

Broncho-Esophageal Fistula, A Rare Complication of Pulmonary Tuberculosis – A Case Report

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Abstract: This paper presents a case report on broncho-esophageal fistula, a rare complication of pulmonary tuberculosis.

Keywords: broncho-esophageal fistula, large conglomerated peripherally enhancing lymph nodes, pulmonary tuberculosis.

1. Introduction

A Broncho esophageal fistula is a pathological condition that can occur as a result of direct neoplastic infiltration or necrosis between the bronchus and the esophagus. While esophageal manifestations of tuberculosis are rare, they can occur as a secondary manifestation of pulmonary tuberculosis or, in rare cases, as primary esophageal tuberculosis. It is crucial to make a prompt diagnosis and initiate appropriate treatment with anti-tubercular drugs and surgical correction of the fistula [1].

2. Case Details

Here is a case of a 33-year-old male who presented with complaints of cough on swallowing, inability to tolerate food, throat pain, breathlessness, generalized weakness and loss of weight since 1 month.

- No history of hemoptysis.
- No P/I/C/C/L/E

Examination: Pulse 111bpm SpO2:85 on RA

RS: right infrascapular inframammary infraxillary biphasic crepts+

3. Diagnostic Workup

- 1) Routine workup: Hb 9.4, TLC 20k Platelet: 108k, LFT RFT –WNL.
- 2) Sputum AFB 1+, GeneXpert: MTB detected, Rif resistance: not detected. Sputum KOH mount: No fungal filaments seen. Sputum bacterial and fungal culture negative [2].
- 3) CT CHEST (P+C):
 - 2.4x2x3.7 air-filled fistulous communication between thoracic oesophagus and right main bronchus at D6-D7 vertebrae level just below the bifurcation of carina s/o BEF.

- Multiple centrilobular nodules giving tree in bud appearance diffuse b/l lung parenchyma. Large patchy consolidation in Right middle lobe and right upper lobe with air bronchogram with surrounding GGOs.
 - Multiple large conglomerated peripherally enhancing necrotic lymph nodes pre-para tracheal pre-vascular subcarinal and largest right paratracheal measuring 3.8x3.8cm [3].
- 4) UGI scopy: 2 fistulas opening at mid oesophagus at 28 cm from incisors. Rest of the upper GI WNL [4].

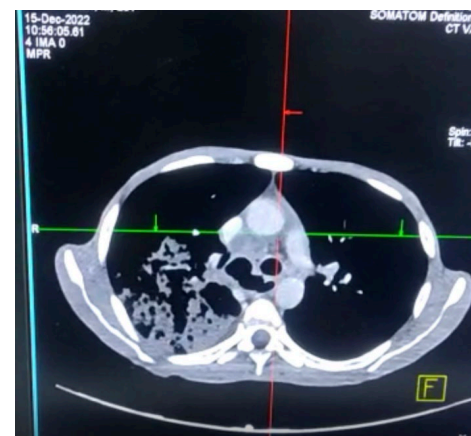


Fig. 1. CT image BEF connecting right main bronchus and esophagus (Blue Arrow)

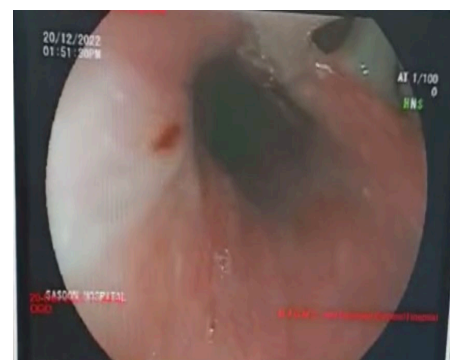


Fig. 2. Upper GI scopy images of 2 BEF (Blue Arrows). Rest of the findings were normal

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4. Treatment

Supplemental O₂, AKT (drug sensitive regimen HRZE according weight), broad spectrum and anaerobic antibiotic coverage, RT feeding, HPD, later feeding Jejunostomy was done as patient wasn't tolerating RT. Patient showed clinical improvement but owing to the size of the fistula is currently under consideration for esophageal stenting/thoracotomy with suturing and excision with interposition of flap.

5. Discussion

BEF is a rare complication of pulmonary tuberculosis (PTB) [5]. The development of BEF in tuberculosis and other granulomatous diseases is related to mediastinal lymph node involvement [6]. Inflammation around and in these nodes involves neighboring structures resulting in peri-esophagitis and peritracheitis. Further necrosis and caseation cause rupture into the trachea, bronchus, and esophagus, causing fistula formation [6]. There was evidence of numerous necrotic mediastinal lymph nodes in this patient; hence the fistula would have been caused by erosion of the lymph node rather than endobronchial TB or primary bronchial TB [6]. Primary esophageal TB, although rare, is important to rule out [7]. Patients don't tolerate food due to which there is poor quality of life and recurrent aspiration of food and gastric contents. Prompt treatment with AKT, control of sepsis, maintaining

good nutrition, and surgical correction of the fistula is of paramount importance [8].

6. Learning Points

The combination of mediastinal lymphadenopathy and cough following intake of food should alert the treating clinicians about possibility of BEF.

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