Recurrent headaches: a case of neurological Behçet's disease

Introduction

Behçet's disease is a rare disease in the UK with a prevalence of around 1 case per 100 000 people (NHS inform, 2011). Both the disease and neurological involvement are more common in men. Pathology occurs through a multisystem immune-mediated vasculitis. No specific diagnostic test exists for Behçet's disease, with patients diagnosed according to a number of internationally agreed criteria (International Study Group for Behçet's Disease, 1990). Organ involvement includes dermatological, cardiovascular, pulmonary, gastrointestinal and ocular systems. Inflammatory eye disease can result in blindness but neurological involvement is considered the most devastating aspect of this multisystem disease. The disease may prove fatal as a result of ruptured vascular aneurysms or severe neurological complications.

Discussion

This patient was initially diagnosed with Behçet's disease on the basis of classic stigmata. Subsequent neurological symptoms, CSF pleocytosis and fluctuating brainstem abnormalities confirmed neurological involvement.

Neurological Behçet's disease may present in a similar way to many disorders, including demyelination, Guillain–Barre syndrome, syphilis, tuberculosis and stroke. This 'mimicry' can lead to difficulties in initially diagnosing the disease. Further complications arose with this patient presenting to different hospitals, with a rare disease, acute on chronic symptoms (headaches), prior stroke (dysar-

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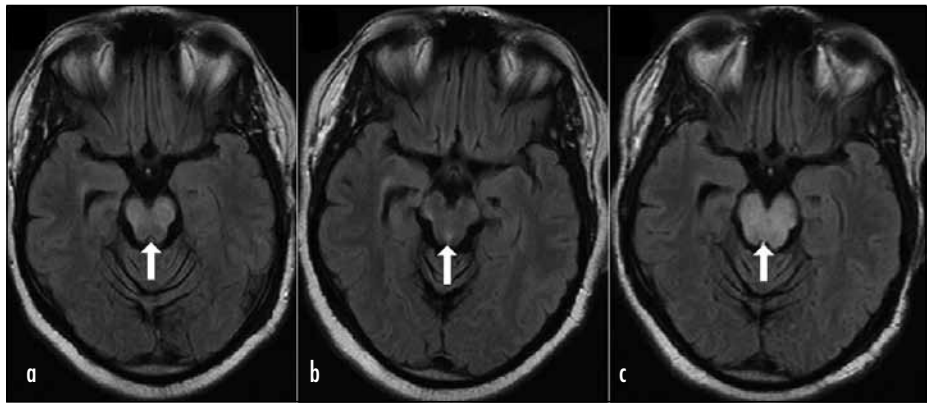
Figure 1. Axial T2 flair magnetic resonance scan images showing the variability of brainstem involvement (white arrows) over 12 months. a. Amorphous increased T2 intensity in the pons, (b) a reduced intensity 4 weeks later and then (c) further high intensity and associated oedematous swelling with the current flare-up 10 months later.



Case Report

A 48-year-old black male, of Nigerian heritage, presented with a 24-hour history of frontal headache of gradual onset. The headache characteristic was migranous, being described as throbbing in nature and located to the right frontal area with associated blurring of vision. Although similar to prior frequent headaches, there was now increasing unsteadiness on walking.

Diagnosed 10 years earlier with Behçet's disease, the initial presentation was with oral and genital ulceration. Recurrent episodes of headache caused by neurological flare-ups resulted in a stroke at the age of 46 years. This previous stroke was ischaemic in character with involvement of the brainstem, pons, midbrain and right cerebral peduncle with extension into the right internal capsule. Surveillance brain imaging (computed tomographic and magnetic resonance imaging with venography) 10 months earlier showed brainstem disease activity (*Figure 1a*) with disease quiescence a month later (*Figure 1b*) following an escalation of immunosuppressant therapy.

Regular medications comprised prednisolone 10 mg (however, regular recurrences had resulted in him taking doses of between 20 and 30 mg/day of prednisolone for most of the past 24 months) and azathioprine 150 mg daily, aspirin 75 mg daily, one adcal D3 twice daily with weekly alendronic acid, and omeprazole 20 mg daily. For headache he took topiramate 25 mg daily and for depression mirtazepine 15 mg daily. The patient was also addicted to a high level of cannabis use which he was reluctant to stop as he felt it helped his symptoms.

On examination he was apyrexial and cardiovascularly stable. Neurological examination revealed a residual horizontal nystagmus to the right on lateral gaze, mild left hemiparesis with moderate spasticity, in addition to dysarthria and dysphonia from his prior stroke. A new feature was an exacerbation of gait unsteadiness. Blood tests were unremarkable and specifically the erythrocyte sedimentation rate was normal at 2 mm/hr (normal range 0–10 mm/hr).

Immediate therapy involved an increase in steroid dosage to methyl prednisolone 1 g/day for 3 days, followed by oral prednisolone 60 mg daily. This was maintained for 2 weeks and then reduced by 10 mg/week to a maintenance dose of 10 mg/day. Magnetic resonance scanning revealed a marked increase in inflammation of the brainstem (*Figure 1c*).

