Letters

Triphasic waves in Mollaret's meningitis

Sir: Triphasic waves are recognised findings in EEGs of patients with metabolic encephalopathy and Alzheimer's disease;¹ they are also known to occur in cerebrovascular accidents,² acute hyperthyroidism³ and metrizamide encephalopathy.⁴ We now report a patient with Mollaret's meningitis whose EEG showed triphasic waves during exacerbations. This association has not previously been described.

A 72-year-old female presented with acute fever and vomiting. Neurological examination showed only neck stiffness. Cerebrospinal fluid was clear and revealed 103 white cells (62% polymorphonuclears, 20% lymphocytes and 18% monocytes/mm³), protein of 1.04 g/l (normal: 0.2 to 0.4) and glucose of 4.3 mmol/l (normal: 2.8 to 4.5); bacterial, fungal and viral studies were negative. There was no laboratory evidence of renal or hepatic dysfunction or hypoxia. Extensive work-up for any "hidden" septic focus was negative. EEG showed frontally prominent triphasic waves, occurring in short runs (fig). The patient's symptoms cleared spontaneously over the following week. Repeat EEGs during symptom-free period were normal. The patient had five subsequent admissions with the same features of aseptic meningitis over the next 5 months, each time spontaneously recovering within one week. EEGs during these bouts again showed triphasic waves.

Detailed reviews of Mollaret's meningitis do not mention EEG findings or occurrence of triphasic waves.^{5,6} This condition should

be included among various disorders associated with triphasic waves. The pathogenesis of the waves in these disorders is not known, although impairment of dopaminergic system⁵ and abnormal cerebral glucose metabolism⁴ have been proposed. In metrizamide encephalopathy, metrizamide in the cerebrospinal fluid is thought to interfere with the sodium-potassium ATPase cation pump and competitively inhibit glucose metabolism.⁴ Mere presence of inflammatory cells in the cerebrospinal fluid is not likely to be related to the appearance of triphasic waves because viral, bacterial and tuberculous meningitis are not associated with such waves. It appears that different aetiological factors (including the "agent" responsible for Mollaret's meningitis) produce dysfunction of a final anatomical or neurochemical mechanism at subcortical level, resulting in triphasic waves.

Finally, we wish to emphasise that the presence of triphasic waves in the EEG of patients with acute encephalopathy does not necessarily indicate a metabolic aetiology.

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Herpes simplex encephalitis presenting as the sick sinus syndrome

Sir: Infection of the nervous system by Herpes simplex virus type 1 (HSV1) characteristically involves the cerebral hemispheres, showing a particular predilection for the temporal and frontal lobes. Cases usually present as a diffuse meningo-encephalitis or may mimic a supra-tentorial space occupying lesion, with fits, speech disturbance and hemiparesis. However, over the past decade it has become apparent that the virus may be responsible for a wider spectrum of disorder: CT evidence of occipital involvement has been demonstrated,¹ Roman-Campos and Toro² have reviewed six cases of brainstem encephalitis attributed to HSV1 and reported a further case, confirmed at necropsy while Klapper *et al*³ have recently described a more benign form with a good prognosis. We report an additional mode of presentation in which both clinical and pathological features of diencephalic involvement were apparent.

On the day prior to admission, a previously well 60-year-old man developed a number of fainting attacks in which he became very pale but did not convulse nor become incontinent. During a similar attack in the casualty department, a 10 second period of complete asystole was observed on cardiac monitoring, a diagnosis of the sick sinus syndrome made and a cardiac pacemaker inserted the same day. Within 24 hours he had become febrile and drowsy without evidence of meningism and over the next three days lapsed into coma characterised by small reactive pupils, intact brain stem reflexes, normal respiration and withdrawal of all four limbs to painful stimuli. Routine blood tests were normal apart from a serum sodium concentration falling to 121 mmol/l. Two CT scans with contrast were

Fig EEG during first hospital admission, showing prominent frontal triphasic waves.