ENDOCRINOLOGICAL DISTURBANCES IN EPILEPTIC PATIENTS

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Summary

Introduction. Hormones, particularly sex steroids, may affect the seizure threshold by altering neuronal excitability in the CNS. Seizure expression may change at certain stages of life, e.g., puberty, menarche, pregnancy and menopause. Vulnerability to seizures during the menstrual cycle reflects fluctuations in oestrogen and progesterone levels. Increased levels of pituitary hormones and cortisol following epileptic seizures have also been reported. Antiepileptic drugs affect the level of hormones by altering their hepatic metabolism and protein binding.

Objective. To give an overview of the different aspects of the relations between the endocrine system and epilepsy.

Discussion. The paper reviews hormonal responses in epileptic seizures, endocrinological disturbances in epileptic patients, the effects of hormones on the convulsion threshold, the lifetime effects of hormones on the course of epilepsy, including puberty, the menstrual cycle, menopause, circa-annual and circadian rhythms. The authors discuss the effects of antiepileptic drugs on hormone levels and the effects of endocrinological diseases on anticonvulsant therapy. They also discuss the use of hormones in antiepileptic treatment.

Key words: Epilepsy – Antiepileptic drugs – Hormones – Endocrinological disturbances – Menstrual cycle – Circadian rhythm – Circa-annual rhythm – Melatonin