

Thesis Title	Assessment of Prevalence and Anticonvulsant Blood Levels in Catamenial Epilepsy
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Abstract

The study was performed to assess the prevalence and the changes of anticonvulsant blood levels in catamenial epileptic patients. Catamenial epilepsy was defined as the exacerbation of seizures which occur within 4 days prior to and/or 6 days after the onset of menstruation. The prevalence was assessed in female epileptic patients aged between 15-50 years at out-patient department of Prasat Neurological Institute during 1 November, 1995 to 31 January, 1996. Patients or their relatives were directly interviewed using questionnaire concerning menstrual history, history of seizure and its treatment including the seizure which related to menstruation and were asked to record their seizure frequency and menstrual periods for 2 months. In case that the interview could not be directly performed, mailed questionnaire was used instead. All information was considered together with information reviewed from the OPD cards. Forty-six from 467 epileptic patients were considered to have catamenial epilepsy. Thus, the period prevalence was 98.5 in 1,000 women at risk and the seizures occurred most frequently in 2 days before menstruation.

Due to the highest frequency of phenytoin combined with phenobarbital usage in catamenial epileptic patients, their blood levels around menstruation and those at the expected ovulation were compared in 10 catamenial epileptic patients, 8 using phenytoin combined with phenobarbital and 2 using phenytoin monotherapy and 16 control patients, 8 using combination, 3 using phenytoin monotherapy and 5 using phenobarbital monotherapy. Blood samplings were performed for 5 times: in 2 and 1 day before menstruation, on the first and second menstrual day and on the expected ovulatory day (14 days after beginning of menstruation). It was found that in catamenial epileptic group, phenytoin levels around menstruation were significantly lower than the level at ovulation ($p < 0.05$). In control group, a significant decline in phenytoin levels was demonstrated only the level on the second menstrual day compared with the level at ovulation ($p < 0.05$). However, the decline of phenytoin levels in catamenial epileptic group was significantly greater than that in control group ($p < 0.05$). Neither significant decline nor difference was found in phenobarbital, serum albumin levels and body weights in both groups ($p > 0.05$).

The results demonstrated that catamenial epilepsy was one of the clinically significant problems of seizure control in Thai female epileptic patients and the declines of anticonvulsant, specifically phenytoin, blood levels around menstruation might be in part responsible for this seizure.