A Case of Bilateral Papilloedema and Left Abducens Nerve Palsy on the Base of Brucella Infection

Brusella Enfeksiyonu Zemininde Bilateral Papilödem ve Sol Gözde Abdusens Sinir Felci Gelişen Bir Olgu*

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Case Report *Olgu Sunumu*

ABSTRACT

Best corrected visual acuity of a 19-year-old female patient, who was referred to our clinic with decreased visual acuity and diplopia complaints while being treated with antibrucella therapy, was 10/10 in the right eye and 8/10 in the left eye with the Snellen acuity chart. The anterior segment evaluation and intraocular pressure levels were bilaterally normal. The fundus examination revealed bilateral obscuration of the optic disc (OD) margins and swelling and peripapillary retinal splinter-shaped haemorrhages. There were intravitreal haemorrhage cells in the right eye. She had 15° esodeviation and lateral gaze palsy in the left eye. Bilateral best corrected visual acuity returned to 10/10 with antibrucella and corticosteroid therapy, and the diplopia, lateral gaze palsy, and tropia resolved. Right OD margins were distinct, but left OD margins were still indistinct during the fundoscopic examination. Papilloedema and abducens nerve palsy can be seen due to central nervous system involvement on the base of Brucella infection, and with antibrucella therapy and high dose corticosteroid therapy ophthalmological findings can return to normal.

Key Words: Brucella infection, papilloedema, abducens nerve palsy.

ÖZ

Brusella enfeksiyonu nedeniyle tedavi almaktayken görme azlığı ve çift görme şikayetleri nedeniyle kliniğimize refere edilen 19 yaşındaki bayan hastanın yapılan oftalmolojik bakısında, sağ gözde en iyi düzeltilmiş görme keskinliği Snellen eşeli ile 10/10, sol gözde en iyi düzeltilmiş görme keskinliği 8/10 olarak saptandı. Ön segment bakısı ve göz içi basınç seviyeleri bilateral normal sınırlardaydı. Fundoskopik bakıda bilateral optik disk (OD) sınırlarında silinme ve kabarıklık, peripapiller retinada kıymıksı hemorajiler gözlendi. Sağ gözde alt yarıda vitreusta kanama hücreleri izlendi. Sol gözde 15° içe deviasyon vardı ve dışa bakış kısıtlıydı. Antibruselloz ve kortikosteroid tedavi ile bilateral en iyi düzeltilmiş görme keskinliği 10/10'a ulaştı, çift görme, dışa bakış kısıtlılığı, tropya kayboldu, fundoskopik muayenede sağda OD sınırları düzeldi, solda ise hafif bir OD silikliği devam ediyor. Brusella enfeksiyonuna bağlı SSS tutulumu sonucu papillödem ve abdusens sinir paralizisi izlenebilmektedir ve antibruselloz tedavi eşliğinde yüksek doz kortikosteroid tedavisi ile bulguların normale döndüğü gözlenmektedir.

Anahtar Kelimeler: Brusella enfeksiyonu, papilödem, abdusens sinir felci.

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INTRODUCTION

Brucellosis is a zoonosis that mostly occurs following consumption of unpasteurized dairy products or undercooked meat. Although its incidence has declined, brucellosis still remains an important health problem in endemic areas like the Mediterranean, the Middle East, Latin America, and Asia. Turkey is an endemic country, especially its central and southeastern regions. Brucellosis is a multisystemic disease that may present with a broad spectrum of clinical manifestations, and its complications can affect almost all organs and systems with varying incidence.

Besides the clinical signs and symptoms, its diagnosis requires microbiological confirmation by means of isolation of the bacteria from blood or tissue cultures, or demonstration of the presence of specific antibodies by serological tests like the agglutination test, complement fixation test, radioimmunoassay, and enzyme-linked immunosorbent assay. The disease may be acute or chronic. Neurological complications are rarely seen. Although ocular involvement is not common in brucellosis, any ocular structure may be involved.

CASE REPORT

Best corrected visual acuity of a 19-year-old female patient, who was referred to our clinic with decreased visual acuity and diplopia complaints while being treated with antibrucella therapy, was 10/10 in the right eye and 8/10 in the left eye with the Snellen acuity chart. The anterior segment evaluation and intraocular pressure levels were bilaterally normal.

The fundus examination revealed bilateral obscuration of the optic disc (OD) margins and swelling and peripapillary retinal splinter-shaped haemorrhages. There were intravitreal haemorrhage cells in the right eye. She had 15° esodeviation and lateral gaze palsy in the left eye.

Bilateral P100 wave amplitudes (8 microvolt in the right eye and 7 microvolt in the left eye) and latencies (92 msn in the right eye and 98 msn in the left eye) were normal during the pattern visual evoked potentials (PVEP) test.

