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EFFECT OF AGE OF ONSET AND DURATION OF EPILEPSY ON SEIZURE FREQUENCY. A MULTICENTER STUDY IN POLAND

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Summary

Introduction. Very little is still known about the natural course of epilepsy and particularly about seizure frequency. This is because epilepsy is a multi-factor phenomenon and the samples on which these phenomena are studied are too small.

Objective. Assessment of the effect of age of onset (AO) and duration of epilepsy (DOE) on the frequency of various types of epileptic seizures depending on patients' sex and age and type of seizure (mixed or one type).

Material and method. The study was run on 5182 patients (F – 2513, M – 2669). There were 3597 patients in the group with one type of seizure (OT) and 1585 patients in the group with mixed seizures (MS). Patients' age ranged from 1 to 95 years (means are provided for the group with all types of seizures). The data were submitted to multiple regression analysis. Five variables were entered into the regression equation. Regression coefficient and determination coefficient R^2 were calculated. The significance of R for independent variables was calculated by means of the t test.

Results. The effects of AO and DOE on seizure frequency were significantly different for partial simple, complex and generalised tonic-clonic seizures and depended on whether the seizure type was in group OT or group MS. The correlation for group MS was either positive or nonsignificant (rarely). The correlation for group OT was either negative or nonsignificant (rarely). Negative correlations were found for frequency of absence seizures (ABS) and mioclonic (MYO) seizures in group OT for AO and DOE and in group MS for AO. No significant correlations emerged for DOE. Sex had a different effect on the correlations in group OT and MS. Significant differences in group OT were found for ABS seizures (negative correlation with AO in males). Differences in the correlations with DOE were found for generalised tonic-clonic seizures (negative correlation in males). In group MS differences were more pronounced for AO than for DOE: frequency of partial simple and partial complex seizures correlated positively with AO in females; frequency of ABS seizures correlated negatively with AO in males. The effect of DOE correlated negatively with frequency of ABS seizures in males only.

Conclusions. The effects of age of onset and duration of epilepsy on seizure frequency differ depending on type of seizures, whether seizures are of one type only or mixed, and on patients' sex.

Key words: Seizure frequency – Age of onset – Duration of epilepsy – Sex – Correlation

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