

## Case report

## Syphilis and orthostatic shaking limbs

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A 65-year-old man presented to the emergency department of Johns Hopkins Hospital, in April, 1999, for evaluation of possible seizures. He had been diagnosed as having syphilis 27 years before, with a venereal disease research laboratory titre of 1:256 and a positive fluorescent treponemal antibody-ABS test, and was treated twice. He had a history of treated hypertension and was undergoing outpatient evaluation for an aortic-arch aneurysm. His chief complaint was uncontrollable shaking of his left arm and leg. This had been occurring intermittently for a year, but had become increasingly severe and caused falls. The movements occurred every time he stood up and stopped as soon as he sat or lay down. He denied previous seizures, syncope, headaches, fever, tick bites, arthralgias, myalgias, skin rashes, weakness, or paraesthesias. He appeared healthy and comfortable. Blood pressures in his arms were 162/54 on the left (L) and 73/56 on the right (R). Carotid and radial pulses were 3+ (L) and 1+ (R). Heart sounds were normal with an ejection murmur radiating to the left carotid, but not to the right carotid. Lungs were clear. There were no swollen joints or skin rashes. Neurological examination while he was sitting or supine was normal. However, upon each attempt at standing, he developed large-amplitude shaking (3–4 Hz) of his left arm and leg. He could not stand upright long enough for orthostatic measurements of blood pressure and pulse. He remained alert and conversant at all times. Brain magnetic resonance imaging (MRI) and magnetic resonance angiography were normal except for mild small-vessel ischaemic changes.

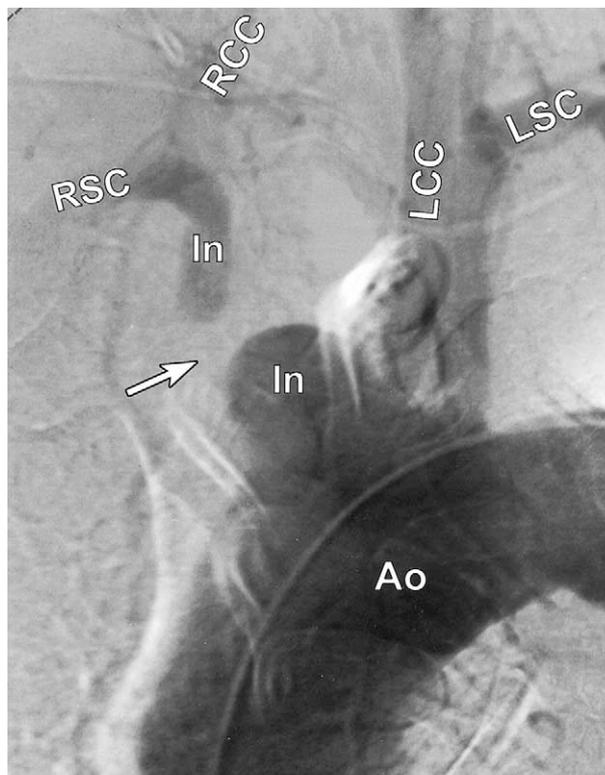
An aortic angiogram (figure) showed a proximal 5-cm aneurysm of the aorta involving the origin of the innominate artery and obstructing its antegrade flow. However, there was flow in the right subclavian artery via retrograde passage from the right common carotid artery. Circulation in the left common carotid and left subclavian artery was normal. Several hours after angiography, he developed weakness and numbness in his left arm and leg which was not postural but constant. A repeat brain MRI showed a new small infarct involving the right ventrolateral thalamus and posterior internal capsule. These deficits resolved almost completely with rehabilitation. He subsequently underwent successful graft replacement of the aortic arch and great vessels. Examination of the pathological specimen revealed atherosclerotic changes and mild lymphocytic infiltration of the aortic wall, consistent with—but not specific for—treated syphilitic aortitis. When last seen in April, 2000, he was ambulatory and without weakness and limb-shaking episodes.

The patient's cerebrovascular accident (CVA) led to symptoms in the same body distribution as his preceding

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### Aortic angiogram

Ao=aorta, In=innominate artery, RSC=right subclavian artery, RCC=right common carotid artery, LCC=left common carotid artery, LSC=left subclavian artery. Arrow shows obstruction in innominate artery.

limb shaking, indicating that the shaking likely represented recurrent transient ischaemic attacks (TIAs). Other authors have described limb shaking TIAs due to internal carotid stenosis, sometimes postural and sometimes preceding ischaemic CVAs.<sup>1–3</sup> Our case shows that such symptoms can also result from more proximal occlusions. To our knowledge, there are no other reports of postural limb-shaking in the setting of syphilis and innominate artery occlusion. Other explanations of our patient's symptoms could include seizures, orthostatic tremor, or pure neurosyphilis. Seizures are unlikely due to the predictable onset and termination of limb-shaking with standing and sitting. Orthostatic tremor is unlikely because it typically involves both legs and has a higher frequency (13–18 Hz).<sup>4</sup> Neurosyphilis may have triggered inflammatory changes in his cerebral arteries, but is unlikely to have caused his CVA as it occurred shortly after angiography. This report illustrates two important clinical points. First, limb-shaking TIAs, like other TIAs, may signal an impending CVA and should be evaluated thoroughly. Second, postural limb-shaking should trigger evaluation of the carotid arteries as well as proximal aorta—especially when a patient has syphilis or other risk factors for aortic aneurysm.

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### References

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