The role of rating scales in the diagnosis of postoperative insomnia

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Background. Sleep disorders can be considered as an integral expression of the perioperative stress response. Postoperative insomnia is one of the most common postoperative complications: the incidence is exceed 70%. The gold standard for the diagnosis of insomnia is polysomnography, which is rarely available in postoperative patients. Instead, rating scales are an easy-to-use, inexpensive and affordable tool.

Objective. To compare scales for assessment of sleep in postoperative patients.

Materials and methods. The study included 38 patients after general surgery. The age was 26-68 years (54.6±9.4). The gender distribution: 16 men and 22 women. All patients undergo an overnight 10-hour video-EEG. EEG patterns of insomnia were considered sleep latency of more than 30 min, wakefulness during sleep more than 30 min, and total sleep time less than 6.5 hours. The AIS, RCSQ, and ISI were used to evaluate patients on the day after surgery. The Cronbach’s alpha coefficient was calculated for the reliability analysis. Sensitivity and specificity were calculated.

Results. The video-EEG patterns of insomnia were found in 15 patients. The remaining patients (n=23) did not show signs of insomnia on video-EEG. The AIS had the highest sensitivity of 84.6%, RCSQ - 76.9%, and ISI - 69.2%. The specificity was: 85.7% for AIS, 81.0% for RCSQ, and 69.2% for ISI.

Conclusions. The scales used in the study showed sufficient reliability, sensitivity, and specificity and can be used as a valid method for assessing sleep in postoperative patients.

Key words: anesthesia, sleep, postoperative insomnia, rating scale.
less than 6.5 h, sleep efficiency index <84 %. The Athens Insomnia Scale (AIS), Richards – Campbell Sleep Questionnaire (RCSQ) and Insomnia Severity Index (ISI) was applied to patients the day after surgery. For reliability analysis was used Cronbach’s alpha. Were calculated sensitivity and specificity of the scales.

**Results.** Video-EEG patterns of insomnia was present in 15 subjects. The rest 23 subjects did not have signs of insomnia in video-EEG. The Cronbach’s alpha for AIS was 0.90, for RCSQ – 0.89 and for ISI – 0.86. The sensitivity of AIS for postoperative insomnia was 84.6 %, RCSQ – 76.9 % and ISI – 69.2 %. The specificity level was 85.7 % for AIS, 81.0 % for RCSQ, and 69.2 % for ISI.

**Conclusions.** The rating scales used in the study showed sufficient reliability, sensitivity and specificity and can be used as a valid method of assessing sleep in postoperative patients.

**Key words:** anesthesia, sleep, postoperative insomnia, rating scale.