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PHOTO QUIZ

An unusual cause of a cerebral tumour in a young patient

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A 30-year-old man was admitted because of progressive left-sided muscle weakness, headache and nausea. His medical history was unremarkable. He was born to unrelated Turkish parents and grew up in the USA. His father had suffered from hemiparesis and aphasia since the age of 35, without definite diagnosis. Physical examination revealed a left hemiparesis and left central facial nerve palsy. His upper body was covered with pustules. Fever, oral or genital ulcerations, joint pain, and pulmonary, cardiac or gastrointestinal abnormalities were absent. Routine laboratory investigations, including C-reactive protein, were normal except for moderately elevated liver function tests due to excessive alcohol consumption. The leucocyte count was slightly elevated (12.1×10^9/l) with normal differential. Urine microscopy showed erythrocytes and hyaline casts and there was mild proteinuria. Antinuclear and antineutrophil cytoplasmic antibodies were absent; HLA-B51 was negative. A brain MRI scan showed a large lesion in the right frontoparietal region, resembling glioblastoma, metastasis or a possible infectious cause (*figure 1*). Two needle aspirates of the lesion only revealed nonspecific inflammation without malignant cells. To exclude an infectious cause, serological tests for Epstein Barr virus, HIV, *Mycoplasma pneumoniae*, *Chlamydia* spp., *Bartonella* spp., syphilis, toxoplasmosis, echinococcosis and cysticercosis were performed and were negative. Cerebral spinal fluid analysis showed normal cell counts, normal levels of protein, lactate and glucose, no micro-organisms and no malignant cells. Because of progressive nausea, oral dexamethasone was started, which was followed by a rapid improvement of the neurological signs. However, after the patient had stopped his medication independently, he was readmitted with increasing left-sided weakness, nausea, headache and photophobia. Eye examination revealed evidence of retinal vasculitis and vessel occlusion. An open brain biopsy was performed and showed dispersed lymphocytic vasculitis of small vessels (*figure 2*). No micro-organisms and no neoplasm were found.

See page 163 for the answer to this photo quiz.

Figure 1. *MRI scan ring-enhancing lesion, with central necrosis, surrounding oedema and midline-shift*

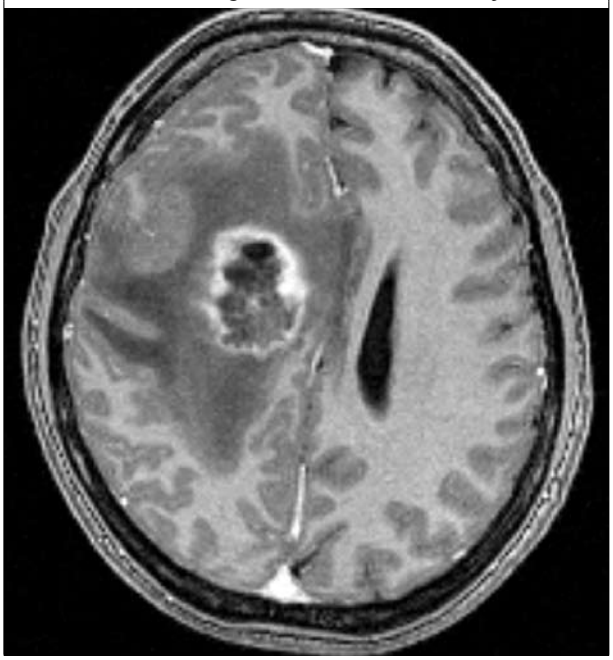
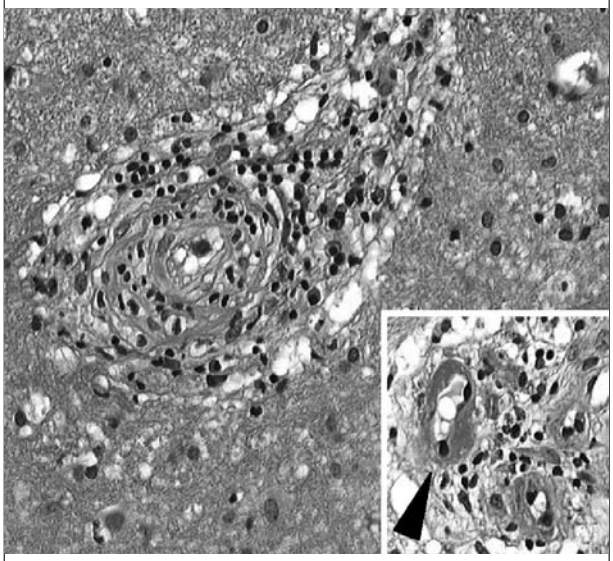


