A 74-year-old woman with a history of hypertension and polymyalgia rheumatica presented with acute claudication of the lower limbs. She also complained of new-onset temporal headache and fatigue for the last 2 months. Laboratory tests revealed normocytic anemia (hemoglobin, 10.4 g/dL; mean corpuscular volume, 86 fl per cell; mean corpuscular hemoglobin, 29 pg per cell) and an elevated erythrocyte sedimentation rate of 108 mm/h and C-reactive protein level of 9.6 mg/dL. Angiography showed bilateral femoral obliteration suggestive of embolic etiology, and a bilateral femoral embolectomy was performed.

Diagnostic workup included a transesophageal echocardiogram (TEE) that revealed multiple highly mobile echodense masses of varying shapes in the ascending aorta, the largest measuring 30×12 mm, which were interpreted as thrombi (Figure 1 and Movies I and II in the online-only Data Supplement). The ascending aorta had a normal diameter and no evidence of atherosclerotic plaques or other parietal lesions. Magnetic resonance imaging confirmed these findings and further showed mild hypointense mural thickening in T1-weighted sequences of the ascending aorta (Figure 2). Temporal artery biopsy showed no multinucleated giant cells.

A diagnosis of Horton’s aortitis was made according to the American College of Rheumatology criteria, and prednisolone and methotrexate were started together with warfarin. Four months later, no thrombi were initially visualized in the ascending aorta on TEE. However, after intravenous contrast injection with Optison, a residual 16×8-mm thrombus was still identified in the upper part of the ascending aorta (Figure 3 and Movie III in the online-only Data Supplement).

The patient continued on the same medical treatment and 1 year later was asymptomatic with normal hemogram, erythrocyte sedimentation rate of 18 mm/h, and C-reactive protein level of 0.24 mg/dL; contrast TEE revealed no thrombi in the ascending aorta (Movie IV in the online-only Data Supplement).

Horton’s arteritis, also called giant cell arteritis, is a systemic vasculitis involving medium- and large-sized arteries, which typically affects patients aged >50 years. Clinical features are related to involved arteries and include headache, temporal and occipital tenderness, jaw claudication, and ocular ischemic complications. In addition, erythrocyte sedimentation rate and C-reactive protein levels are usually raised. The diagnosis may be confirmed through temporal biopsy; nevertheless, a negative result does not rule out the condition and may be attributable to the segmental nature of the arterial involvement or to concurrent steroid therapy. An association between Horton’s arteritis and thoracic and abdominal aortic aneurysm has been described; however, the overall frequency of aortic involvement remains unknown.

This case of multiple large mobile thrombi in the ascending aorta causing femoral embolic events illustrates a rare complication of Horton’s aortitis. It also emphasizes the importance of the use of ultrasound contrast agents during TEE to rule out residual thrombi difficult to visualize on conventional TEE; these thrombi may persist for months after anticoagulation therapy is instituted and may only be detected through the use of these agents.

Disclosures

None.

References

Figure 1. Initial transesophageal echocardiogram showing multiple echodense masses (arrows) suggestive of thrombi in the ascending aorta. A, Longitudinal (117°) view of the aortic root and ascending aorta. B, Intermediate plane at 55° of the distal ascending aorta.

Figure 2. Magnetic resonance image. A, Oblique sagittal cine steady state free precession (echo gradient) image of the ascending thoracic aorta and proximal aortic arch showing multiple hypointense masses suggestive of aortic thrombi (arrows). B, Axial black blood T1-weighted image of the aortic arch showing diffuse hypointense aortic wall thickening consistent with aortitis (white arrow). In the proximal aortic arch, a more prominent hypointense image is visible, corresponding to an aortic thrombus (black arrow).

Figure 3. Transesophageal echocardiogram performed after 4 months of warfarin therapy. With the same plane as in the first study (Figure 1B), conventional transesophageal echocardiogram (A) ruled out the presence of thrombi. However, after intravenous contrast injection (B), a residual thrombus was clearly visualized (arrow).
Multiple Thrombi in the Ascending Aorta: Usefulness of Contrast Transesophageal Echocardiography in a Case of Horton's Aortitis
Filipa Valente, Amelia Carro, Sergio Moral and Arturo Evangelista

_Circulation_. 2013;128:e44-e45
doi: 10.1161/CIRCULATIONAHA.112.001156
_Circulation_ is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/128/4/e44

Data Supplement (unedited) at:
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**Movie legend**


Movie 2. Transesophageal echocardiogram. Intermediate plane of the distal ascending aorta (55º) showing multiple echo-dense masses, of different shapes and mobility, suggestive of thrombi. Recommended application for viewing: Windows Media Player.

Movie 3. Transesophageal echocardiogram performed after 4 months of oral anticoagulation with warfarin. Intermediate plane (55º) of the ascending aorta. No thrombi were initially visualized; however, after intravenous injection of an ultrasound contrast agent, a residual thrombus was clearly identified. Recommended application for viewing: Windows Media Player.

Movie 4. Transesophageal echocardiogram with intravenous injection of an ultrasound contrast agent (same plane as in movie 3) performed after 1 year of oral anticoagulation with warfarin showing no residual thrombi in the ascending aorta. Recommended application for viewing: Windows Media Player.