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Case Report

CASE REPORT

Neuro-Behcet's: a diagnostic challenge

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Abstract

Behcet's disease (BD) is characterized by recurrent oral and genital ulcers and uveitis. It is also known to affect various organs; however, central nervous system involvement is rare and may cause parenchymal or vascular lesions with distinct clinical syndromes. Various viral encephalitides are important differential diagnoses. MRI may aid the correct diagnosis. This case report describes a patient with acute severe neurological involvement due to neuro-BD.

INTRODUCTION

Behcet's disease (BD) is an autoimmune disease characterized by recurrent oral and genital ulcers and uveitis. The exact pathogenesis is still unclear, but the main histopathological feature is of widespread vasculitis of arteries or venules of any size. Many organs may be affected; however, neurological involvement in Behcet's (neuro-Behcet's disease) is rare and remains a difficult diagnosis to establish as certain infections may also produce similar picture. Here, we present a patient with neuro-BD with acute neurological involvement.

CASE REPORT

A 35-year-old lady was admitted through emergency intake to medical ICU for altered sensorium for the 3 days progressing to complete unresponsiveness on the day of admission. Her symptoms were preceded by fever, vomiting and headache for 1 week.

At the time of admission, she was stuporous and febrile (temperature 37.7°C) but without any haemodynamic instability. Genital lesions were noted in various stages ranging from healed scars to active ulcerations (Figs 1 and 2). Her neurological assessment revealed anisocoria and facial nerve palsy on the left side. A paucity of movements in response to pain was noted on the left side and was hypotonic on passive movement. Tendon reflexes were exaggerated on the left side and plantar response was extensor in keeping with an upper motor neuron paralysis of the left side. Signs of meningeal irritation were absent. Other systems on clinical examination were normal. With this clinical picture, several possibilities including infection, various causes of stroke in young people including vasculitis and connective tissue disorders such as lupus were considered.

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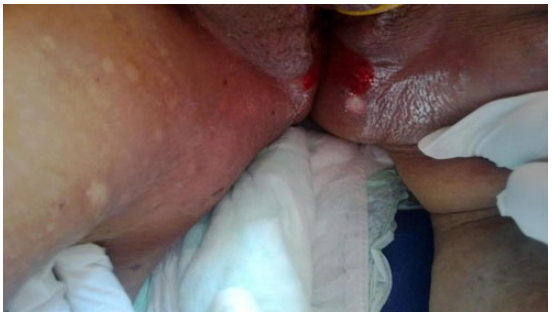

Figure 1: Active ulcers in the genital area.

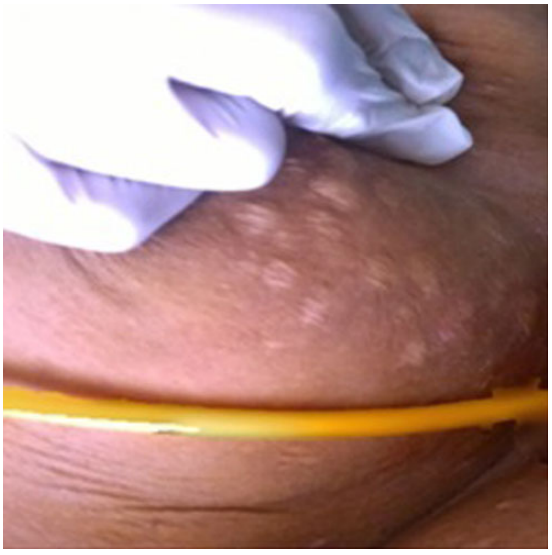

Figure 2: Scars of healed ulcers in the genital area.

Laboratory investigations revealed neutrophilic leucocytosis, elevated ESR and normal liver and renal function tests. Her blood glucose, serum electrolytes and calcium were within normal limits. Serological markers for common viral infections (HIV, HBV, EBV and HCV) were negative. Anti-nuclear antibody by immunofluroscence assay was negative and so was anti-neutrophil cytoplasmic antibody. A chest X-ray was normal. A CT scan of brain ruled out haemorrhagic stroke, but showed no other lesions. A study on cerebrospinal fluid (CSF) revealed markedly raised proteins with low sugar and normal cell counts. CSF gram stain was negative and culture did not yield any growth.

She was initially managed empirically with antivirals along with other supportive measures. However, on the third post-admission day, she was responding only minimally with minor improvement in sensorium. The possibilities of herpes simplex virus (HSV) meningoencephalitis or tuberculosis were considered as high. However, the acute onset was deemed against the latter possibility. On further questioning, the husband who had since returned from Middle East to accompany his ailing wife conformed to the history of 'recurrent genital ulcerations' in his wife which was being treated as herpes with little benefit and 'recurrent oral ulcers'. In addition, he claimed not to be affected by the genital lesions himself at any point of time. These features raised the suspicion of an alternative diagnosis of BD to explain our patient's clinical picture and prompted us to specific neuroimaging.

