A hidden aortic rupture heralded by recurrent brain and retinal embolism

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Disclosures: Authors have nothing to disclose with regard to commercial support.

Received for publication Sept 12, 2019; revisions received Sept 12, 2019; accepted for publication Oct 31, 2019; available ahead of print Jan 13, 2020.

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JTCVS Techniques 2020;1:15-6

2666-2507

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<https://doi.org/10.1016/j.xjtc.2019.10.004>

Atherosclerotic changes in the aortic wall of major arterial vessels represent an important risk factor of systemic embolism. Necropsy studies have demonstrated that complicated aortic plaques are variably associated with ischemic cerebral lesion that may be clinically silent.¹ In the patient described here, the source of systemic embolism was identified in a previously undiagnosed calcific pseudoaneurysm of the noncoronary sinus.

A 65-year-old man experienced recurrent strokes with areas of brain and retinal ischemia (Figure 1, A and B). After hospitalization, continuous monitoring excluded episodes of atrial fibrillation. Transthoracic and transeosophageal 2-dimensional echocardiography (Figure 1, C) showed moderate aortic regurgitation and the presence of a 7 × 5 cm saccular aneurysm of the noncoronary sinus that was confirmed by a computed tomography, which also showed gross calcification of the wall (Figure 1, D). At surgery, firm adhesions between the aortic root and the right atrium raised the suspicion of a pseudoaneurysm due to undiagnosed contained rupture (Figure 1, E); fragile calcific deposits (Figure 1, F) were considered the source of embolization. Repair of the pseudoaneurysm was obtained by

Gross calcification in a huge aortic pseudoaneurysm of the noncoronary sinus.

CENTRAL MESSAGE

An unrecognized contained aortic rupture may be responsible for repeated embolism and may be detected by means of transthoracic, transesophageal 2-dimensional echocardiography and computed tomography.

See Commentary on page 17.

replacement of the noncoronary sinus using a polyethylene terephthalate patch. The patient recovered uneventfully with no further embolic episodes at 3-month follow-up.

Reference

1. Khatibzadeh M, Mitusch R, Stierle U, Gromoll B, Sheikhzadeh A. Aortic atherosclerotic plaques as a source of systemic embolism. *J Am Coll Cardiol.* 1996;27:664-9.

FIGURE 1. A 65-year-old man had recurrent strokes with areas of ischemia attributed to embolization. A, Areas of ischemia in the brain (*arrows*). B, Areas of ischemia in the retina (*circles*). C, Transesophageal echocardiography revealed a pseudoaneurysm of the aortic root (*arrow*). D, Computed tomography also revealed the pseudoaneurysm of the aortic root (*asterisk*). E, At surgery, fragile calcific deposits (*arrow*) confirmed the cause of embolization. F, Calcific deposits seen at surgery (*asterisk*).