

**PICTURES IN DIGESTIVE PATHOLOGY**

## Ultrasound-assisted technique for challenging jejunostomy balloon-tube replacements

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The authors present a case of a 38-year-old man with a 4-hour history of accidental removal of a jejunostomy balloon-tube replacement (PEG-18-BRT-S, Cook Medical Inc., Bloomington, USA). The patient had undergone a direct percutaneous endoscopic jejunostomy (DPEJ) ten months ago, before chemoradiotherapy treatment for an esophageal squamous-cell carcinoma (uT3N2cM0). His past medical condition included alcoholic liver disease and distal gastrectomy from a life-threatening duodenal bleeding ulcer. As partial stoma closure prevented replacement of the balloon-tube, a smaller diameter (14 Fr) catheter was gently introduced to evaluate the patency of the jejunostomy tract (Fig. 1A). Abdominal ultrasound was used to verify proper placement of the catheter into the jejunal loop (Fig. 1B),

further confirmed after intestinal distension upon instillation of water. A guide-wire was then introduced through the catheter which was subsequently removed leaving the guide-wire in place. After local anaesthesia with lidocaine, the DPEJ stoma was enlarged with a small scalpel incision. An identical balloon-tube was then gently advanced over the guide-wire (Fig. 2A) under ultrasound control, which confirmed its progression into the jejunal lumen (Fig. 2B). After replacement of the balloon-tube (Fig. 3A), the guide-wire was removed and the balloon was inflated (Fig. 3B).

DPEJ is a demanding and time-consuming technique (1-4). Most DPEJ-related complications are similar to those of percutaneous endoscopic gastrostomy (PEG) tubes, including unintentional removal (1,2,5). Late dislodge-

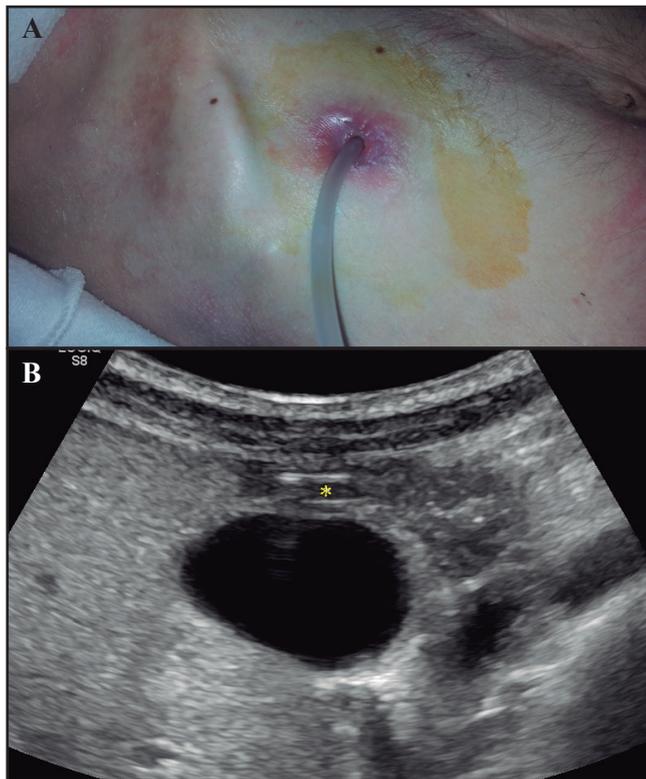


Fig. 1. A. Positioning of a catheter with a small diameter (14 Fr) to evaluate the patency of the enterocutaneous fistula. B. Ultrasound imaging depicting proper placement of the catheter into the jejunal loop (\*).