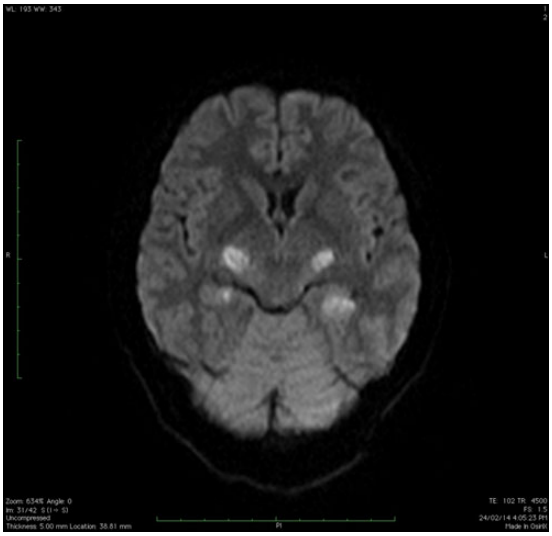

Figure 3: MRI showing involvement of midbrain.

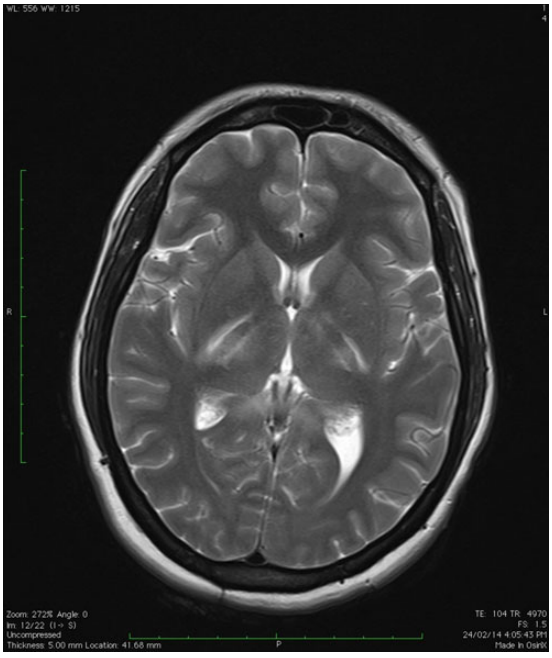

Figure 4: MRI showing bilateral internal capsule involvement.

An MRI study of the brain and whole spine showed multiple symmetrical non-enhancing foci of altered signal intensity in the brainstem, hypothalami, posterior limb of internal capsule and splenium of corpus callosum (Figs 3 and 4), and also the spinal cord in keeping with BD causing neurological involvement (neuro-BD). The later availability of negative CSF PCR for HSV, Japanese encephalitis and West Nile virus strengthened this diagnosis. She was then treated with five doses of intravenous methylprednisolone on consecutive days, along with colchicine and other supportive measures comprising care of the genital ulcers with topical agents, water bed to prevent bed sores, physiotherapy and nutritional inputs. A week later, she was conscious and was obeying verbal commands and was moving left limbs. Follow-up treatment consisted of oral tapering prednisolone and azathioprine. The patient was discharged home with

neurorehabilitation and subsequent follow-ups have found her to be in good health with only minor residual paresis.

DISCUSSION

BD has difference in the sex predilection and its manifestations in different parts of the world. In general, males may have more severe organ involvement, whereas skin lesions such as erythema nodosum are more common in females. Neurological involvement may occur in the course of the disease and have two major forms: vascular and parenchymal [1]. Parenchymal lesions lead to inflammatory lesions in the brain stem, diencephalon, basal ganglia and less frequently, the spinal cord and cerebellum. The cerebral cortices seem to be spared. They usually manifest as bilateral pyramidal signs, unilateral hemiparesis, behavioural changes, sphincter disturbances and headache. Brainstem signs and sensory disturbances are less common. Abnormal CSF findings of pleocytosis and increased cellularity are found in 60% of patients [1]. The second form of neurological involvement is dural sinus thrombosis mainly characterized by headache and papilloedema. It is usually associated with deep vein thrombi in other areas such as lower limbs and has a better prognosis [1].

There is no specific laboratory, radiological or histological findings to help in diagnosing BD. The international Study Group for BD criteria [2] for diagnosis requires satisfaction of two of the following four criteria 'in the presence of recurrent oral ulcerations': (i) recurrent painful genital ulcers that heal with scarring, (ii) ophthalmic lesions such as anterior or posterior uveitis, hypopyon or retinal vasculitis, (iii) skin lesions such as erythema nodosum such as lesions, pseudofolliculitis, papulopustular lesions or acneiform nodules and (iv) positive pathergy skin test.

The MRI findings of our case were in keeping with neuro-BD with the classical involvement of brain [3]. These parenchymal lesions are thought to represent vasculitis of small vessels, mainly venular involvement. The differential diagnosis radiologically may include diseases such as sarcoidosis, small-vessel vasculitis of brain and viral infections. However, the lack of response to antiviral agents together with the negative serology for common viruses and CSF PCR for HSV 1 and 2, West Nile virus and Japanese Encephalitis virus was against a viral aetiology in our patient.

The treatment of parenchymal neuro-BD consists of glucocorticoids (high-dose pulse intravenous and/or oral) and azathioprine [4]. In refractory cases, anti-TNF alpha therapy with infliximab has shown to be of benefit [5].

In conclusion, BD though rare should be considered as a differential diagnosis in genital ulcerations that are painful and recurrent. Neurological involvement may be suggested by the associated clinical features and classical MRI findings. HLA-B51 positivity may aid the diagnosis as it has the strongest known genetic association with BD.

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CONFLICT OF INTEREST STATEMENT

None declared.

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