

Aortic Arch Thrombosis in the Setting of a Patent Foramen Ovale

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BACKGROUND

Thrombosis in the high-flow aortic arch is rare. We describe a unique case of known DVT in the setting of a patent foramen ovale (PFO) leading to thrombosis of the aortic arch and its major branches.

CASE

A 50-year-old male with known lower extremity DVT presented with recurrent near-syncopal episodes. Chest computed tomography angiography (CTA) demonstrated a PFO and extensive thrombus in the aortic arch extending into the brachiocephalic trunk, right common carotid artery, and left subclavian artery. He was started on apixaban. At one month follow-up, patient-reported symptomatic improvement and repeat CTA showed a substantial reduction in clot burden.

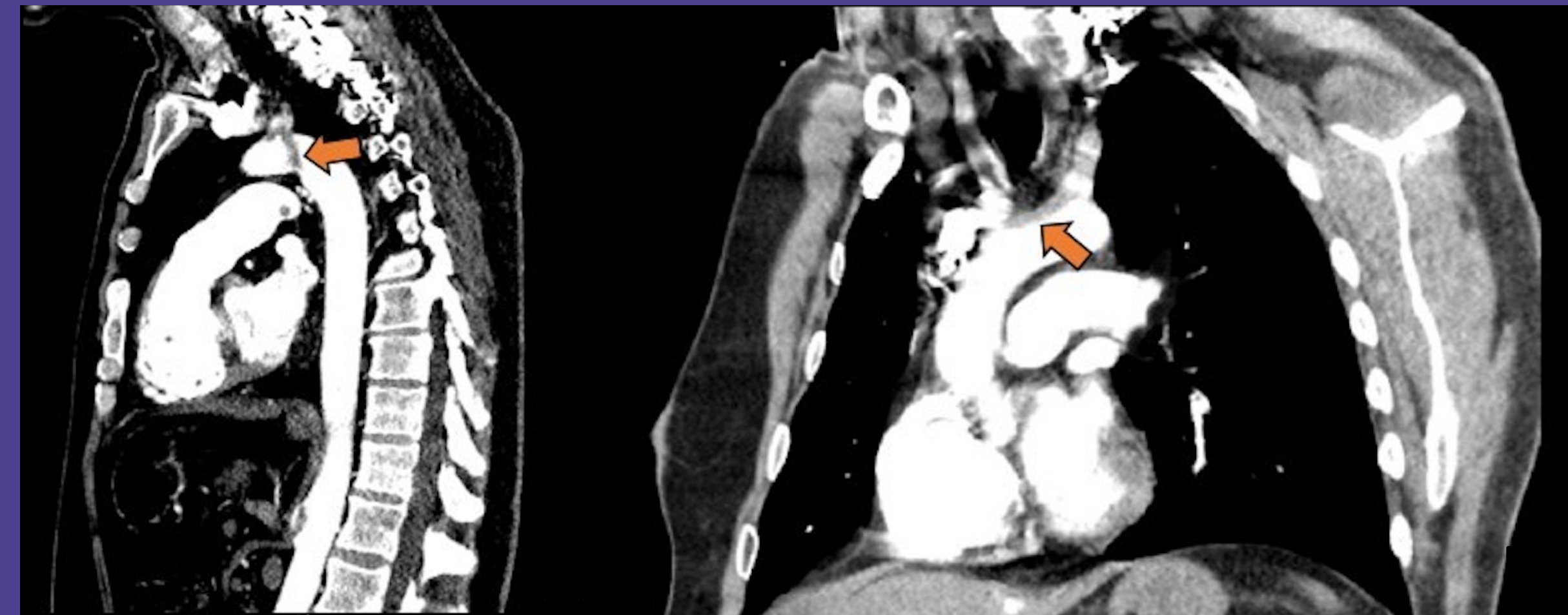


Figure 1: CT scan images from the time of admission. The sagittal view (Left) and the coronal view (Right) show extensive clot burden in the aortic arch extending into the main branches