Coloured fundus photographs of the patient were taken and she was hospitalized for further evaluation and therapy. Rose Bengal (1/160) and Brucella agglutination (1/160) tests, which were used for the diagnosis of Brucella, were positive and according to the consultation with the Infectious Disease Clinic, peroral Doxycycline (Tetradox) 100 mg 2x1, Rifampicin (Rifcap) 300 mg 1x2, and 80 mg 1x1 IV Methylprednisolone (Prednol) therapy was started.

According to the normal MRI and MR angio evaluation done before the patient presented to our clinic, and also the consultation with the neurology clinic, the patient was diagnosed with neurobrucellosis and the therapy was continued for 5 days. After hospitalization for 5 days, the patient was discharged and coticosteroid therapy was changed to PO therapy with decreasing dosage step by step.

The patient was followed up for 4 months and the antibrucellosis therapy continued as well. At the end of 4 months bilateral best corrected visual acuities were 10/10 and diplopia, lateral gaze palsy, and tropia had resolved. Coloured fundus photographs of the patient were taken and it was seen that OD margins were distinct in the right eye, but slight obscuration of the left OD margins remained.

DISCUSSION

Although the incidence of brucellosis has declined, it remains an important health problem in endemic areas like the Mediterranean, the Middle East, Latin America, and Asia. Turkey is an endemic country, especially its central and southeastern regions.

Every year 18,000 new brucellosis cases are seen in Turkey and it was reported that according to the geographical distribution seropositivity prevalence varies between 2.6% and 14.4%. Patients with Brucella infection have nonspecific symptoms like fever, headache, sweat, fatigue, and lumbago. Although ocular involvement is not common in brucellosis, any ocular structure may be involved. Several ocular findings have been reported in association with brucellosis, including keratitis, recurrent iridocyclitis, panuveitis, episcleritis, clouding of the lens, and papillitis.[1-5]

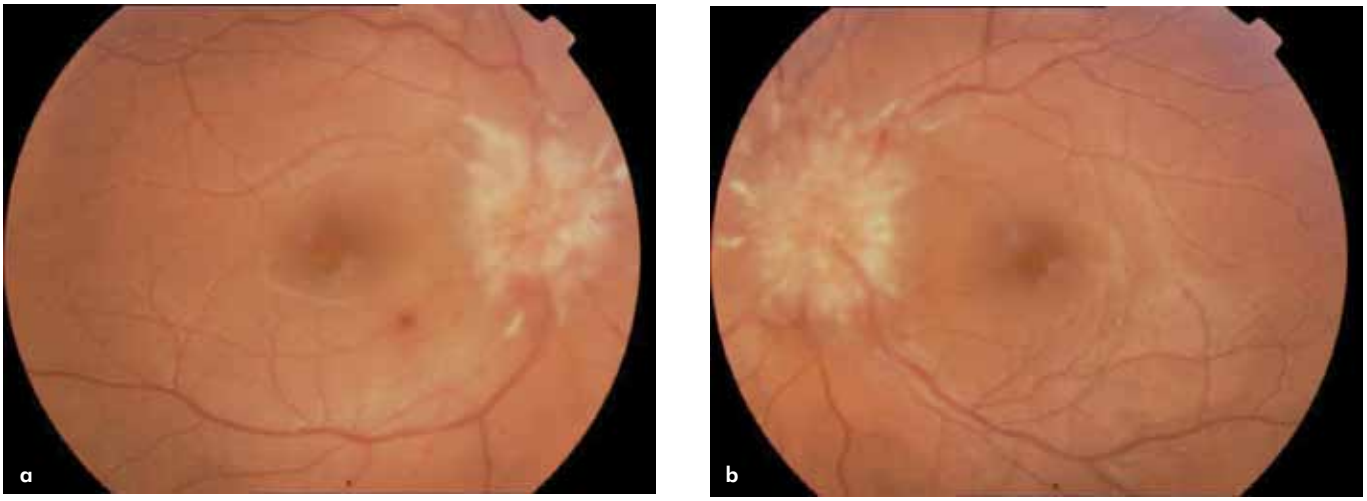

Figure 1a,b: Fundus photographs of the patient at the first time of admission.

