Posterior spinal cord infarctions due to neurosyphilis

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An 86-year-old patient with multiple vascular risk factors including 3 previous strokes woke up with a sensation of wet lower limbs, with bilateral loss of proprioception in legs on examination. Cervical MRI showed 2 acute medullary ischemic lesions in the posterior columns at level C3 and C4 (figure 1, A–D). Biological screening including HIV serology, *Treponema pallidum* hemagglutination assay (TPHA), Venereal Disease Research Laboratory test (VDRL), and Lyme disease serology showed an increased TPHA titer of 1:320, with a negative VDRL.

Lumbar puncture (LP) revealed 6 leukocytes/mm³ and elevated proteins (736 mg/L). The modified TPHA index (mTPHAi)¹ was 1.06 (>2 positivity, <0.8 negativity). A repeat LP 3 months later showed 1 leukocyte/mm³, 539 mg/L, and an mTPHAi of 3.1. Cervical MRI showed 2 acute medullary ischemic lesions in the posterior columns at level C3 and C4 (figure 1, A–D). An aortic CT showed aortic arteritis, with thickened, contrast-enhancing wall (figure 2, A and B). The patient recalled a positive syphilitic serology at age 30, treated with IM antibiotherapy of unknown dose and duration.

Neurosyphilis was thus considered and the patient was treated with ceftriaxone 2 g IV/d × 14 days.² Meningovascular syphilis can present as meningovascularitis, transverse myelitis, or spinal artery syndromes.^{3,4} In our patient, posterior spinal ischemia resembling acute-onset tabes dorsalis could have been caused by syphilitic posterior spinal arteritis or by occlusion of a spinal artery related to thoracic aortitis.

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Figure 1 T2 and diffusion-weighted MRI: Medullar infarct

T2 (A) and diffusion-weighted imaging (B-D) MRI show a medullar ischemia in the posteromedial region at level C3-C4 with diffusion restriction.

Figure 2 CT scan: Aortitis

Contrast-enhanced (A) and native (B) CT images of descending thoracic aorta show circumferential contrast enhancement of the aortic wall with density change in region of interest (circle) of lateral wall from 72 to 38 Hounsfield units.

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