

LETTER TO EDITOR

## A treatable cause of ataxia: Tabes dorsalis

### Tedavi edilebilir bir ataksi nedeni: Tabes dorsalis

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#### Dear Editor,

Syphilis is a spirochetal infectious disease which is transmitted sexually.<sup>1,2</sup> Incidence of this disease has decreased by penicillin age and gradually increased since 2000. Neurosyphilis develops in 3 to 5% of the individuals infected with *Treponema pallidum*. Tabes dorsalis appears in 5% of these. Latent period of the syphilis is 10 to 15 years in tabes dorsalis.<sup>1-3</sup> Neurosyphilis may appear with different clinical patterns such as meningitis, dementia, stroke, polyradiculopathy and tabes dorsalis.<sup>4,5</sup> Tabes dorsalis, parenchymal form of late-term neurosyphilis is a rare form of neurosyphilis or tertiary syphilis characterized by stabbing type pains, sensorial ataxia, Romberg's sign, deep sensorial and reflex loss due to chronic selective involvement of posterior roots and posterior chord of medulla spinalis.<sup>1-5</sup> It progresses with slow progressive degeneration of the spinal nerves. Sensorial ataxia term is used the cause for the ataxia in tabetic patients is disorder of the joint position sense on lower extremities due to significant posterior chord involvement. Before treatment of syphilis with antibiotics in 1943, tabes dorsalis has been detected very frequent in patients with neurosyphilis by 30%. Today, the disease is very scarce. Tabes dorsalis has three individual clinical terms. These are; pre-ataxic, ataxic, paralytic/terminal terms. Severe pain, Argyll Robertson pupils, positive Romberg sign, sensorial loss are seen in pre-ataxic phase. Tabetic pains become severer in ataxic phase. In terminal or paralytic phase, spastic paraparesis and autonomous disorder are observed.<sup>1,4</sup> A thirty seven year old male patient who is a construction worker was hospitalized in our neurology service due to gradually increasing gait disorder which has started two years ago and

pain on both legs. The patient mentioned that his gait disorder was increasing in dark environments and narrow areas. The patient has been examined in many centers and etiology of the ataxia has not been diagnosed for two years and he has lost his job because of the ataxia. He had a suspicious sexual intercourse 15 years ago in his medical history. In neurological examination, joint position on the feet and vibration sense up to spina iliaca anterior superior were defective. Deep tendon reflexes were hypoactive on lower extremities; gait was ataxic and he had difficulty to walk without support. Romberg's sign was positive. Plantar responds were flexor and cerebellar tests were normal. Fluorescent treponemal antibody absorption test (FTA-ABS) was found positive in blood and cerebrospinal fluid (CSF) tests of the patient. Venereal Disease Research Laboratory test (VDRL) syphilis was found 17, 12 S/CO unit (positive). HIV Ag/Ab was 0, 10 S/CO unit, respectively (normal); hepatitis B and C, vasculitis and tumor indicators for malignancy were negative. Serum vitamin B12 level was normal (859 pg/ml), no lesion was detected in brain MRI. CSF glucose was 61 mg/dL and the CSF protein was 50 mg/dL with lymphocytic pleocytosis. The patient was diagnosed with tabes dorsalis and crystallized penicillin G 24 million units/day was administrated for 14 days upon suggestion of infectious diseases. The patient has mentioned at the end of the treatment and at his control visit after six months that his complaints have decreased. In his neurological examination, joint position on the feet and vibration sense have recovered; deep tendon reflexes were diffusely hypoactive, his gait was ataxic, however he could walk without any support. Romberg's sign has recovered. Although his unsteady gait has recovered when compared with the status before the

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treatment, he could not do his former job. This case was presented due to tabes dorsalis is a rare and treatable ataxia after penicillin era. Our case had a progressive gait disorder secondary to neurosyphilis. Lack of syphilitic canker, dysfunction of the urinary bladder and intestines, Argyll Robertson pupils in examination and anamnesis of the patient may be considered as atypical characteristics. Our case has presented the disease as tabes dorsalis, a spinal parenchymal form of syphilis infection. Sexual contact history of the patients must be investigated to detect sexually transmitted diseases. Presence of syphilitic canker should be investigated. Lack of suspicious sexual intercourse in the anamnesis of the patients does not exclude the syphilis.<sup>1</sup> Neurosyphilis is still a difficult diagnosis for clinicians.<sup>6</sup> Due to common antibiotic use today, clinical characteristics of neurosyphilis has been masked and it appears with atypical clinical characteristics. This makes the diagnosis difficult. Because, all symptoms and findings expected are not complete. Although positive VDRL test in CSF is specific for neurosyphilis, its negativity does not exclude syphilis infection.<sup>5,6</sup> While specificity of CSF-VDRL is 100% in active syphilis, sensitivity is 27% only. Low sensitivity of CSF-VDRL test restricts the efficacy as a screening test for neurosyphilis. CSF-FTA-ABS test is more sensitive than CSF-VDRL to differentiate active syphilis than latent syphilis, however it is less specific. Causes for false-positive CSF-FTA-ABS test are that passage of serum treponemal antibodies into CSF by breaking of blood-brain barrier or contamination of CSF by the blood during lumbar puncture even in fewer amounts. None of the laboratory tests is both sensitive and specific for diagnosis of neurosyphilis. Association of neurosyphilis and HIV infection is frequent.<sup>6,7</sup> There are cases whom cerebellar ataxia develops secondary

to cerebellar infarct in neurosyphilis for differential diagnosis. However no lesion was detected in cerebellum and brain stem in magnetic resonance imaging (MRI). Even vibration and position sense loss, global areflexia, progressive gait disorder are observed in neurological examination for Friedreich ataxia; its differential diagnosis from tabes dorsalis may be employed by examination findings such as dysarthria, extensor plantar response, autosomal recessive inheritance, family history, early onset of the disease and by laboratory tests. General paresis and tabes dorsalis have been accepted as most common forms of neurosyphilis before antibiotic age. Early period neurosyphilitic meningitis form is observed more frequent lately.<sup>1</sup> Tabes dorsalis should be investigated for the cases that refer with slowly developed progressive gait disorder even in today. We wanted to draw attention to this cause for progressive sensorial ataxia which is rare today but also treatable by early diagnosis.

## REFERENCES

1. Shah BB, Lang AE. Acquired neurosyphilis presenting as movement disorders. *Mov Disord* 2012;27:690-695.
2. Dayan S, Tekin A, Tekin R, et al. HBsAg, anti-HCV, anti-HIV 1/2 and syphilis seroprevalence in healthy volunteer blood donors in southeastern Anatolia. *J Infect Dev Ctries* 2013;7:665-669.
3. Brown DL, Frank JE. Diagnosis and management of syphilis. *Am Fam Physician* 2003;68:283-290.
4. Berger JR. Neurosyphilis and the spinal cord: then and now. *J Nerv Ment Dis* 2011;199:912-913.
5. Davis LE, Schmitt JW. Clinical significance of cerebrospinal fluid tests for neurosyphilis. *Ann Neurol* 1989;25:50-55.
6. Harding AS, Ghanem KG. The performance of cerebrospinal fluid treponemal-specific antibody tests in neurosyphilis: a systematic review. *Sex Transm Dis* 2012;39:291-297.
7. De Almeida SM, Bhatt A, Riggs PK, et al. Cerebrospinal fluid human immunodeficiency virus viral load in patients with neurosyphilis. *J Neurovirol* 2010;16:6-12.