Case Report

Acute Neuro-Behcet's Disease

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Abstract

Behçet's disease (BD) is a multisystem vasculitis that may affect central nervous system (CNS). Neuromyelitis optica (NMO) is a severe CNS inflammatory demyelinating disorder. Here we describe a patient with myelitis whose clinical course included oral and scrotal ulcerations and an episode of optic neuritis. He applied with suddenly developed mild right hemiparesis. Brain computed tomography and magnetic resonance imaging (MRI) were unremarkable. He developed tetraparesis in clinical follow up. Cervical and thoracal spinal MRIs disclosed diffuse cord lesions with contrast enhancement. Medical history revealed oral aphtae 1 month ago before admission that lasted in seven days and no other periods of genital ulceration or oral aphtae. To our knowledge rapidly progressive CNS involvement resembling NMO with no clinical findings in previous history has not been described in BD earlier.

Keywords: Behçet's disease, Neuromyelitis optica, Myelitis, Oral aphtae, Genital ulceration, Optic neuritis

INTRODUCTION

Behçet's disease (BD) is a multisystem vasculitis. The usual manifestations of disease are oral and genital ulcerations, eye and skin lesions and central nervous system (CNS) may also be affected. Neuromyelitis optica (NMO) is a severe CNS inflammatory demyelinating disorder...
consisting of optic neuritis (ON) and myelitis with relative sparing of the brain. Here we describe a patient with myelitis whose clinical course included oral and scrotal ulcerations and an episode of ON.

CASE PRESENTATION
A 21-year-old male patient hospitalized because of suddenly developed mild right hemiparesis. He had fever and neck stiff. Babinsky sign was positive on the right side. Brain computed tomography and magnetic resonance imaging (MRI) were unremarkable. Examination of cerebrospinal fluid (CSF) revealed elevated cell count (800/mm³ majority polymorphonuclear) and protein concentrations (90mg/dl), acid-fast staining procedure was negative for mycobacterium tuberculosis and cultures remained negative. White blood cell count was 19.8 x 10⁹/liter. Erythrocyte sedimentation rate was 80 mm at 1 h. He was put on treatment for bacterial meningitis.

In the second week he developed tetraparesis, anesthesia below T5 level and urinary retention. Plantar responses were bilaterally indifferent. Cervical and thoracal spinal MRIs revealed diffuse cord lesions with contrast enhancement (Figure 1). He developed a scrotal ulcer. In his medical history he had oral aphtae 1 month ago that lasted in seven days and had no other periods of genital ulceration or oral aphtae. Skin pathergy test was negative.

Infections, BD, NMO, multiple sclerosis (MS), acute disseminated encephalomyelitis (ADEM), and granulomatous diseases were considered in differential diagnosis.

In CSF; serology for Cytomegalovirus-IgM, Rubeola IgM and IgG, Rubella IgG, Toxoplasma IgM were negative, Rose-Bengal test and oligoclonal bands were also negative. In serum; Mycobacterium tuberculosis complex, visseral leishmania, lyme total, Anti HIV 1+2, HBsAg, EBV DNA, HBV DNA, HCV RNA, HSV DNA, Parvovirus DNA polymerase chain reaction assays were all negative, ACA IgG level was elevated: 25.078 (2.5 fold normal levels). ANA, ACA IgM, Anti ssA (Ro), Anti ssB (La), Anti Scl-70 Ab, VDRL tests were all negative. ASO titer was 200U/l, rheumatoid factor, C3 and C4, levels were normal.

An infective process could not be eliminated because of fever and neck stiff. The diagnosis of BD was of secondary importance. For probable infective processes antiviral and antifungal agents added to the present antibacterial treatment.

In the third week all medications discontinued for following. In this period, he developed oral aphtae (2 lesions were seen in different days) and scrotal ulcer. He was evaluated again for a probable BD. His ophthalmologic examination was normal. Repeated skin pathergy test was positive. Thus diagnosis BD was made (recurrent oral ulcerations, recurrent genital ulcerations and positive pathergy test).

Patient's treatment protocol was put in order. Methylprednisolone (m-PSL) 1g/day, throughout 3 days was given. He was put on cyclophosphamide 1 g monthly, prednisolone 80 mg/day treatment. A partial response to the treatment was observed. His body temperature decreased. Neurological examination revealed evident improvement in strength and sensory examinations in upper extremities but minor improvement in lower extremities.

The patient was transferred to a rehabilitation center. In the second month of the transfer he developed painless visual loss in right eye, funduscopic examination indicated pupil edema. The P100 latencies of visual evoked potentials were prolonged (mean 119 msn) and dispersed in right eye, the diagnosis of ON established. Evident improvement was observed on his control cervical and thoracal spinal MRI's (Figure 2). He transferred to Rheumatology Unit.
He was treated with m-PSL 1g/day throughout 5 days. Interferon alpha-2a 4.5 MÜ (Referon) daily added to the present treatment regimen. Cyclophosphamide was given 1 g monthly during a year.

