HIV post-tuberculous broncho-oesophageal fistulas: A surgical solution

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Summary: We present a patient with HIV/AIDS with multiple tracheo-oesophageal fistulas probably due to previous tuberculosis. An Ivor-Lewis procedure was successfully undertaken following stringent pre-operative preparation. Surgical repair of persistent post-tuberculous tracheo-oesophageal fistulas may be safely undertaken in selected patients with HIV/AIDS.

Keywords: trachea; oesophagus; fistula

CASE REPORT

In view of the number and size of the fistulas, the more predictable nature of a stomach conduit as well as patient co-morbid factors, an Ivor-Lewis procedure was undertaken with selective lung ventilation. The oesophagus was vertically incised at the suspected site of the fistulas. No subcarinal lymph nodes were evident. The oesophagus was then circumferentially excised around the fistulas leaving a 2 cm rim of tissue. Approximately 5 cm of oesophagus was excised proximally to the fistula and another 5 cm distal to it. The right fistula was closed in 2 layers using oesophageal tissue as a patch whilst the left was primarily closed using interrupted 3/0 Vicryl® absorbable. The repair was re-enforced with an intercostal muscle flap.

Ventilation was undertaken using an appropriately placed left sided double lumen Mallinckrodt endotracheal tube. The post-operative course was uneventful. She was discharged after two weeks and has remained well over the last year.

Discussion

Introduction

Due to its anatomical proximity, major airway-oesophageal fistulas predominantly occur as a complication of carcinoma of the esophagus.1 Trauma and chronic inflammatory disorders especially that of tuberculosis (TB) are the commonest non-malignant causes.1,4

Infection of the subcarinal, paratracheal and parabronchial lymph nodes is thought to result in caseative necrosis and abscess formation with eventual rupture into the oesophagus.
and trachea. Most patients with an infective aetiology present with respiratory symptoms and dysphagia. A real time fluoroscopy swallow study using a non-ionic iodinated contrast agent should be the initial investigation.

Though relatively rare, the incidence of benign major airway-oesophageal fistulas are increasing due to the high prevalence of immunosuppression associated with HIV/AIDS. It has also been hypothesised that the development of benign inflammatory fistulas may result from an acute or chronic traction diverticulum due to peri-oesophageal fibrosis secondary to a resolving adenitis. Other rarer causes include, primary tracheal ulcers and primary oesophageal tuberculosis.

A chronic cough or occasional dyspnea may be associated with small fistulas whilst paroxysmal coughing after ingestion of fluids and solids is usually suggestive of larger fistulas. Chronic fistulas may also result in increased susceptibility to recurrent pulmonary infections, eventually leading to bronchiectasis.

If the initial diagnostic investigations are unhelpful, usually due to collapse of the fistula tract, a CT oral contrast swallow may confirm the diagnosis. CT has a proven role in neonatal tracheo-oesophageal fistulas.

Conservative management or pre-operative patient preparation may include a period of total parenteral nutrition (TPN), anti-retroviral therapy, NGT and or percutaneous endoscopic gastrostomy (PEG) feeds. NGT feeds may delay healing of the fistula due to persistent physical contact, promotion of gastro-oesophageal reflux and the resultant colonisation of the NGT.

Surgery is usually required when benign fistulas are associated with pulmonary or mediastinal infection. The location of the fistula dictates the site of surgical incision required for repair. An interposition flap using muscle, pleura or pericardium is also necessary. Despite the high risk of oesophageal stent migration, this form of management may be necessary in patients unsuitable for surgery.

**Conflict of interest:** none declared.

**REFERENCES**