

Successful Diagnosis of Pulmonary Artery Sarcoma by Contrast-Enhanced Computed Tomography

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Abstract: Pulmonary artery sarcoma is a rare tumor of the cardiovascular system. We reported a case of primary pulmonary artery sarcoma. In this case, the patient was misdiagnosed with tuberculosis for nearly 1 year and diagnosed by contrast-enhanced computed tomography and histopathologic examination at last.

Key Words: Pulmonary artery sarcoma, Diagnosis, Contrast-enhanced computed tomography.

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A 21-year-old first presented with cough, fever, and hemoptysis in May of 2006. He did not improve with antibiotics and a noncontrast computed tomography (CT) showed a right upper lobe cavity. His protein purified derivative, sputum, and bronchoscopic specimens were negative, yet he was empirically treated with antituberculosis treatment. Follow-up noncontrast CT in October 2006 showed the cavity was smaller. Due to persistence of cough, fever, and a 5 kg weight loss, a repeat CT in July 2007 showed new nodules in the right lung and the cavity was disappeared. He was referred to our institution where a contrast CT showed the filling defect spanned the entire luminal diameter of the main and right pulmonary arteries, and several nodules in right lung. The mass expanded the artery and the initiation of left and right pulmonary arteries were nearly obstructed (Figure 1). The possibility of pulmonary artery sarcoma was entertained. With CT guide, right lung nodule punctation was performed. Pathology of lung tissue demonstrated the possibility of pulmonary artery sarcoma. In August 2007, the patient underwent pulmonary artery exploration and resection of the lobu-

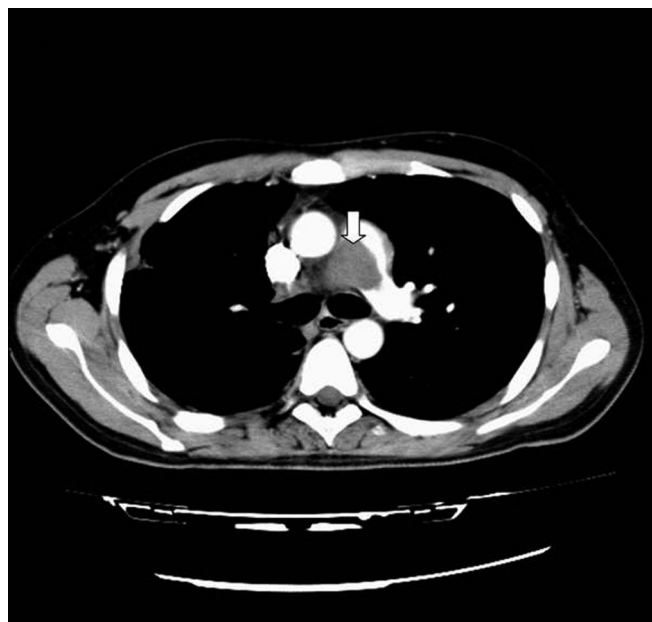


FIGURE 1. Contrast-enhanced CT showing a filling defect (arrow) in the main and right pulmonary arteries.

lated mass from the main and right pulmonary arteries, and the whole right lung was also resected. Gross pathologic appearance of the sarcoma showed pulmonary artery was obviously expanded, with the tumor adhered the vessel wall. Histopathologic examination of the specimen was consistent with intimal sarcoma of pulmonary artery.

Pulmonary artery sarcoma is a rare tumor of the cardiovascular system, and very few cases have been reported in the literature. Clinical presentation includes dyspnea, chest or back pain, cough, and hemoptysis, as well as signs and symptoms of pulmonary hypertension and systolic murmur in pulmonary valve area. Because the symptoms were delitescence and not typical or specific, the correct diagnosis of pulmonary artery sarcoma is difficult and frequently delayed, as it is often confused with chronic

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thromboembolic disease.^{1,2} Contrast-enhanced CT has been shown to be useful in the diagnosis of pulmonary artery sarcoma. Contrast-enhanced CT scans show the tumor as an intraluminal filling defect which resembles a thromboembolus.³ The filling defect frequently spans the entire luminal diameter of the main or proximal pulmonary arteries, and this finding is unusual in pulmonary thromboembolism as seen in the case presentation. Primary pulmonary artery sarcoma is strongly indicated if the mass expands the artery. Other findings which may be helpful for distinguishing a pulmonary artery sarcoma from a

thromboembolus include extension into the mediastinum or lung and delayed enhancement at CT angiography.

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