Optimisation of Pharmacological Therapy in Epilepsy

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Introduction. Up to 39% of patients with known epilepsy may fail to take their anti-epileptic drugs (AEDs) as directed (Samsonsen et al., 2014). To avoid non-adherence, it is recommended to start treatment as a monotherapy. If seizures continue, the next strategy is to gradually titrate the dosage to an extent which is well tolerated and/or produces optimal seizure control (Louis et al., 2009).

Aim, Materials and Methods. The aim of the study was to analyse the frequency of seizures and number of AEDs in patients with confirmed epilepsy diagnosis before and after hospitalisation.

A retrospective study design was used. Information was obtained from medical records of patients with known epilepsy who were admitted to the Department of Neurology of Riga East Clinical University Hospital after unprovoked seizure from January 2006 to July 2014. The data was analysed using SPSS 22.0 software.

Results. Medical records of 406 patients with known epilepsy were included in the study. Of all patients, 48.0% (n = 195) were women and 52.0% (n = 211) were men. The average age was 44.87 (SD 18.06). According to medical records, focal epilepsy was diagnosed in 76.1% (n = 309/406) of cases, 78.6% (n = 243/309) had symptomatic and 21.4% (n = 66/309) – cryptogenic epilepsy. Idiopathic generalised epilepsy was diagnosed in 10.8% (n = 44/406) and unclassified epilepsy in 13.1% (n = 53/406) of patients. Habits of AEDs use was noted in 98.52% (n = 400/406) of medical records. 69.0% (n = 276/400) of patients regularly took AEDs, while 31.0% (n = 124/400) did not use AEDs or did it irregularly. The frequency of seizures before hospitalisation was reported in 52.0% (n = 211/406) of patients: 19.9% (n = 42) had less than one seizure a year, 27.0% (n = 57) few times a year, 30.3% (n = 64) every month, 15.6% (n = 33) every week and 7.1% (n = 15) every day.

The number of recommended AEDs on discharge among patients who did not take AEDs or took drugs irregularly and for whom medical data was available (n = 108/124) was as follows: one AED in 86.1% (n = 93/108), two in 13.0% (n = 14) and three in 0.9% (n = 1) of cases. Recommendation on AED treatment in patients who took drugs regularly (n = 276/400) and for whom medical data was available (n = 266/276) was as follows: in 64.7% (n = 172/266) therapy was optimised (changed AED or increased dosage), in 2.3% (n = 6) therapy was reduced, and in 33.1% (n = 88) treatment was not changed. The number of recommended AEDs on discharge was: one AED – 49.6% (n = 137/276), two – 35.1% (n = 97), three – 12.7% (n = 35), four – 1.5% (n = 4), no data was available in 1.1% (n = 3) of patients. One AED was recommended for 74.2% (n = 23/31) of patients who had seizures a few times a year and for 70.0% (n = 14/20) of patients who had less than one seizure a year. Of the patients who had seizures every month (n = 50), one AED was recommended in 38.0% (n = 19), two in 46.0% (n = 23), three in 14.0% (n = 7) and four in 2.0% (n = 1) of cases. Of these patients therapy was optimized for 78.0% (n = 39/50) and reduced for 2.0% (n = 1/50). Of those who had seizures every week (n = 29), one AED was recommended in 20.7% (n = 6/29), two in 51.7% (n = 15/29), three in 20.7% (n = 6/29) and four in 6.9% (n = 2/29) of cases. In this group therapy was optimised for 75.9% (n = 22/29) and reduced for 3.4% (n = 1/29) of patients. Of those who had seizures every day (n = 10), one AED was recommended in 40.0% (n = 4/10), two in 30% (n = 3) and three in 30% (n = 3) of cases.

Conclusions. One third of the observed patients did not use or used AED therapy irregularly. No association between seizure frequency before hospitalisation and the number of AEDs and optimisation of therapy after discharge was found.