Insomnia in Epilepsy: Association Between Insomnia Symptom Severity and Disease-Related Characteristics

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Objective: To examine the association between insomnia symptoms using the Insomnia Severity Index (ISI) and epilepsy-related characteristics and mood disorder symptoms in adults with epilepsy.

Background: Insomnia is highly prevalent and strongly associated with depressive symptoms in epilepsy patients. However, the relationship between insomnia symptoms and epilepsy-related characteristics is sparse and conflicting.

Design/Methods: Adults with epilepsy presenting to the Cleveland Clinic Epilepsy Center for initial evaluation January-August 2018 who completed the ISI were included. Clinical insomnia symptoms (ISI$\geq$8) and moderate-to-severe insomnia symptoms (ISI ≥15) were ascertained. Epilepsy-related characteristics, Patient Health Questionnaire (PHQ-9) Generalized Anxiety Disorder Questionnaire (GAD-7) and Quality of Life in Epilepsy-10 (QOLIE10) were obtained from the Cleveland Clinic Knowledge Program, an electronic data collection system for patient-reported outcomes and medical record review. Spearman's correlation and Kruskal Wallis test were used to evaluate association among those variables.

Results: 270 patients (age 43.5yr, 58% female, 74% focal epilepsy,48% monotherapy) were included. 71 patients (26%) had at least one seizure./month. Median ISI was 7[3.0,14.0]; $\geq$8 in 134 (49.6 %) and ≥15 in 62 (23%) patients. A positive correlation was found between ISI and PHQ-9 ($r=0.64$, $p<0.001$), GAD-7($r=0.68$, $p<0.001$), QOLIE ($r=0.55$, $p<0.001$), and monthly seizure frequency ($r=0.31$, $p<0.001$). Correlations between ISI and epilepsy type, AED number and lamotrigine use were not significant. Correlations with ISI were greater for PHQ-9 and GAD-7 than seizure frequency ($p<0.001$).

Conclusions: Insomnia symptoms are highly prevalent in adults with epilepsy. Insomnia symptoms are associated with depression, anxiety and poorer seizure control but not with epilepsy type or number of AEDs. Given the potential therapeutic benefits of treating sleep disorders on seizure control, routine screening of insomnia symptoms is warranted.