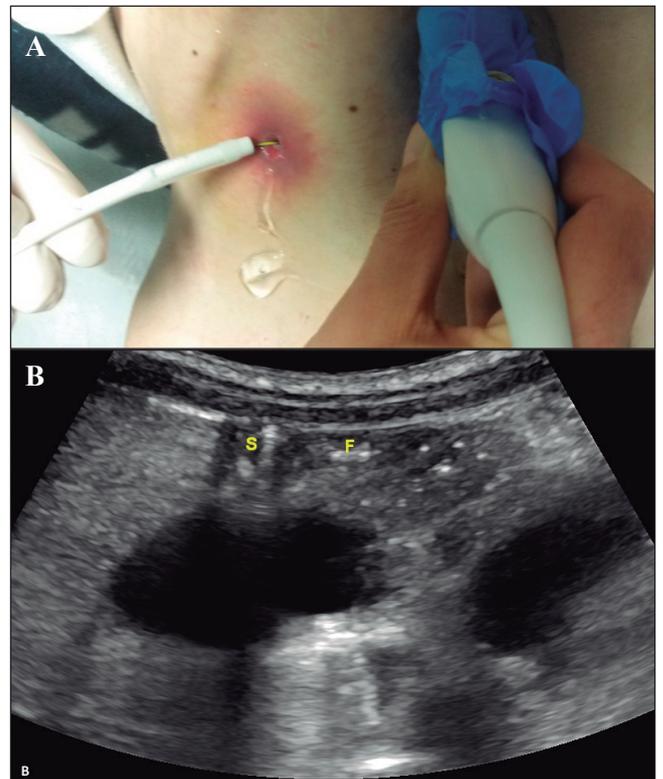


Fig. 2. A. Gentle advance of the balloon-tube over the guide-wire. B. Ultrasound imaging confirming the adequate advance of the balloon-tube ("S") over the guide-wire ("F") into the jejunal lumen.

ments occur when the fistula has matured, usually after 4 weeks, preventing peritoneal leakage (2,5). Following

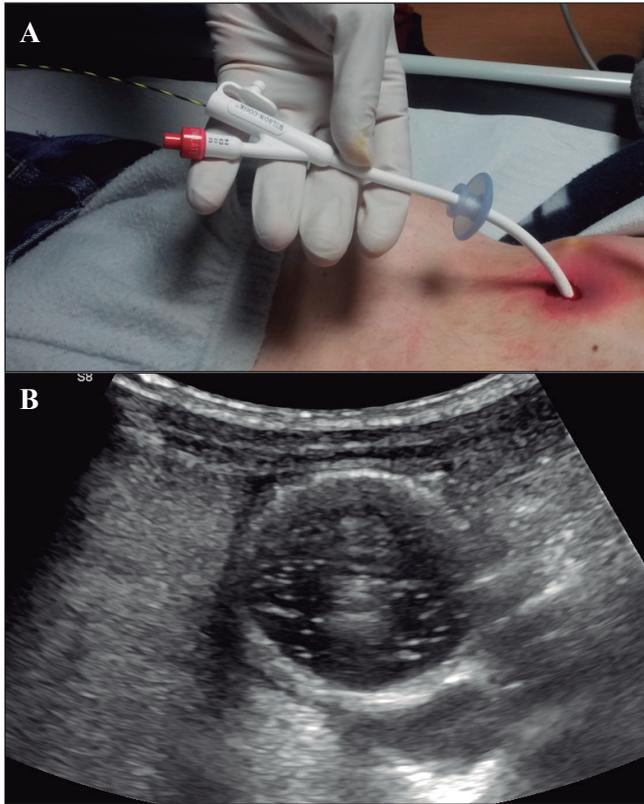


Fig. 3. A. Adequate placement of the balloon-tube. B. Ultrasound imaging showing the insufflation of the balloon.

tube displacement, the gastrocutaneous tract is prone to closure within 12-24 hours and efforts should be attempted to keep the fistula opened (2,5). Since partial closure of the stoma may prevent replacement of PEG and DPEJ tubes, some rescue techniques have been described to overcome these difficulties (5). This ultrasound-assisted technique also represents a valuable alternative approach for safe and successful replacements in the more fragile and complication-prone jejunostomy tracts.

#### ACKNOWLEDGMENT

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