

# Frequency of EEG Abnormalities and Results of Antiepileptic Drug Therapy In Unstable Mood Disorders

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**Purpose:** To investigate the frequency of EEG epileptogenesis in adolescent and adult outpatients psychiatrically diagnosed as bipolar or cyclic mood disorder and the effects of antiepileptic therapy if employed.

**Methods:** Retrospective analysis of 42 patient evaluations (24 females, mean age 37 years, range 14-52) performed between 1/2000 and 12/2004 in whom a recent prior psychiatric diagnosis of bipolar I or II or cyclic mood disorder had been made. Patients underwent a behavioral neurologic evaluation: family medical and psychiatric history, personal developmental, medical and psychiatric history, quantitative neurological examination, neuropsychological studies, blood work, MMPI, routine and digitally analyzed EEG (10/20 system, gold electrodes, certified EEG technologist, interpretation by fellow of the American Neurophysiological Society). No patient was on antiepileptic drug (AED) therapy at the time of the investigation. No patient had a prior diagnosis of epilepsy, clinical seizure or a prior EEG.

**Results:** 18 patients (45%) had EEG abnormalities classified as dysrhythmia grade III (Mayo Clinic classification) with focal epileptogenesis, 12 with dysrhythmia grade II (28%). Twelve studies included sleep recordings. In 21 of the 30 cases with abnormal EEG (70%), AED Rx (lamotrigine, levetiracetam, topiramate or oxcarbazepine) was introduced and proved effective in stabilizing mood without serious adverse events in 18 (85%).

**Conclusion:** In patients with clinically unstable mood, EEG investigation may yield evidence of cortical physiological abnormalities warranting a rational trial of AED therapy.

Platform presentation, May 23, 2006 American Psychiatric Association, Toronto, Ont. Canada.