

IMAGES IN PULMONARY, CRITICAL CARE, SLEEP MEDICINE AND THE SCIENCES

Perioperative Cerebral Infarction Secondary to Pulmonary Vein Tumor Thrombus in a Patient with Lung Myxofibrosarcoma

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A 28-year-old man presented with a lung mass, incidentally found by chest radiograph (Figure 1A). Physical exams revealed no subcutaneous lesions. Contrast-enhanced computed tomographic imaging revealed a rounded, mildly enhanced mass in the right upper lobe, with a tumor thrombus in the right upper pulmonary vein but no intracardiac extension (Figures 1B and 1C). Transthoracic echocardiogram ruled out left atrial thrombus. Right upper lobectomy was performed. Pathology confirmed the lung mass as high-grade myxofibrosarcoma (Figure 1D). Unfortunately, the patient remained in a comatose state after anesthesia recovery. Immediate head and neck computed tomographic angiography was performed. It demonstrated total occlusion of bilateral carotid arteries with massive cerebral infarctions (Figures 1E and 1F). Despite aggressive therapy, his condition evolved toward death.

Pulmonary vein tumor thrombus (PVTT) is an exceedingly rare occurrence and most often associated with primary or metastatic pulmonary malignancies (1, 2). To our knowledge, this is the first case of PVTT related to primary pulmonary myxofibrosarcoma. PVTT may predispose to fatal outcome such as stroke owing to migration of tumor embolus and occlusion of carotid or cerebral arteries (3). Patients with lung malignant neoplasms should be alerted to this rare but potentially fatal complication. Lobectomy with cardiopulmonary bypass might be feasible to prevent systemic embolization (4).

Written consent for publication was obtained from the patient's father. ■

Author disclosures are available with the text of this article at www.atsjournals.org.

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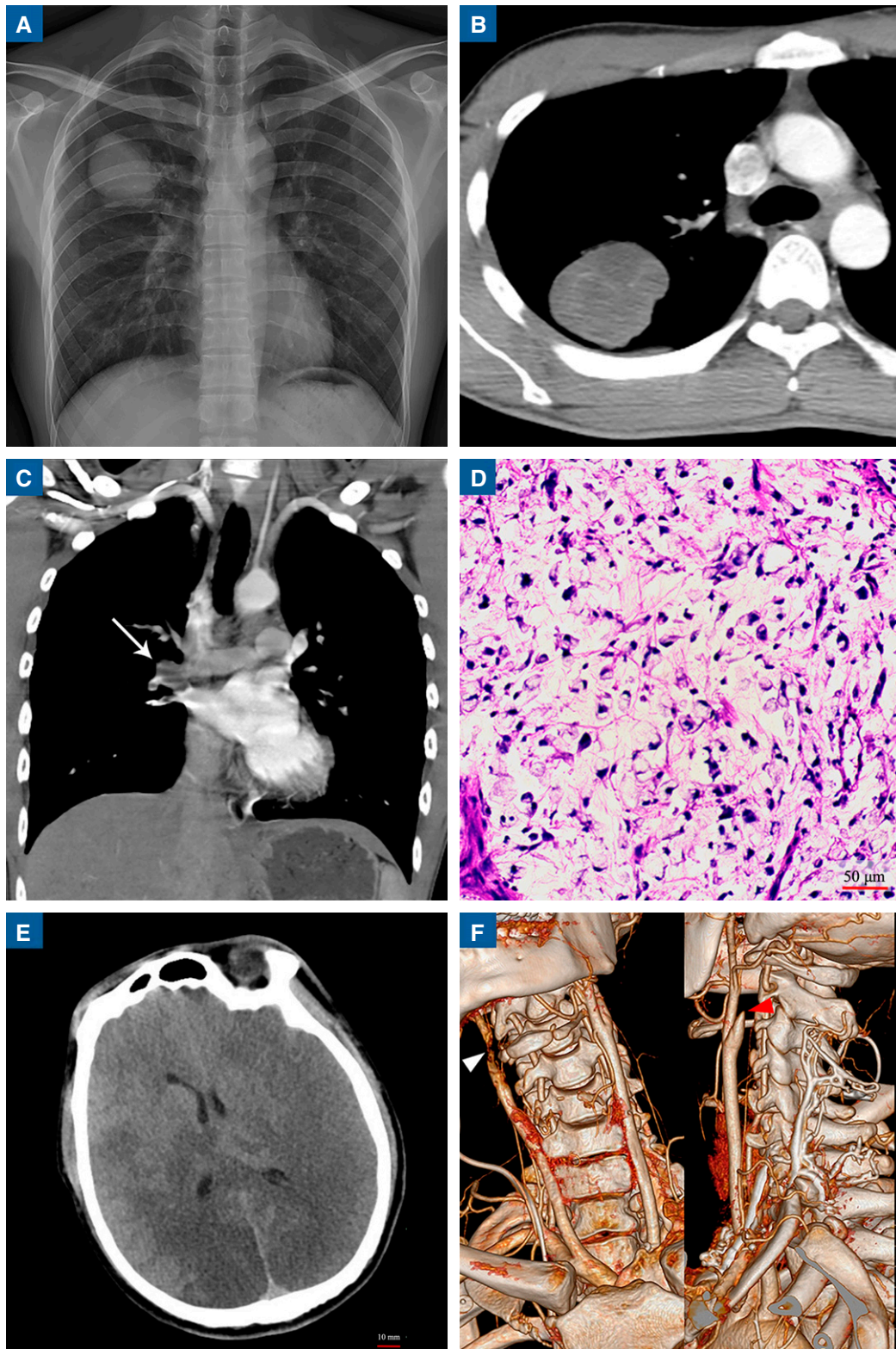


Figure 1. (A) Chest radiograph showing a mass in the right upper lung. (B and C) Contrast-enhanced computed tomographic (CT) imaging demonstrating mild enhancement of the mass (B) with tumor thrombus in the right upper lobe pulmonary vein (C, arrow). (D) Histological examinations of the pulmonary mass showing diffuse proliferation of spindle and epithelioid-like cells in abundant myxoid stroma. Highly pleomorphic cells with curvilinear vasculature and conspicuous mitotic figures were also seen. (E) Postoperative brain CT imaging confirming bilateral extensive cerebral infarctions. (F) Postoperative CT angiography showing occlusion in the left internal carotid artery (red arrowhead) and right common carotid artery (white arrowhead). Scale bars: D, 50 μ m; E, 10 mm.