

Endoscopic management of recurrent tracheoesophageal fistula.

Authors: Richter GT, Ryckman F, Brown RL, Rutter MJ

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Abstract:

RATIONALE: Recurrent tracheoesophageal fistulas (RTEFs) remain a therapeutic challenge because open surgical approaches have been associated with substantial rates of morbidity, mortality, and repeat recurrences. Recently, endoscopic techniques for the repair of RTEF have provided an alternative approach with the potential for improved surgical outcomes. However, previous reports have been limited by small patient numbers and variations in technique. By examining a single institution's experience and performing a systematic review of previously published results, we aimed to identify an optimal approach to managing RTEF endoscopically.

METHODS: Retrospective chart review of patients undergoing endoscopic management of RTEF at a single tertiary care institution was performed. Medline search and summated analysis of previously published cases of endoscopically treated RTEF from 1975 to 2007 was conducted.

RESULTS: Four patients with RTEF were identified and selected for endoscopic repair at our institution from 2003 to 2007 (mean age, 11.5 months). Under endoscopic guidance, fistula tracts were de-epithelialized with a Bugbee fulgurating diathermy electrode (5-15 W) and then sealed with fibrin glue (Tisseel with added aprotinin). Closure of RTEF was successful in 3 patients after a single attempt. One revision was required after inadvertent recannulation of the tract with an emergent tracheostomy tube change. No patient has evidence of recurrence (mean follow-up, 16 months). In 15 articles of endoscopically repaired RTEF, 37 cases have been reported from 1975 until present. In general, 3 approaches to endoscopic repair have been explored. Analysis of all reported cases in

the literature and results from our patient series suggests that endoscopic techniques designed to both de-epithelialize the fistula tract and seal with fibrin glue have the best chance for cure after a single attempt. Patients with long, thin, and small diameter fistula who have enough distal trachea to accommodate a postoperative cuffed ventilating tube beyond the fistula are ideal candidates for endoscopic repair.

CONCLUSION: In select patients, endoscopic management of RTEF using Bugbee cautery and tissue adhesives can reduce morbidity and recurrence associated with open approaches and alternative endoscopic techniques.