Successful surgical management of acquired benign broncho-esophageal fistula- a case report

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Abstract:
Acquired benign broncho-esophageal fistula in the adult is rare. We report a case of successful surgical management of broncho-esophageal fistula in a 38 year old female presenting to our department with paroxysms of cough and strangling for the past 2 years. Accurate pre-operative delineation of the fistulous tract, meticulous surgery with the intraoperative use of upper GI endoscopy and good post operative care helps in achieving a successful outcome.

Keyword: broncho-esophageal fistula

Background:
Acquired benign broncho-esophageal fistula in the adult is rare, and occurs as a complication of inflammatory disorders, foreign body ingestion, trauma and diverticula.[1] The results of surgical treatment are extremely gratifying.

Case Report:
A 38yr old female presented with paroxysms of coughing and strangling on oral ingestion for which she had multiple consults for two years. She was diagnosed to have Pulmonary Tuberculosis two years back and had completed Anti-tuberculosis treatment for 6 months. Upper GI Endoscopy revealed an esophago-respiratory communication at 29cms.
CECT chest and Abdomen revealed thickening of esophagus in lower third measuring 1.2cms and there was tracking of oral contrast from esophagus into right lower lobe bronchus. Endoscopic biopsy showed granulomatous lesion and no evidence of malignancy.

**Discussion:**

The treatment for esophagobronchial fistula may be conservative, nonsurgical and surgical. Treatment is based on stage, pattern, and places of the fistula, the patient’s general condition and individual preferences. The available local expertise and instruments and institutional protocol also affect management strategy. Managing conservatively with nasojejunal tube feeding, antibiotics and chest physiotherapy with change of posture should be tried initially before embarking on surgical treatment which proved to be futile in this case. Patients who have fistulas associated with active tuberculosis or syphilis should receive antibiotic therapy. Patients who have small fistulas and fistulas associated with exuberant granulation tissue are
treated with antibiotics in expectation of cure or alleviation of the local infection, preparatory to later surgical treatment. [1] The various endoscopic methods available include Celestin tubes, covered metallic stents, laser, endoclips, applying 10% sodium hydroxide solution followed by a 30% acetic acid solution to the fistula site with via bronchoscope. Stenting is initially tried on the esophageal side followed by double stenting if the initial attempt fails. Use of newly designed silicone stents for airway have been successful in some cases. Caution should be exercised with the use of stent as there has been reports of late complications in a significant proportion of treated patients. Accurate and successful deployment requires a thoughtful and skillful physician. Endoscopic occlusion therapies tried include fibrin glue, vicryl plug, fibrin tissue and a new liquid polymer sealant "Onyx". Other tissue adhesives used alone or in combination include histoacryl cement, aethoxysclerol, and 30% NaCl although the results using them have been mixed. The occlusion therapies are reported to have less complications compared to stents and other endoscopic techniques although one should be aware of the complications from the various substances used for occlusion. They are very helpful in high risk patients because of co-morbid illness, too old age or are severely malnourished. The surgical mode of treatment for benign esophagobronchial fistula has been the standard of care when conservative treatment fails. Demonstration of the oesophago-bronchial fistula, definition of its site and assessment of the condition of the pulmonary parenchyma are essential steps to be performed prior to surgery. The fistula is excised and interposed with viable tissue like pleural flap, pericardial fat, pedicled intercostal muscle. Division with surgical stapler has been a new modality which fires 2-3 rows of staples on either side before cutting. There has been increasing use of VATS (Video assisted thorascopic surgery) in the recent past among the surgical community.

Surgical treatment of EBF should be promptly performed after making a definitive diagnosis to avoid any aggravation of pulmonary complications and a possibly fatal outcome. This case is presented for its rarity and successful surgical management. We emphasise the adequate pre-op evaluation, pre-op preparation, use of on-table endoscopy, and meticulous surgery for a successful outcome.


