NEUROLOGICAL PICTURE

Tumefactive multiple sclerosis plaque

We present a case of a large solitary demyelinating plaque in the brain masquerading as tumour. A 34 year old healthy woman presented with sudden onset of left hemiparesis. Subsequent MRI of the brain showed a single large 2.5 cm right sided enhancing lesion within the white matter of the parietal lobe (fig 1). The lesion appeared to originate from the corpus callosum. Diffusion weighted and gradient echo images were negative for ischaemia and haematoma respectively. Multi-voxel MR spectroscopy showed decreased NAA and mild elevation of choline which was equivocal for tumour versus demyelination versus abscess. No systemic or laboratory evidence of infection was found. Multiple sclerosis (MS) laboratory follow up including routine CSF, IgG synthesis index, myelin basic protein and oligoclonal bands was also negative. Subsequent visual evoked potentials and somatosensory evoked potentials were unremarkable. MRI of the spine did not reveal other demyelinating lesions.

To rule out neoplasm, particularly lymphoma, the patient underwent a stereotactic biopsy of the lesion. Histopathological examination of the biopsy specimen revealed subacute demyelination associated with macrophages consistent with demyelinating disease.

Nearly all of the reported cases of tumefactive demyelinating plaques have involved patients with a known diagnosis of MS.[1] Multiple sclerosis only rarely presents as a single mass lesion that clinically and radiographically is indistinguishable from a brain tumour, with no other associated diagnostic abnormalities.[2] This situation represents a diagnostic challenge, which reasonably calls for a biopsy despite the clinical suspicion of demyelination.[3]

S Khoshyomn
Division of Neurosurgery
Department of Surgery
University of Vermont College of Medicine

S P Braff
Division of Neuroradiology
Department of Radiology
University of Vermont College of Medicine

P L Penar
Division of Neurosurgery
Department of Surgery
University of Vermont College of Medicine

Correspondence to: Dr P L Penar, University of Vermont, College of Medicine, Division of Neurosurgery, Fletcher 507, 111 Colchester Avenue, Burlington, VT 05401, USA; paul.penar@uvm.edu

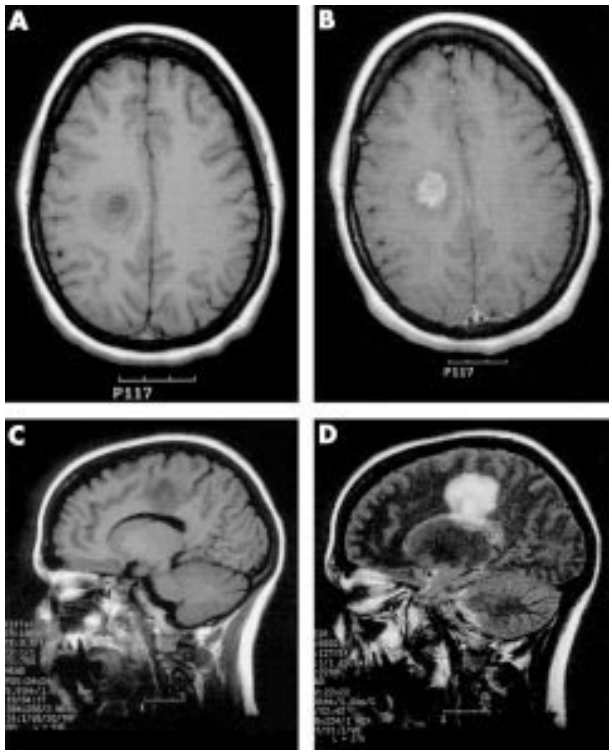

Figure 1 Pre (A) and post-gadolinium (B) T1-weighted axial images. Sagittal T1-weighted (C) and FLAIR (D) MRI images.

References

1 **Ernst T**, Chang L, Walot I, *et al*. Physiologic MRI of a tumefactive multiple sclerosis lesion. *Neurology* 1998;**51**:1486–8.
2 **Shalmon B**, Nass D, Ram Z, *et al*. Giant lesions in multiple sclerosis—a diagnostic challenge. *Harefuah* 2000;**138**:936–9 [In Hebrew].
3 **Dagher AP**, Smirniotopoulos J. Tumefactive demyelinating lesions. *Neuroradiology* 1996;**38**:560–5.