Successful Overtube Assisted ERCP: A Single-Center Case Series

Patrick Hickey DO
Lehigh Valley Health Network, Patrick.Hickey@lvhn.org

Shashin Shah MD
Lehigh Valley Health Network, Shashin.Shah@lvhn.org

Hiral N. Shah MD
Lehigh Valley Health Network, hiral_n.shah@lvhn.org

Tanveer Imam MD
Lehigh Valley Health Network, tanveer.imam@lvhn.org

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Patrick Hickey, DO, Shashin Shah, MD, Tanveer Iman, MD and Hiral Shah, MD

Lehigh Valley Health Network, Allentown, Pennsylvania

BACKGROUND

- ERCP can be limited by navigation difficulties owing to the side-viewing deuodenoscope.
- Esophageal intubation can be difficult, particularly the elderly or altered/variant oropharyngeal anatomy.
- Standard forward-viewing gastroscopes can be used to better define anatomical concerns.
- Overtubes are plastic sleeves designed to fit over endoscopic devices as flexible, thin walled conduits to assist with endosocopy and help protect the hypopharynx from trauma, the airway from aspiration and the esophagus during foreign body extraction.[1]
- We describe two ERCP cases with difficult esophageal intubation successfully performed via forward-viewing gastroscope placement of overtubes.

CASE 1

- 90 year old female admitted for RUQ pain and nausea.
- **Ultrasound:** Intrahepatic and CBD dilation with choledocholithiais.
- **ERCP:** Unable to intubate the upper esophagus likely due to cervical osteophyte compression. A standard adult gastroscope was maneuvered into the upper esophagus and ruled out other anatomic anomalies. Repeat attempts with the duodenoscope failed. An overtube was then back-loaded on the gastroscope and placed into the esophagus allowing passage of the duodenoscope. ERCP revealed multiple CBD stones, only one of which was successfully removed.
- After biliary stenting and without post-procedural complications, follow-up ERCP removed all remaining stones.

CASE 2

- 47 year old male with muscular dystrophy and ventilator dependence with tracheostomy presented with abdominal pain that progressed to sepsis with hypotension and was admitted to the ICU. Liver tests showed an obstructive pattern.
- **Ultrasound:** Prominent bile ducts.
- The clinical picture was consistent with acute cholangitis requiring ERCP.
- **ERCP:** The duodenoscope encountered difficulty intubating the esophagus despite attempts by two endoscopists. An overtube was back-loaded onto a standard gastroscope and maneuvered into the esophagus showing a far lateral upper esophageal sphincter with scar tissue from tracheostomy. ERCP was completed through the overtube. Purulent material flowed after sphincterotomy and stones were swept from the duct.
- His sepsis resolved with antibiotics and he was discharged in improved condition.

CONCLUSION

- ERCP complications occur with a relatively high frequency.
- Andriulli et al. showed a 6.85% rate of ERCP complications in a population of 16,855 patients, with a perforation rate of 0.6%.[2]
- The use of overtubes to facilitate intubation of the esophagus has been described in two reports.[1,4]
- This case series describes ERCP using overtubes in patients with difficult esophageal intubation.
- This method may decrease the incidence of complications such as perforation, esophageal dissection or abortion of procedure.
- The overtube approach allows direct and safe esophageal intubation of the duodenoscope in difficult cases.
- More information is needed on this approach to ERCP with difficult esophageal intubation.

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