

## CLINICAL EPILEPTOLOGY

# A clinical and EEG study of epilepsy with grand mal on awakening

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**Background and Objective:** Epilepsy with grand mal on awakening (GMA) is an epilepsy syndrome with generalized seizure and occurrence of seizure on awakening.<sup>1</sup> The prevalence, clinical and EEG features are not clearly understood. This is a clinical and EEG study of Chinese patients with GMA.

**Methods:** All GMA patients who attended the outpatient clinics, Epilepsy Center of Guangzhou Medical College within 2002-2004 were studied. Patients were diagnosed as GMA if they have generalized seizures occurring on awakening, or evening during relaxation.<sup>2</sup> EEG was performed in all patients. Seizure control was defined as no seizure for one year with or without antiepileptic drug.

**Results:** GMA constituted 0.9% (12/1300) of all outpatient epilepsy patients. There were 7 males and 5 females, age ranged from 9 months to 43 years. In 66% cases, the age of onset of seizures was 6 to 25 years. Tonic-clonic seizure was seen in all cases, and 2 patients had absence seizure. The seizure frequency was from once a month to once a year. All were normal mentally except one with minor difficulties in school. The physical examination was also normal in all the patients. Normal studies were seen in 5 patients with CT brain, and one patient with MRI brain. EEG showed increased slow waves in 91% of cases. There were no focal abnormalities. Generalized epileptic discharge (including sharp wave and spike-wave) was seen in 3 patients (25%). None of the patients with absence had the typical 3HZ spike-wave. One patient had normal EEG. No obvious etiology was found in 11 patients. One patient had possible asphyxia from dystocia. None of the patients had family history of epilepsy. Four patients were controlled with valproic acid, one with topiramate, and one with traditional Chinese medicine. Three others with controlled with multiple drugs over 3 months.

**Conclusion:** GMA was seen in one percent of outpatients with epilepsy, with absence seen in some patients. EEG showed increased slow waves, with one-quarter showing generalized discharges. The seizures was controlled in majority of patients, with valproic acid being the most effective.

## References

1. Commission on classification and terminology of the ILAE. Proposal for revised classification of epilepsy and epileptic syndromes. *Epilepsia* 1989; 30: 389-99.
2. Wolf P. Epilepsy with grand mal on awaking. In: Roger J, Bureau M, Dravet Ch, Dreifuss FE, Perret A, Wolf P, eds: *Epileptic syndromes in infancy, childhood and adolescence*. 3rd edition. United Kingdom: John Libbey Co Ltd. 2002: 357-67.