

Abstract

A patient with generalized convulsions noted that seizures were reliably precipitated by mental arithmetic. The interictal electroencephalogram revealed only a mild, diffuse, nonspecific disturbance, but bursts of generalized epileptiform activity with no obvious clinical expression accompanied efforts at mental arithmetic with a significantly high incidence. Tasks involving multiplication, division, and manipulation of spatial information were significantly associated with discharges, but few, if any, discharges appeared when addition and subtraction tasks of equivalent difficulty were performed. Tasks involving the retention of numerical information in short-term memory (e.g., immediate repetition of a series of 8 digits) were never associated with paroxysmal EEG activity. It is argued that generalized epilepsy of this kind may be related to focal dysfunction in a manner analogous to the involvement of the occipital lobe in cases of pattern-sensitive epilepsy.