

Esophagomediastinal and esophagobronchial fistulas associated with invasive aspergillosis

A 67-year-old woman was diagnosed as having esophageal cancer. She was given neoadjuvant chemoradiotherapy and esophagectomy was carried out. Reconstruction was accomplished with a gastric pull-up through the posterior mediastinal route. After 6 years of the treatment, the patient had high grade fever, which was refractory to treatment with antibiotics. A chest computed tomography (CT) scan demonstrated mixed fluid and soft tissue density in the posterior mediastinum, partially within the wall of the esophagus (● Fig. 1). A Gastrografin esophagogram confirmed the existence of esophagomediastinal and esophagobronchial fistulas (● Fig. 2). We considered these fistulas as the cause of the fever, and carried out percutaneous drainage. Gastrointestinal endoscopy revealed an esophagomediastinal fistula with necrotic tissues (● Fig. 3). Although both sputum and blood cultures did not reveal the causative organism, high levels of serum galactomannan (whose production is proportional to the *Aspergillus* fungal load in tissue) were demonstrated (> 5.0 ng/mL; cut-off value < 0.5 ng/mL). On the basis of this finding, along with the persistent fever and CT appearances, a diagnosis of probable invasive aspergillosis was made in accordance with the European Organisation for the Research and Treatment of Cancer/Mycoses Study Group (EORTC/MSG) consensus criteria [1]. Treatment with antifungal agents led to a fall in the temperature, reduction in the hematological parameters, including galactomannan, and resolution of the radiological findings. At 1 month, endoscopy revealed healing of the fistula (● Fig. 4).

Aspergillus is a common airborne organism that can be highly pathogenic under immunocompromised conditions such as prolonged neutropenia after chemotherapy or organ transplantation [2]. Mediastinitis caused by *Aspergillus* infection usually occurs by airborne contamination of the cardiothoracic surgical field in the months following the surgery [3]. Invasive aspergillosis is a fairly rare condition, but

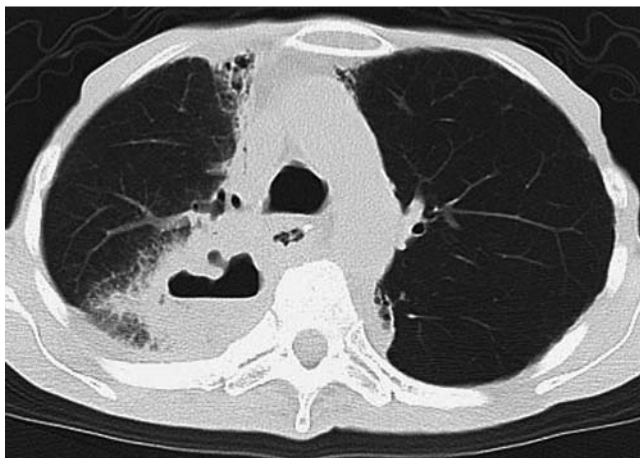


Fig. 1 A fluid and soft tissue density seen in the posterior mediastinum, which was not separable from the reconstructed esophagus.



Fig. 2 Gastrografin esophagogram showing perforation of the reconstructed esophagus with contrast flowing into the mediastinum and into the bronchial tree in the upper lobe of the right lung.

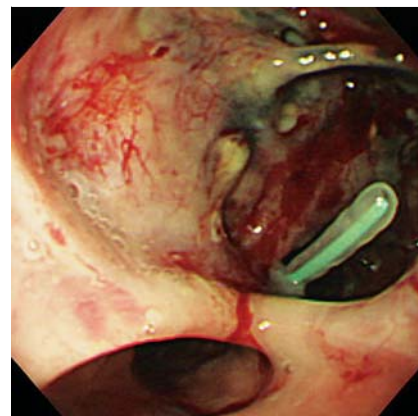


Fig. 3 Gastrointestinal endoscopy showing an esophagomediastinal fistula surrounded by necrotic tissue. A drainage tube was inserted into the fistula via the percutaneous route.

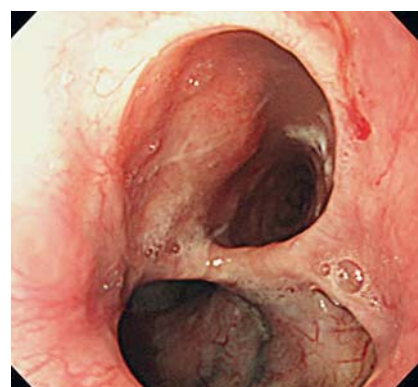


Fig. 4 At 1 month after treatment with antifungal agents and percutaneous drainage, endoscopy showed healing of the fistula.

can be devastating if there is a delay in diagnosis [4]. This diagnosis needs to be considered in a patient with antibiotic-refractory infection in the presence of local immunocompromising factors such as irradiation-induced lung injury.

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