Case 40
Medical University of South Carolina

• easily applied treatment to a difficult problem. without changing their ability to swallow. This study highlights a unique and reshaping of the patulous UES to a more physiologic shape in irradiated months. RSI scores improvement and maintained compliance with the device for greater than 6 months.

Methods:
Objective: In this series, three patient cases were successfully treated with the UES device fitting - 2: tracheoesophageal fistula

Introduction

Objectives: Demonstrate effectiveness of an FDA approved upper esophageal assist device in treating challenging cases of aspiration due to radiation and surgically induced patulous upper esophageal sphincters (UES)

Study Design: Case Reports

Results: Two patients with patulous UES resulting from dilatation of radiation induced UES stenosis and one patient with patulous UES from congenital tracheoesophageal fistula with a, a patent interposition reported symptomatic improvement and maintained compliance with the device for greater than 6 months. RSI scores and symptoms improved. Endoscopy examination in irradiated patients demonstrated reshaping of the patulous UES to a more closed and physiologic shape. The colonic interposition patient experienced less aspiration pneumonias from 6-8/year to one episode in 6 months.

Conclusions: This study demonstrates considerable resolution of aspiration and reshaping of the patulous UES to a more physiologic shape in irradiated patients. It decreased aspiration and eructation with speaking in all patients without changing their ability to swallow. This study highlights a unique and easily applied treatment to a difficult problem.

Case Reports

• Patient 1: 59 year old female presented to clinic with a history of class III nasopharyngeal carcinoma, previously treated with cobalt radiation. She initially presented for hypopharyngeal stenosis, dysphagia, and recurrent aspiration pneumonia. She was treated with scar lysis and excision of her pharyngeal wall from the piriform sinus which improved her dysphagia. She was found to have a wide open patulous UES after recurrent aspiration pneumonia requiring ventillator support and nasogastric tube placement.

• Patient 2: 72 year old female with a history of laryngeal cancer that was primarily treated with radiation therapy 30 years ago developed radiation fibrosis and esophageal stricture. She developed patulous UES after esophageal dilation. Her symptoms included frequent aerophagia with regurgitation of stomach mucus.

• Patient 3: 48 year old female with a history of VATER syndrome and multiple surgeries at birth for tracheoesophageal fistula, including a colonic interposition for a neo-oesophagus. She lacks an upper and lower esophageal sphincter and also underwent a partial laryngectomy for laryngeal stenosis in the past. She presented as an inpatient consult for recurrent aspiration pneumonia and endorsed nightly coughing episodes.

Discussion

• Radiation fibrosed patulous UES or a surgical neo-pharynx removes the natural barrier of the normal UES, which normally protects the pharynx from gastroesophageal contents.

• The Reza Band provides cricoid pressure to assist the upper esophageal sphincter with preventing reflux and aspiration pneumonia in patients with altered UES anatomy in this case series.

• Efficacy of this device was demonstrated by Shaker et al., in an experimental model that endoscopically documented the prevention of esophagopharyngeal reflux in 8 of 9 subjects who were exposed to a slow infusion of acid into the esophagus. However, the quality of evidence for this device would benefit from a randomized clinical trial.

• Our study is unique in that the patients had known anatomical disturbances of the UES. 2 of 3 patients had patulous UES after dilatation of a radiation fibrosed UES which was causing dysphagia – a common finding in head and neck cancer patients. The patients then had a new problem of reflux and aspiration pneumonia. Future studies focusing on the incidence and treatment of patulous UES after dilatation of radiation fibrous UES may give further insight into the pathophysiology of radiation fibrosis and life benefits resulting from use of the Reza Band.

Conclusions

• The UES is an often overlooked barrier against laryngopharyngeal reflux. Its functions become more appreciated in the setting of radiation fibrosis or a neo-UES, such as the patients presented.

• Patulous UES not only precipitates worse reflux symptoms, but played a role in recurrent aspiration pneumonia in two of three cases.

• After treatment with the Reza band UES assist device, the patients demonstrated improved symptoms and Reflux Symptom Index scores.

• Laryngoscopy exams also demonstrated improved closure and physiologic shape of their previously patulous upper cervical esophageal segments.

References


4. Babaei ZM. Refractory chronic cough due to gastroesophageal reflux: Definition, mechanism and management. World journal of surgery. Mar 1 1995;19(3):361-367. Efficacy of the Reza Band was demonstrated by Shaker et al., in an experimental model that endoscopically documented the prevention of esophagopharyngeal reflux in 8 of 9 subjects who were exposed to a slow infusion of acid into the esophagus. However, the quality of evidence for this device would benefit from a randomized clinical trial.


Contact

Phong Le, MD
Medical University of South Carolina
Department of Otolaryngology-Head and Neck Surgery
Email: PTLe@musc.edu