

DIAGNOSIS

Her past medical history revealed a syphilitic infection in 1987. In 2010, when a lumbar puncture was needed to rule out neurosyphilis, she withdrew herself from medical control. *Treponema pallidum* haemagglutination assay (TPHA) in serum was grossly reactive (1:10,240), while rapid plasma reagin (RPR) was not reactive (1:1). A lumbar puncture was performed and cerebrospinal fluid (CSF) analysis showed an elevated protein of 1.27 g/l, a slightly raised cell count of $8 \times 10^6/l$ and a glucose level of 3.4 mmol/l. The TPHA was increased (1:16) in the CSF, but RPR was negative. A HIV test was negative. Because of the presence of a recent infarction in the distribution of the left middle cerebral artery on MRI imaging of the brain, the diagnosis neurosyphilis of the meningovascular type was made.^{1,2}

The patient was treated with intravenous benzylpenicillin, but substantial aphasia persisted. Two months later follow-up MRI of the brain revealed the same grey matter and white matter lesions, with a reduced degree of enhancement after administration of gadolinium (*figure 1D*) and the aphasia had improved.

Neurosyphilis is an infection of the central nervous system caused by *Treponema pallidum* and can occur at any time in the course of the infection.¹ There are four different types of symptomatic neurosyphilis: tabes dorsalis, dementia paralytica, syphilitic meningitis and meningovascular syphilis. In case of neurological symptoms in a patient with a medical history of a syphilitic

infection, neurosyphilis should be considered. In CSF, the RPR has a high false-negative rate and also TPHA can be negative in case of tertiary syphilis.^{1,3} In these cases, the main diagnostic criteria are protein level and cell count in CSF. Treatment of neurosyphilis consists of intravenous administration of benzylpenicillin 18 to 24 million units a day for 10-14 days. During follow-up a lumbar puncture should be repeated every six months until the protein level and cell count have normalised.⁴

In general, comparable to our patient's situation, patients with meningovascular syphilis do not always recover completely.

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