance. The tumor was borderline resectable, and according to our institutional protocol, endoscopic ultrasound-guided gastrojejunostomy is performed only for patients who are not surgical candidates; therefore, the decision was made to proceed with duodenal stent placement. An uncovered SEMS of 25 mm diameter and 10 cm length was placed across the stenosis (► Fig. 2). Given the upper GI endoscope had been able to traverse the stenosis, it was decided to fix the position of the stent. This would reduce any migration before stent expansion and tissue ingrowth could act to keep the stent in place. The TTS suturing device was used (X-Tack; Apollo Endosurgery, Austin, Texas, USA) and the stent was fixed with four tacks placed in a stent-mucosa-mu-



► Fig. 1 a Endoscopic image showing duodenal stenosis at the duodenal sweep. b Alternate view of duodenal stenosis; a previously placed biliary stent is seen.



► Fig. 2 Uncovered self-expanding metal stent placed across the duodenal stenosis.



► Fig. 3 Final view of the duodenal stent after fixation with four tacks placed in a stent-mucosa-mucosa-stent fashion using the through-the-scope tack and suture device.

cosa-stent fashion (► Fig. 3, ► Video 1). Finally, the Cinch component was deployed. No adverse events were reported within the first 4 weeks of the procedure. Duodenal SEMSs are widely used in the setting of malignant gastroduodenal obstruction. While uncovered stents typically carry a lower risk of migration compared to covered stents [1,2], in this case the apposition to the tissue was less than desired and thus the TTS suturing device was successfully used for stent fixation.

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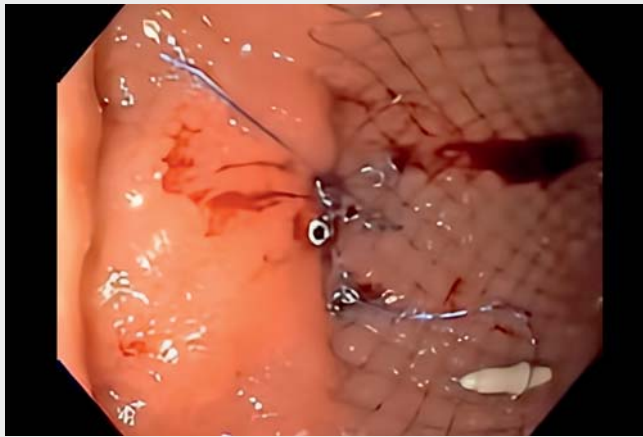
Competing interests

The authors declare that they have no conflict of interest.

The authors

Natalie Wilson¹✉, Nicholas McDonald², Bryant Megna², Mohamed Abdallah²✉, Mohammad Bilal³✉

1 University of Minnesota Medical Center, Department of Internal Medicine, Minneapolis, MN, USA



Video 1 Duodenal stent fixation using the through-the-scope helix tack and suture device.

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- 2 University of Minnesota Medical Center, Division of Gastroenterology and Hepatology Minneapolis, MN, USA
- 3 Minneapolis Veterans Affairs Health Care System, Minneapolis, MN, USA

Corresponding author

Mohammad Bilal, MD

Advanced Endoscopy, Division of Gastroenterology & Hepatology, Minneapolis VA Medical Center, 1 Veterans Drive, Minneapolis, 55417, USA
billa17@hotmail.com

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