Physician - Aortic (Thoracic) Pathologies and Surgery/Endovascular Interventions

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Optimal Management of Thoracic Aortic Mobile Thrombus: Lessons From Clinical Cases

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Thoracic aortic mobile thrombus (TAMT) is a rare and potentially life-threatening condition, often detected due to thromboembolic events. Early diagnosis has improved with advanced imaging modalities such as computed tomography and magnetic resonance imaging. However, no definitive treatment algorithm exists; options include medical management, hybrid approaches, endovascular therapy, and open surgery. This report discussed options in two TAMT patients at our center. In the first case, a 59-year-old female with diabetes and hypertension presented with back and flank pain. Computed tomography angiography revealed a 5.5-cm descending aortic thrombus, with additional splenic and renal infarcts. Emergency thoracic endovascular aortic repair was performed, successfully excluding the thrombus with no embolic events. The patient was discharged on anticoagulants and remained asymptomatic on follow-up. In the second case, a 44-year-old male without comorbidities presented with abdominal pain. Computed tomography angiography showed five descending aortic thrombi, with infarcts in the spleen and kidney. Catheter-directed thrombolysis was performed using alteplase. All thrombi lysed without complications, and the patient was discharged on anticoagulants. Follow-up imaging showed no residual thrombi. Thoracic aortic mobile thrombi can lead to severe complications, including systemic embolization and organ failure. Risk factors include hypercoagulability and conditions such as hypertension and diabetes. Treatment must be individualized based on thrombus location, patient condition, and center expertise. In our cases, thoracic endovascular aortic repair was chosen for a localized thrombus, while multilocation thrombi were managed with thrombolysis. Thrombolytic therapy requires careful monitoring of fibrinogen levels to minimize bleeding risk. With no current guideline directions, treatment should be tailored to the patient by weighing the risks and benefits of interventions based on individual patient factors and institutional resources.

Keywords: Acute aortic syndromes, endovascular procedure, thoracic aorta, thrombolytic therapies.

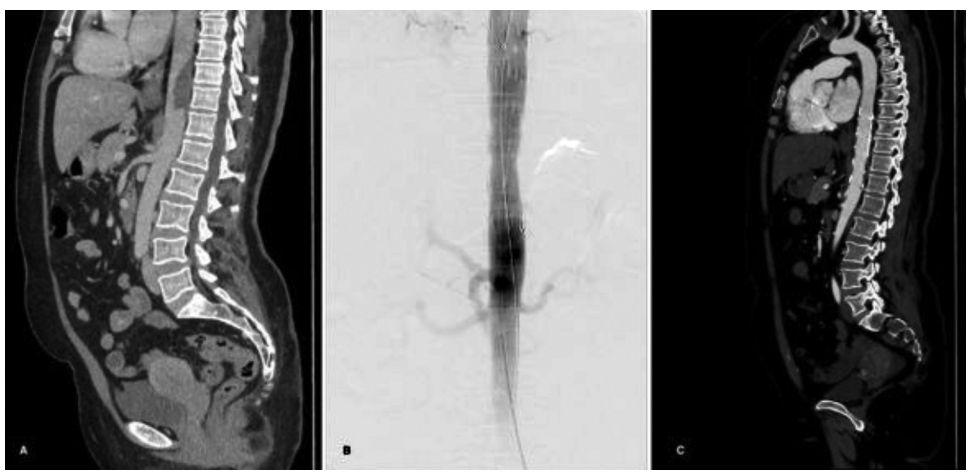

Figure 1. (A) Preoperative sagittal view of the computed tomography angiography demonstrating a large thrombus in zone 5 of the thoracic aorta. (B) Control angiogram of the thoracic aorta following the thoracic endovascular aortic repair. (C) Control computed tomography angiography of the patient at the two-month follow-up.

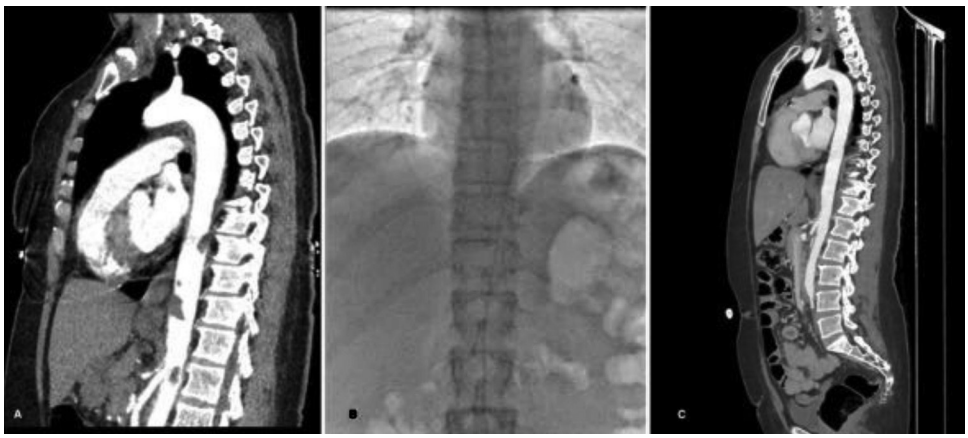

Figure 1. (A) Preoperative sagittal view of computed tomography angiography demonstrating multiple thrombi in the thoracic aorta. (B) Control angiogram of the thoracic aorta showing physician-modified catheter placement. (C) Control computed tomography angiography of the patient at the two-month follow-up.

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