The patient is being followed-up for 3 years. During this period he did not have any other ON attack. His last neurological examination revealed; tetraparesis, anesthesia below the level of T5 on left side, globally brisk deep tendon reflexes, and bilaterally positive babinsky sign. He has spasticity in lower extremities, rarely urinary incontinence, and no bowel control. Currently he is on medication with; Interferon alpha 2A 4,5 MIU (3 times a week), azathioprine 50 mg/day, prednisolone 15 mg/day, colchicine 1,5 mg/day, tolterodine-L-tartarate 4mg/day, baclofen 20 mg/day, alendronat 70 mg/week.

Figure 1: Diffuse high signal intensity in T2-weighted cervical MR image at C2-C7 level was demonstrated (a). Nodular contrast enhancement was seen at C4-C5 level (b). High signal intensity along the thoracic spine on T2-weighted image was demonstrated (c). Interrupted contrast enhancement was seen at this level (d).

Figure 2: Evident improvement was observed on his control cervical (a) and thoracal (b) spinal MRI's.
**DISCUSSION**

Many of inflammatory and systemic diseases may influence optic nerve and spinal cord. Neuromyelitis optica, MS, ADEM, antiphospholipid antibody syndrome, neurosarcoidosis, pulmonary tuberculosis, and Sjögren's syndrome may be listed.

Absolute diagnostic criteria for definite NMO requires ON, acute myelitis, and no symptoms implicating other CNS regions. To enhance specificity, fulfillment of at least one of three major supportive criteria was required: 1) brain MRI at disease onset is normal or does not fulfill MS imaging criteria; 2) spinal cord MRI shows a lesion extending over >=3 vertebral segments; 3) CSF reveals >=50 WBC/mm³ or >=5 neutrophils/mm³.  

Diagnostic criteria for definite BD require: recurrent oral aphtae (at least three times in a year) is prerequisite, accompanied by any two out of the following: recurrent genital ulcerations, skin lesions and ulcerations, eye involvement and skin pathergy reaction.  

Our case initially showed the properties of a rapidly progressive inflammatory disease. Cervical spinal imaging indicated a lesion extending over >3 vertebral segments. At the same time genital ulceration appeared. He had an oral aphtae history. These findings were to be followed as a single attack. Also skin pathergy test was negative initially. All of them were concordant with probable Behçet criteria. In course he had oral and genital ulcerations, a repeated pathergy test was positive, BD was diagnosed so. In medical follow-up the patient had ON attack and this optic neuropathy thought to be associated with BD that is an extremely rare finding in this disease.  

Neuromyelitis optica immunoglobulin G (NMO-IgG) is an autoantibody in the serum of patients with neuromyelitis optica that distinguishes NMO from other demyelinating disorders. Presence of NMO-IgG is 73% sensitive and 91% specific for clinically defined NMO. However, even with the most sensitive assays, 10–25% of patients clinically diagnosed with NMO are seronegative for NMO-IgG. Our patient was not studied for the presence of the NMO-IgG. Investigating NMO-IgG is needed to better define the syndrome. If positive, then this case would likely be simply explained by coexisting of 2 autoimmune conditions.

Behçet's disease may involve the CNS in two patterns: parenchymal (81%) and non-parenchymal CNS involvement (19%). The brainstem is the most common location of BD in the parenchymal CNS form. Visual loss associated with optic neuropathy, 8th CN and peripheral nerve involvement are seen rarely. In 60% of the cases with parenchymal involvement, CSF is hypercellular with or without an elevated protein level.  

Rarely spinal cord may also be involved. In patients with spinal cord involvement, clinical course is variable; the most common clinical course is with acute attack(s) followed by secondary progression (46%). Primary progressive course is seen in 29% of patients. Spinal cord involvement has even worse prognosis compared with other types of parenchymal neuro-behçet disease.  

Neurologic involvement has been reported in the range of 5% to 10% in BD. Appearance of neurological involvement preceding the other usual signs and symptoms is unexpected. Although CNS involvement is common in BD, spinal cord involvement has been reported rarely and optic nerve involvement is reported to be very rare (1%). Reported cases are usually coming into being in patients who are followed with BD. In any case, no patient with both spinal cord and optic nerve involvement and has diagnosed as BD has been reported earlier.  

Patients presenting by clinical findings associated with myelitis, should be evaluated for common conditions, such as infections, MS, ADEM, granulomatous...
inflammations and also BD should be considered.

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REFERENCES