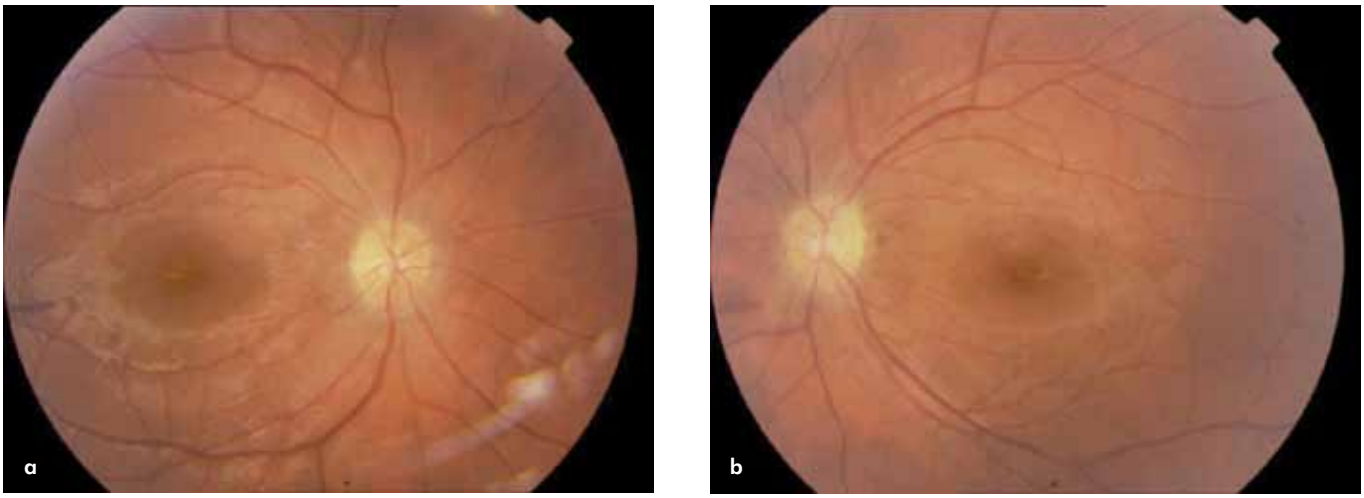

Figure 2a,b: Fundus photographs of the patient after 4 months of antibrucella and corticosteroid therapy.

There have been a few reports about isolated optic neuritis or isolated abducens palsy.[5-7,11] Neurological complications are rarely seen and incidence is reported between 1.7% and 10%. During brucellosis, depression and mental confusion are often seen; in less than 5% of the cases direct central nervous system invasion is seen. Neurobrucellosis is separated into 2 categories according to the clinical picture.

The first one is the acute form, presenting with meningoencephalitis, and the other one is the chronic form, which affects the peripheral and central nervous system. The chronic peripheral form includes polyradiculopathy and the central form includes spinal cord and brain invasion with or without cranial nerve involvement.

Al Deeb et al., have evaluated neurobrucellosis cases in different five subgroups: acute meningoencephalitis form, meningovascular involvement, CNS demiyelinisation, peripheral neuropathy, and the last one is the form that results in papilloedema and high intraocular pressure.[8] Several case reports with ocular involvement secondary to neurobrucellosis infection have been reported in the literature.[1-13] Karapınar reported a 15-year-old female patient with Brucella melitensis (+) blood culture who presented with fever, pancytopenia, and decreased visual acuity. In this case, together with high dose methylprednisolone and antibrucella therapy, pancytopenia resolved in 5 weeks and at the end of 3 months visual acuity increased.[9]

Abd.Elrezak reported a 13-year-old patient who had decreased visual acuity in her left eye and bilateral papilloedema.[5] In this case, Brucella infection was documented with serological tests, and with high dose corticosteroid therapy and antibrucella therapy visual acuity returned to normal, papilloedema resolved, and the optic disc returned to its normal shape and thickness.

Tunç reported a patient with seropositivity to Brucella anticors (1/640) who had optic neuropathy and OD swelling and bilateral retinal detachments with bilateral decreased visual acuity.[7] The patient was treated with systemic doxycycline (100 mg twice daily), rifampin (600 mg once daily), and prednisolone (1 mg/kg/day).

Headache and retinal detachment disappeared within 1 week with resolution of the subretinal fluid; optic disc edema resolved within 2 weeks, but vision remained low and improved only to hand motions. After cessation of prednisolone, the systemic status stayed stable during 18 months of follow-up; vision remained low (hand motions) with bilateral optic atrophy.

Özışık et al., reported a patient presenting with Brucella menengitis, bilateral papilla stasis, and diplopia.[10] In this case diplopia disappeared, and papilla stasis and intracranial pressure resolved with antibrucella therapy. In conclusion, as reported both in our case and others, papilloedema and abducens nerve involvement can be seen due to CNS involvement during Brucella infection and ocular findings can return to normal with high dose corticosteroid therapy together with antibrucella therapy. Brucella infection should also be kept in mind in the differential diagnosis of patients who live in endemic regions with papilloedema and decreased visual acuity.

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