Bronchoesophageal fistula: a rare complication of non-small cell carcinoma (NSCLC) invading the mediastinum

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DESCRIPTION

An 80-year-old woman presented with complaints of progressive difficulty swallowing associated with productive cough, brownish sputum and shortness of breath. She had known history of 7 cm lung mass diagnosed 6 months prior to admission as an incidental finding on routine chest X-ray followed by CT scan of chest (figure 1). Her bronchoscopy and biopsies were consistent with small cell carcinoma of lung and she underwent bronchoscopic fulguration few weeks later for reducing tumour burden.

At the time of admission, the patient was in mild respiratory distress. She had blood pressure of 140/90 mm Hg, heart rate 115 beats/min, respiratory rate 22 breaths/min with 92% room air saturation. Patient had an esophagogram (figure 2) to evaluate the cause of dysphagia during which patient immediately aspirated in her both right and left main stem bronchi indicating bronchoesophageal fistula

Figure 1 Chest CT scan demonstrating a large 6×7 cm low-density left hilar cancer with mass effect on the posterior lateral oesophagus indicating bronchogenic carcinoma metastasising to the oesophagus.

Figure 2 Barium esophagogram illustrating contrast aspiration in bilateral main stem bronchi.

Video 1 Video file of the contrast esophagogram.

(BEF) formation (video 1). Her follow-up chest X-ray showed aspirated contrast in bilateral lower lung fields with small pleural effusions. Despite the presence of symptoms, patient was a poor surgical candidate for repair of fistula or gastrostomy tube placement and was referred to palliative care.

In literature, reported incidence of BEF secondary to carcinoma of lung is 0.3% and only <1% are caused by bronchogenic carcinoma of lung.^{1,2} Mortality risk increases significantly from the cancer in the setting of BEF formation due to aspiration pneumonia and overall deterioration in health.¹ The aetiology of BEF is chronic inflammation, infections, iatrogenic or penetrating thoracic trauma and malignancies. For a physician, it can be a therapeutic challenge to diagnose due to its atypical presentation. Most common symptoms of BEF is cough after having oral fluid

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intake (Ono's sign), dysphagia, recurrent pulmonary infections, malnutrition and sepsis.^{3 4} Barium esophagogram is the most reliable exam for detection of BEF.⁴ Treatment includes thoracotomy, video-assisted thoracoscopic surgery, silicon prosthesis, sclerosing substance injection at fistula site via endoscopy, bare metal stent and self-expanding metal stents.^{3 4}

Learning points

- ▶ Common symptoms of bronchoesophageal fistula (BEF) are paroxysmal cough, coughing after oral fluid intake (Ono's sign), dysphagia, recurrent pulmonary infections, malnutrition and sepsis.
- ▶ Barium esophagogram is a most sensitive exam for detection of BEF.
- ▶ Clinical suspicion for BEF should be high in patients who presents with symptoms of dysphagia, recurrent pneumonia and sepsis in presence of known neoplastic conditions.

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