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 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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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.

References

Bibliography
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