Neurosyphilis Presenting with Raeder's Syndrome

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We report a case of Raeder's paratrigeminal syndrome caused by neurosyphilis. A 37-year-old man was admitted to our hospital in July 1986 because of ptosis of the left eyelid and left hemifacial pain. He had had sexual intercourse with a prostitute 4 months before admission. He noticed an erythematous skin eruption on his lower abdomen one month before admission that disappeared in 1 week. Drooping of the left lid and pain around the left eye began 5 days before admission. The pain was deep and persistent with periodic exacerbation accompanied by nausea and vomiting. Examination showed left Horner's syndrome including miosis and ptosis but without anhidrosis on the face. Extraocular muscle movement and optic fundi were normal. Sensory impairment in the area of the upper and middle branches of the left trigeminal nerve was present. Serum serologic test for syphilis (VDRL) was positive at a titer of 1:64. *Treponema pallidum* hemagglutination assay (TPHA) was positive at a titer of 1:2,560. Examination of the cerebrospinal fluid (CSF) showed clear fluid with 55 cells/mm^3 (monocytes 65%, polymorphonuclear leukocytes 35%). A VDRL test of the CSF was positive. TPHA and a fluorescent treponemal antibody-absorption test (FTA-ABS) were positive at titers of 1:32 and 1:5, respectively. A brain computed tomographic scan and electroencephalogram displayed no abnormalities. Bilateral carotid and vertebral angiography revealed no aneurysm, dilatation, or other abormalities. The patient was treated with penicillin G at a dose of 2,400,000 units per day. Periorbital pain and Horner's syndrome disappeared within 1 week. The cell counts in the CSF decreased and became normal in 2 weeks (4/mm^3). The FTA-ABS test became negative and the TPHA titer decreased to 1:16. Sensory impairment in the area of the upper and middle branches of the left trigeminal nerve also disappeared completely with improvement of the CSF findings.

Boniuk and Schlezinger [1] divided Raeder's syndrome into two groups. Group 1 included cases with neuralgia, oculosympathetic paralysis, and perisellar nerve involvement. Group 2 included patients with neuralgia and oculosympathetic paralysis but without perisellar nerve involvement. The present case had trigeminal neuralgia and Horner's syndrome with a single perisellar nerve disturbance. This patient thus belongs to Group 1 Raeder's syndrome. The causes of Raeder's syndrome are numerous and include trauma [2], brain tumor [3], aneurysm [4], hypertension [5], migraine [6], many kinds of inflammation, and unknown factors. The inflammatory conditions include sinusitis, abscessed tooth, chronic otitis media, lobar pneumonia [1], and syphilitic osteitis [7]. Toussaint [7] described a case of Raeder's syndrome with syphilitic osteitis in which the apex of the petrosal bone was destroyed. In the present case, the patient was suffering from neurosyphilis. However, there was no evidence of osteitis as in the case reported by Toussaint, and no distinct vasculitis. It seems possible that perivasculitis in the context of syphilitic meningeal inflammation in the region where the upper and middle branches of the trigeminal nerve pass through the meninges around the superior orbital fissure and foramen rotundum could have caused the Raeder's syndrome observed in our patient.

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