The patient required physiotherapy and occupational therapy with psychiatric input and was able to leave the hospital after 29 days.

thria), psychological issues (depression) and issues of substance misuse (cannabis addiction).

The aetiology remains obscure, with immunological, viral, bacterial and genetic causes proposed. It seems clear that human leukocyte antigen HLA-B*5101 is implicated, with several other susceptibility loci also associated (Piga and Mathieu, 2011).

The CNS may be involved in one of two ways, either through parenchymal disease or non-parenchymal venous sinus thrombotic episodes. The latter can result in intracranial hypertension (Al-Araji and Kidd, 2009). Both forms may co-exist and either might explain the hemiparesis seen in this case. In the parenchymal component, an immune-mediated meningoencephalitis frequently attacks the brainstem and basal ganglia but may also involve the thalamus, cortex, white matter, cerebellum, spinal cord or cranial nerves. Conventional and perfusion magnetic resonance imaging is the method of choice to detect structural and hypoperfusion defects of the neurological Behçet's disease complex (Alkan et al, 2012).

Immunosuppression with high-dose steroids and azathioprine proved successful in this case and forms the basis of treatment of neurological features. Cyclophosphamide and chlorambucil are also used. Additional agents, used for selective aspects of the syndrome, include anti-tumour necrosis factor therapy (infliximab or etanercept), interferon alpha-2a, colchicine and thalidomide.

Conclusions

Headache is a recognized feature of neurological Behçet's disease but may herald further neurological deterioration. CNS involvement frequently follows a relapsing and ultimately progressive course (Siva and Saip, 2009). BJHM

Al-Araji A, Kidd DP (2009) Neuro-Behcet's disease: epidemiology, clinical characteristics, and management. *Lancet Neurol* **8**(2): 192–204

Alkan A, Goktan A, Karincaoglu Y et al (2012) Brain perfusion MRI findings in patients with Behcet's disease. *ScientificWorldJournal* 2012: 261502

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Piga M, Mathieu A (2011) Genetic susceptibility to Behcet's disease: role of genes belonging to the MHC region. *Rheumatology* **50**(2): 299–310

Siva A, Saip S (2009) The spectrum of nervous system involvement in Behcet's syndrome and its differential diagnosis. *J Neurol* **256**(4): 513–29

LEARNING POINTS

- Neurological Behçet's disease 'flare ups' may present as headaches.
- Headache may also be a regular feature of a stable neurological Behçet's disease syndrome.
- Neurological presentations can include devastating ischaemic or haemorrhagic stroke.
- Psychological issues can be a feature.
- The disease is more common in males.
- Prevalence is higher in regions on the historical Silk Road (Turkey having the greatest prevalence of cases) and the far east.

Subclinical vasculitis in polymyalgia rheumatica

A 61-year-old woman presented with a few weeks' history of polymyalgia rheumatica and raised inflammatory markers. She responded well to prednisolone therapy resulting in the resolution of all her symptoms and normalization of inflammatory indices. Interestingly, her inflammatory markers had started to increase toward the end of therapy, but she remained asymptomatic.

At that time, a chest X-ray revealed a 25 mm nodule in her left lung. She underwent fluorodeoxyglucose-positron emission tomography (FDG-PET) scan, which revealed a benign lung lesion. The FDG-PET scan also picked up active vasculitis involving the right and left subclavian arteries, arch of aorta, descending aorta and abdominal aorta up to bifurcation (*Figure 1*). She also started experiencing some musculoskeletal pain and stiffness during this time and was prescribed prednisolone 40 mg daily. Her symptoms settled with normalization of C-reactive protein levels and erythrocyte sedimentation rate over the next 2 months. The prednisolone dosage has gradually been tapered down since, and currently she is totally asymptomatic. BJHM

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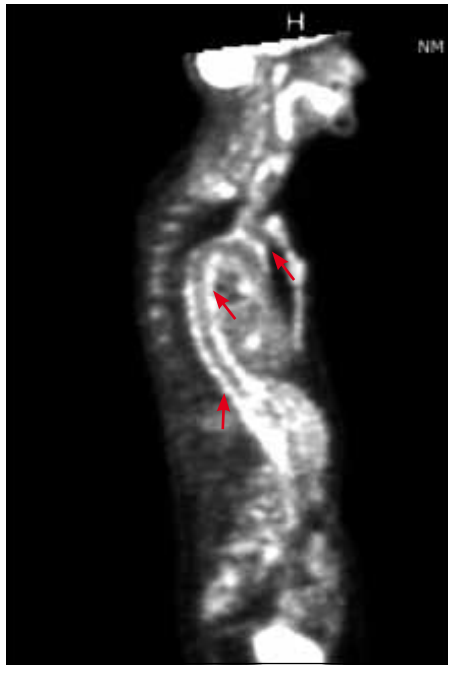

Figure 1. Whole body fluorodeoxyglucose-positron emission tomography scan with arrows showing increased radiotracer activity consistent with active vasculitis.