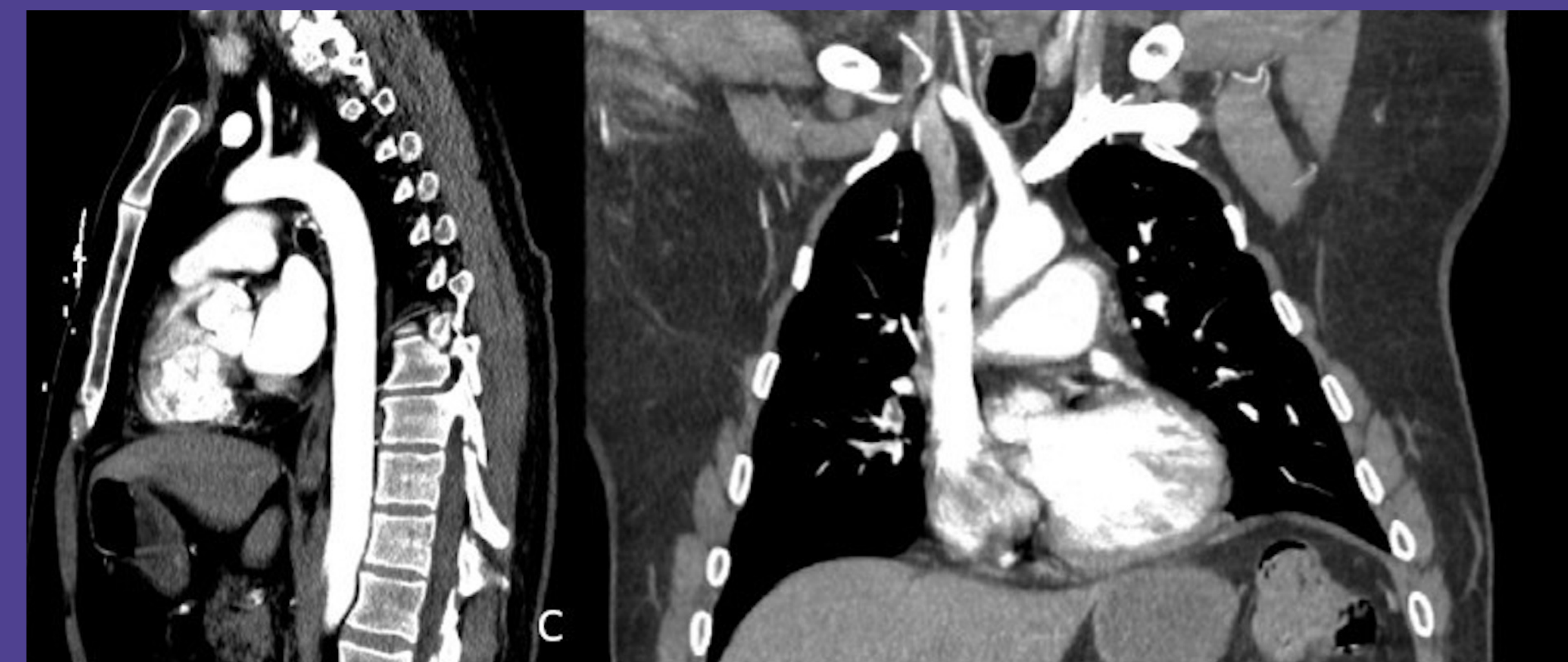


Figure 2: CT scan images at a follow-up visit after one month of therapy with anticoagulation. There is a significant decrease in clot burden with near resolution as seen in the sagittal (left) and coronal (right) views respectively.

DECISION MAKING

Anatomical anomalies resulting in turbulent blood flow can predispose to aortic arch thrombosis. However, paradoxical thrombosis from PFO has only been described once in the past. There is a paucity of data regarding the optimal treatment modality. While most cases reported in the literature were treated with surgical intervention, the patient described above was considered at high risk of cerebral embolization with any surgical or endovascular interventions and was managed medically with apixaban.

CONCLUSION

PFO can result in paradoxical aortic arch thrombosis. While most aortic thrombosis reported in literature have been treated with surgical intervention, therapeutic anticoagulation appears to be effective. Larger studies are needed to determine the efficacy profile of anticoagulation for aortic arch thrombosis.

DISCLOSURE INFORMATION

None of the authors have any relevant disclosures to declare.