

Broncho-oesophageal fistula after lung cancer treatment

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DESCRIPTION

A 67-year-old Japanese man with locally advanced squamous cell lung cancer developed radiation pneumonitis after radical radiotherapy with concurrent carboplatin and paclitaxel followed by durvalumab. During the steroid treatment for radiation pneumonitis, he experienced a cough that worsened after drinking liquids.

Chest X-ray revealed the formation of a cavity in the mediastinum shadow and a chest CT scan also showed a cavity in the right lower lobe, where the lung cancer was originally located, and communicated with the bronchus intermedius ([figure 1](#)). Furthermore, the broncho-oesophageal fistula was diagnosed using oesophagography ([figure 2](#)).

Despite treatment, including an oesophageal stent for broncho-oesophageal fistula, he died of massive hemoptysis. We confirmed the cavity as the origin of bleeding following pathological autopsy.

Broncho-oesophageal fistula is defined as a communication between bronchus and oesophagus



Figure 1 Axial CT shows a 4 cm cavitary lung lesion (arrow).



Figure 2 Oesophagography shows a broncho-oesophageal fistula and a cavity in the right lower lobe (arrow).

Learning points

- ▶ For prompt diagnosis of broncho-oesophageal fistula, we clinicians should be attentive to the cough while eating or drinking in the patient after lung cancer treatment, especially radiotherapy.
- ▶ The multidisciplinary discussion is important to determine the appropriate treatment for broncho-oesophageal fistula.

and divided into congenital or acquired. The causes of acquired broncho-oesophageal fistula include malignancy, infections and trauma.¹ In patients with malignancy, broncho-oesophageal fistula results from direct invasion of oesophageal or lung cancer or as a complication of cancer treatment, such as surgery, radiation, chemotherapy and instrumentation including oesophageal stents.²

The incidence of broncho-oesophageal fistula secondary to lung cancer is 0.3% and is relatively high after radiotherapy.³ Cough is the most common symptom of broncho-oesophageal fistula (56%) and coughing while eating or drinking (Ono's sign) is typical.^{2,3} Although broncho-oesophageal fistula can be treated with surgery, oesophageal or bronchial stenting and endoscopic closure, most patients die of infection or bleeding within 3 months from onset.^{3,4} Furthermore, this patient had some risk factors for fatal hemoptysis such as squamous cell carcinoma and major cavitation.⁵

We should diagnose the broncho-oesophageal fistula promptly especially in the patient with squamous cell lung cancer after radiotherapy, then, determine the appropriate treatment for broncho-oesophageal fistula via multidisciplinary discussion.

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