Clinical features and prognosis of first-ever seizure presenting with two or more discrete seizures within 24 hours

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Objective: The Commission on Epidemiology and Prognosis of the ILAE[1] recommends that multiple seizures within 24 hours be regarded as a single event. The rationale for this has not been systematically studied. Camfield[2] found that a child presenting with two or more unprovoked seizures on the same day has a recurrence rate identical to that of a child with a longer interval between seizures. This finding is not in keeping with the ILAE recommendation and raises the question as to whether anti-epileptic drug treatment should be initiated in this situation.

Methods: Adult patients with first-ever seizure seen at a hospital-based clinic were prospectively studied. The clinical features of patients presenting with two or more discrete seizures within 24 hours were compared to those who presented with a single seizure. The primary outcome was occurrence of a second seizure at six months of follow-up.

Results: Of 457 patients, 65 (14%) had two or more discrete seizures within 24 hours. The demographic data were similar between the two groups. Provoked seizures were more common in the multiple-seizure group ($p=0.03$). The frequencies of EEG epileptiform abnormalities and epileptogenic lesions on neuroimaging between the two groups were similar. At 6 months, the rate of seizure recurrence did not differ between the two groups (34% vs. 31%, $p=0.8$). Although anti-epileptic drugs were initiated in a higher percentage of patients presenting with multiple seizures (51% vs. 21%, $p<0.001$), the rates of seizure recurrence were similar irrespective of treatment. On multivariate analysis, the only predictors of seizure recurrence were remote symptomatic aetiology ($p=0.0002$) and epileptiform abnormalities on EEG ($p=0.01$).

Conclusion: The occurrence of multiple seizures within 24 hours at first-ever presentation in adults is not associated with an increased risk of seizure recurrence, supporting the ILAE recommendation. Long-term treatment considerations in this setting should be based on other predictors of recurrence.

References

1. Commission on Epidemiology and Prognosis, International League Against Epilepsy. Guidelines for epidemiologic studies on epilepsy. *Epilepsia* 1993; 34: 592-6.
2. Camfield P, Camfield C. Epilepsy can be diagnosed when the first two seizures occur on the same day. *Epilepsia* 2000; 41: 1230-3.