

## **Antiepileptic drug effects on sex-steroid hormones in women with epilepsy**

**M. Bosak**<sup>1</sup>, D. Włoch-Kopeć

<sup>1</sup>*Neurology, Jagiellonian University Medical College, Poland*

**Introduction:** Women with epilepsy are at risk for reproductive health dysfunction. Alterations in hormone levels are a direct effect of epileptic discharges, both in animals and humans. Antiepileptic drugs (AEDs) are known to have endocrine side effects in women with epilepsy. Distinguishing the side effects of antiepileptic drugs (AEDs) from the many other factors that influence the patients can be difficult. **Methods:** Sex-steroid hormones were evaluated in 20 reproductive-aged women with epilepsy receiving an AED in monotherapy. None of the patients had been diagnosed with an endocrine disorder before starting AED treatment or had used drugs that may interact with endocrine function. 10 women were treated with levetiracetam (LEV) and 10 with lamotrigine (LTG) for at least 2 years. Estradiol (E2), testosterone (T), dehydroepiandrosterone (DHEA), sex hormone-binding globulin (SHBG) were evaluated in follicular phase and progesterone (P) in luteal phase of menstrual cycle. **Results:** E2 levels were normal in all women. T levels were abnormal in 5 (25%) patients: elevated in 4 (2 on LEV, 2 on LTG) and lowered in 1. DHEA levels were elevated in 5 (25%) patients (2 on LEV, three on LTG). SHBG levels were elevated in 4 (20%) patients (2 on LEV, 2 on LTG), P levels were lowered in 9 (45%) patients (6 on LEV, 3 on LTG). Any abnormalities were found in 10 (50%) women (6 on LEV, 4 on LTG). **Conclusion:** These preliminary results indicate that new AEDs may alter sex-steroids levels in women with epilepsy.