Abstract  We report a case of a mediastinal teratoma associated with acute mediastinitis that required an emergency operation. These tumors cause a variety of complications, but reports of acute mediastinitis are rare. A 24-year-old woman was admitted to our hospital for complaints of chest pain and fever and was subsequently diagnosed as having an anterior mediastinal tumor. Follow-up computed tomography showed rapidly progressing acute mediastinitis, which was diagnosed as a perforation of the teratoma. We performed emergency surgical extirpation of the tumor and mediastinal drainage. The histopathologic diagnosis was a mature teratoma that included pancreatic tissue. Although the apparent site of the rupture was not obvious, there was a wide area of acute inflammation in the mediastinal adipose tissue. The patient did well and was discharged from the hospital without major complications.

Key words  Mediastinal teratoma · Surgery · Acute mediastinitis

Introduction

Mediastinal teratomas are often benign and asymptomatic. Mature teratomas occasionally rupture into adjacent organs (lung, bronchus, pericardial sac). However, perforation into the mediastinum is rare. We report a case of a mediastinal teratoma that was complicated by acute mediastinitis. Follow-up computed tomography (CT) findings were suggestive of an anterior mediastinal teratoma that had ruptured into the mediastinum; acute mediastinitis was progressing, which warranted emergency surgery.

Case report

A 24-year-old woman developed a persistent fever and was kept under observation conservatively at a local hospital for 10 days. On the 11th day, she also developed chest pain and immediately visited our emergency outpatient clinic. There was nothing unusual in her previous or family history, and she had no history of trauma. Her blood pressure was 116/74 mmHg, pulse 105/min, and temperature 38°C. Her white blood cell (WBC) count was 13 500/mm³ and her C-reactive protein 8.45 mg/dl. Serum carcinoembryonic antigen (CEA), human chorionic gonadotropin (hCG), serum soluble interleukin-2 (IL-2) receptor, and α-fetoprotein (AFP) were normal.

Chest radiography showed bilateral hilar masses and a right shift of the trachea (Fig. 1). Chest CT revealed a heterogeneous cystic mass, approximately 8 cm in size, over the anterior mediastinum (Fig. 2a,b). Stenosis of the left main bronchus was caused by compression by a tumor. We diagnosed a mediastinal inflammatory tumor that was compressing the airway and admitted her to the
Therefore, we considered emergency surgery and mediastinal drainage. Median sternotomy revealed a cystic tumor with a wide area of acute mediastinitis. The tumor adhered strongly to the left side of the trachea and the left brachiocephalic vein. The perforation site was not obvious. We resected the cystic tumor along with adjacent pericardium, necrotic mediastinal soft tissue, and pleura. The pericardial defect was not restored because the defect was not large and artificial material might cause infection after surgery. The thoracic cavity and mediastinum were irrigated with 1000 ml saline after removal of the tumor. Four thoracic and mediastinal tubes were placed for possible postoperative mediastinal irrigation. The resected tumor was 11.5 × 8.8 × 5.8 cm in diameter, encapsulated with a thick wall and had yellow-white polycystic components (Fig. 3a). The tumor had adhered to the adjacent tissue.

Acute inflammatory changes were observed in the mediastinal adipose tissue around the tumor (Fig. 3b). Histological findings showed a mature teratoma with many pancreatic tissue cells (Fig. 3c,d). The tumor contained gastrointestinal ducts, including duodenum-like mucosa. However, there were no histological signs of proteolysis or lipolysis in the resected specimen. Cultures of the resected tumor and effusion were negative. Pancreatic amylase levels in the tumor contents and effusion were not evaluated.

After surgery, the pleural effusion was clear, and it was negative for signs of infection; therefore, irrigation of the mediastinum was not added postoperatively. Chest tubes at the right and left sides were removed on postoperative days (PODs) 4 and 6, respectively. Her