Medical Image of the Week: Pulmonary Vein Thrombosis

Figure 1. Axial CT view shows the thrombus in the pulmonary vein (arrows) and collateral formation.

Figure 2. Coronal view of thoracic CT angiography showing thrombus in the pulmonary vein (arrow).

A 71-year-old woman with chronic lymphocytic leukemia and remote left lower lobe pneumonectomy presented to the emergency department from an outpatient clinic with symptoms of cough, progressive shortness of breath, and fatigue for 2 weeks. Pertinent physical examination findings included adequate oxygen saturation at room air, known II/VI systolic mitral murmur with radiation through the precordium, and a well-healed left lower lobe pneumonectomy scar. Imaging was remarkable for acute pulmonary venous thrombosis (PVT) of the left inferior pulmonary vein with involvement of several tributary veins (Figures 1 and 2). Given the rarity of PVT, treatment guidelines have yet to be established (1); however, consensus appears to be systemic anticoagulation, thrombectomy, or resection (1-3). Therefore, the patient was initially placed on a heparin drip upon admission and was discharged on an oral anticoagulant.

Pulmonary vein thrombosis (PVT) is a rare condition only described through case reports, that is potentially life threatening and presents with nonspecific symptoms. Common inciting events are lung transplantation, pneumonectomy (typically early after surgery and mainly left upper lobe pneumonectomy), radiofrequency ablation complication, malignancy (either lung or metastatic), idiopathic and atrial fibrillation (1-3).

Close clinical follow up is necessary as life-threatening complications can occur, such as gangrene of the lung (which can occur if there is no collateral circulation from the intercostal veins) or embolic stroke (3). Current literature review suggests CT or MRI as imaging modality of choice for tracking regression or resolution of disease. TEE may also be used to assess for extension of thrombi into the left atrium (1,3).

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References

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