# A Forgotten Cause of Central Nervous System Vasculitis

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Neurosyphilis can affect the central nervous system in the form of either meningovascular or parenchymatous neurosyphilis. Presentation varies from no symptoms to meningitis, tabes dorsalis, and general paresis[1]. *Treponema pallidum* can invade any vessel in the subarachnoid space resulting in thrombosis, ischemia, and infarction. Meningovascular syphilis most commonly affects the middle cerebral artery followed by basilar artery, causing stroke-like symptoms in a young person that can be easily mistaken as primary central nervous system (CNS) vasculitis[2,3]. In the current era, neurosyphilis is most common in patients with HIV infection. Meningitis and meningovascular disease are the usual manifestations[4]. Clinical suspicion and cerebrospinal fluid (CSF) examination are keys to the diagnosis of neurosyphilis. Recommended treatment regimen for neurosyphilis is penicillin (intravenous or intramuscular) or ceftriaxone for 10–14 days. Spinal fluid should be reexamined 3 to 6 months after treatment to ensure nonreactivity of Venereal Disease Research Laboratory test (VDRL) in the CSF.

A 32-year-old previously healthy man was admitted with transient right-side weakness and dysarthria. Review of systems revealed occasional left occipital headache over the past 6 months. His neurological examination at the time of evaluation was normal. His laboratory tests were normal except leukocyte count of 3800 cells/mm$^3$. Computed tomography of the head did not show any changes; magnetic resonance (MR) imaging and MR angiography of brain showed acute infarct in the left occipital pole with volume loss and occlusion of basilar artery, right vertebral artery, and left internal carotid artery. Cerebral angiogram confirmed the above findings. His CSF showed 64 white blood cell with 76% lymphocytes, glucose of 33 mg/dl (corresponding blood glucose 90 mg/dl), and protein of 154 mg/dl with positive CSF VDRL at 1:2 dilution. The serum RPR at 1:512 dilution, serum fluorescent treponemal antibody absorption test (FTA-ABS), and Western blot for HIV were positive. His CD4 count was 83 cells/μl and HIV viral load was 750,000 copies/ml. Based upon these findings, he was diagnosed with CNS vasculitis secondary to tertiary syphilis and he was given intravenous penicillin G. HIV antiretroviral therapy was planned on an outpatient basis.

## REFERENCES

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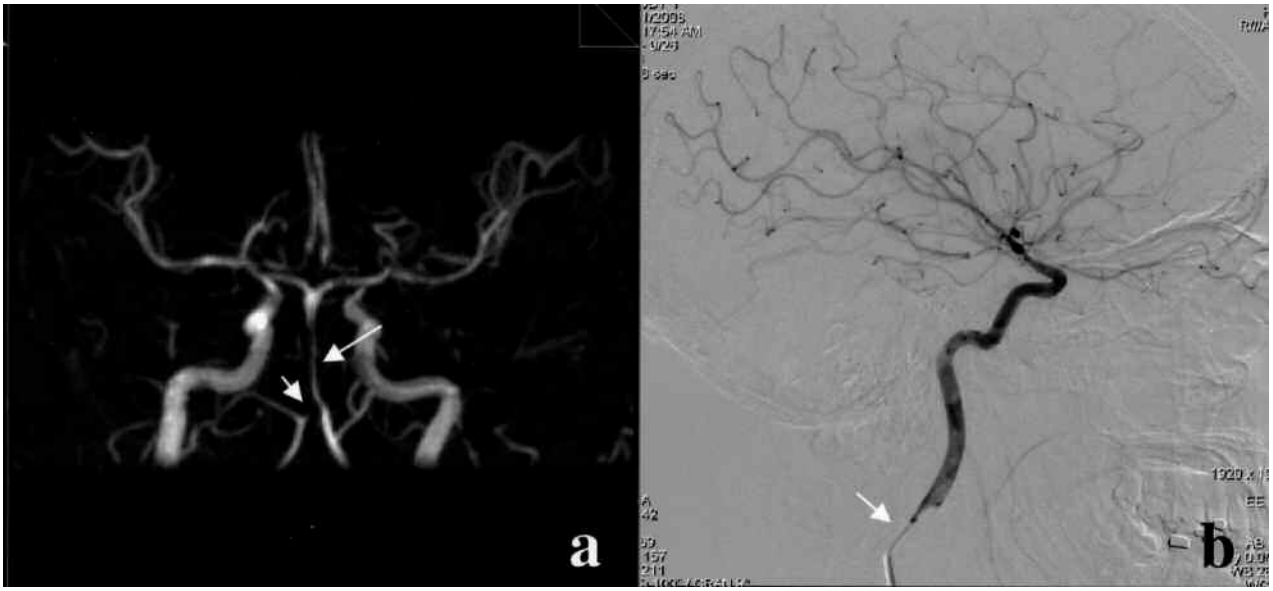


*Figure 1.* (a) MR angiogram showing basilar artery narrowing with irregularity (long arrow) and abrupt cutoff of the right vertebral artery (short arrow). (b) Angiogram showing narrowed left internal carotid artery.