

LETTER TO THE EDITOR

Medicine Science 2017;6(1):178-9

Severe major depression: A case of neurobrucellosis**Lara Utku Ince¹, Nursel Akti Kavuran², Abdulcemal Ozcan¹, Suheyly Unal¹**¹Department of Psychiatry Faculty of Medicine, Inonu University Malatya, Turkey²Department of Child and Adolescent Psychiatry Faculty of Medicine, Inonu University, Malatya, Turkey

Received 13 November 2016; Accepted 16 November 2016

Available online 01.12.2016 with doi: 10.5455/medscience.2016.05.8547

Neurobrucellosis (NB) is a rare complication seen in 2-7% of brucellosis cases [1]. Nervous system involvement can cause many neurological and psychiatric disorders and symptoms such as encephalitis, meningoencephalitis, myelitis/myelopathy, spinal epidural abscess, pseudotumor cerebri, Parkinsonism, dementia, neuropathies, subarachnoid hemorrhage, depression, agitation, psychosis, personality disorder, euphoria, and nightmares [1-3]. These varied manifestations make the diagnosis difficult. We present a case admitted for severe major depression and radiculopathy where the patient recovered rapidly with antibiotherapy.

A 59-year-old male farmer who lived in a village presented to the neurology clinic with back pain restricting his mobility that had started 8 months ago. Significant weight loss from 71 kg to 58 kg, urinary incontinence, severe depressive symptoms and speech disorder had developed in the meantime. Neurological evaluation revealed only decreased muscle power (4/5) in the proximal right lower extremity. C-reactive protein (CRP) was 1.78 mg/dl, sedimentation 52 mm/h and Lactate dehydrogenase (LDH) 539 U/l. Cranial magnetic resonance imaging (MRI) showed a cystic area due to an old bleed. Spinal MRI revealed T1A hypointense and T2A hyperintense lesions at the level of L2-3, T9-10, T11-12 [Fig. 1a]. Blood Brucella tube agglutination titer was 1/160. The patient did not consent to cerebrospinal fluid (CSF) analysis. The diagnosis was neurobrucellosis with the Brucella tube agglutination test and clinical findings. Doxycycline and rifampicin treatment was initiated by the infectious diseases clinic. The patient was referred to the Psychiatry

Department the same day for his depressive symptoms. Psychiatric examination revealed depressive mood, decreased self-care and lowered speech tone. His thoughts were dominated by guilt, worthlessness and hopelessness. Decreased pleasure, sleeping disorder, forgetfulness, speech disorder, loss of appetite and weight loss were also noticed. The Hamilton Depression Rating Scale (HDRS) score was 45 and the Beck Depression Scale score 42. The patient was diagnosed with severe depression but antidepressant treatment was not started as we believed that the symptoms could be associated with brucellosis. He was evaluated daily by the consultation liaison psychiatry unit during treatment at the infectious disease unit. The depression symptoms began to decrease on the 7th day of treatment. On the 14th day, the Hamilton Depression Rating Scale score was 6 and the Beck Depression Scale score 8. The 8th month follow-up revealed full recovery of the clinical and laboratory findings and a significant decrease in the radiology findings [Fig. 1b].

**Figure 1a.** MRI before treatment

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Figure 1b. MRI after treatment (8 months later)

Neurobrucellosis may appear in any stage and with a wide variety of neuropsychiatric symptoms [4]. Both central and peripheral nervous system complications have been reported [4]. The most common psychiatric pathology is depression but is almost always mild or moderate [2]. Our case suffered from both central and peripheral involvement with severe depression and radiculopathy. All the symptoms rapidly resolved and disappeared with antibiotherapy and without any psychiatric intervention.

Immune activation during inflammatory processes are known to induce “sickness behavior” such as lethargy, somnolence, fatigue, lack of interest, lack of appetite, and decreased concentration that are similar to those seen in depression [5]. We assume that the depressive symptoms in our patient were related to the effects of pro-inflammatory cytokines and that the psychiatric symptoms therefore responded quickly to antibiotic treatment.

“Sickness behavior” and depression can have similar clinical manifestations, requiring inflammatory disorders such as neurobrucellosis, which is endemic in our country, to be considered for patients presenting with neuropsychiatric symptoms.

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