Figure 2. *Lymphocytic inflammation of the wall of small cerebral blood vessel*



The inset in the lower right corner shows fibrinoid necrosis of another cerebral microvessel (arrowhead). Haematoxylin and eosin staining, original magnifications x 200.

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ANSWER TO PHOTO QUIZ (ON PAGE 152)

AN UNUSUAL CAUSE OF A CEREBRAL TUMOUR IN A YOUNG PATIENT

DIAGNOSIS

Based on cerebral and retinal vasculitis, cutaneous pustules, Turkish ancestry, and by exclusion of other possible causes, the diagnosis Behçet's disease was made, despite the lack of oral and genital ulcers and pathergy. Behçet's disease is a systemic inflammatory disorder of unknown origin first characterised in 1973 as a triad of recurrent oral aphthous ulcers, genital ulcers and relapsing inflammation of the eye. The prevalence of the disease is highest in countries along the Silk Road from the Mediterranean Sea to Japan and varies from 0.1 (USA) to 370 (Turkey) cases per 100,000 population.[1]

There is no diagnostic laboratory test and diagnosis is based on clinical judgement. In some high-prevalence countries the human leucocyte antigen HLA-B51 is associated with the disease.[1] According to the International Study Group for Behçet`s disease, a definite diagnosis requires recurrent oral ulcerations plus two of the following: skin lesions, eye lesions, recurrent genital ulcerations or a positive pathergy test.[2] Other symptoms include arthritis, vascular lesions, and gastrointestinal and central nervous symptoms.[3] Involvement of the central nervous system (CNS) occurs in 2 to 50% of all patients with a higher incidence in the Middle East and Mediterranean countries than in Turkey and the Far East.[4,5] Neurological involvement in Behçet's disease comprises two pathophysiologically different entities: there may either be an inflammatory process of small and medium-sized blood vessels with (multi)focal parenchymal involvement, which is seen in the majority of patients, or large vein involvement in the form of cerebral venous sinus thrombosis.[6] Clinical presentation in patients with parenchymal involvement typically consists of meningoencephalitis with brainstem symptoms, less common are spinal cord involvement, hemiparesis and cognitive-behavioural changes. Neuro-imaging studies usually show multiple lesions in the brainstem or midbrain sometimes extending to the diencephalon. In a case series of 50 patients with neuro-Behçet syndrome (NBS) all five patients who presented with hemisphere syndrome showed multiple white matter lesions in both hemispheres.[7] Patients with cerebral venous sinus thrombosis usually present with symptoms of increased intracranial pressure, with headache and mental changes. NBS presenting with hemiparesis and a mass lesion of the cerebral hemisphere on MRI has only rarely been described.[6,8]

In a minority of patients the neurological symptoms form the first manifestation of the disease as in our case. A study of 200 patients with NBS showed that in only 3% neurological symptoms preceded the onset of Behçet`s disease.[9] However, due to the absence of typical mucocutaneous manifestations, the diagnosis in these patients poses a diagnostic dilemma and is often delayed, sometimes until autopsy.[10-12] In our patient other causes of a solitary mass lesion, including benign and malignant neoplastic lesions, infectious diseases and other noninfectious inflammatory processes had to be ruled out before a likely diagnosis of Behçet's disease could be made. Often repeated investigations including invasive procedures such as open brain biopsy are carried out in search for the correct diagnosis. Behçet's disease should be considered in patients presenting with a cerebral tumour-like lesion, especially when they are of Mediterranean or Asian origin.

In our patient, high-dose prednisone combined with azathioprine was restarted, which led to partial improvement of neurological defects, retinal vasculitis and proteinuria and complete remission of the skin manifestation.

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