Insomnia as a Factor in Migraine Chronification

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Abstract

Migraine is a highly prevalent and disabling neurological disorder characterized by recurrent headache attacks and a broad spectrum of associated symptoms. Increasing evidence suggests that sleep disturbances, particularly insomnia, play an important role in the progression from episodic to chronic migraine. Insomnia is significantly more common in individuals with migraine than in the general population and is associated with increased headache frequency, greater pain intensity, reduced quality of life, and poorer therapeutic outcomes. The relationship between migraine and insomnia is bidirectional and is likely mediated by shared neurobiological mechanisms involving hypothalamic dysfunction, altered neurotransmitter activity, central sensitization, and dysregulation of pain modulation pathways. Chronic sleep deprivation and impaired sleep quality may contribute to increased cortical excitability and facilitate trigeminovascular activation, thereby lowering the threshold for migraine attacks. Repeated nocturnal awakenings, difficulties initiating sleep, and nonrestorative sleep may additionally contribute to emotional distress, anxiety, and depression, which are recognized risk factors for migraine chronification. Clinical studies suggest that patients with insomnia are at greater risk of developing chronic migraine than individuals with normal sleep patterns. Furthermore, insomnia treatment, particularly cognitive behavioral therapy for insomnia (CBT-I) and optimization of sleep hygiene, has demonstrated beneficial effects on headache frequency and migraine-related disability. Recognizing insomnia as a modifiable risk factor is essential for the comprehensive management of migraine. Early identification and targeted treatment of sleep disturbances may represent an important preventive strategy for reducing migraine chronification and improving patient outcomes.

Keywords: insomnia; migraine disorders; sleep–wake disorders

2026. Jančuljak D.
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Nesanica kao čimbenik kronifikacije migrene

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Sažetak

Migrena je čest i onesposobljavajući neurološki poremećaj obilježen ponavljajućim napadajima glavobolje i širokim spektrom pridruženih simptoma. Sve više dokaza upućuje na to da poremećaji spavanja, osobito nesanica, imaju važnu ulogu u prijelazu epizodne u kroničnu migrenu. Nesanica je značajno češća u osoba s migrenom nego u općoj populaciji te je povezana s većom učestalošću glavobolja, jačim intenzitetom boli, smanjenom kvalitetom života i lošijim terapijskim ishodima. Odnos između migrene i nesanice dvosmjeran je i vjerojatno posredovan zajedničkim neurobiološkim mehanizmima koji uključuju disfunkciju hipotalamusa, promijenjenu aktivnost neurotransmitera, središnju senzitizaciju i poremećaje putova modulacije boli. Kronična deprivacija spavanja i narušena kvaliteta spavanja mogu pridonijeti povećanoj kortikalnoj podražljivosti i olakšati aktivaciju trigeminovaskularnog sustava, čime se snižava prag za nastanak migrenskih napadaja. Ponavljana noćna buđenja, poteškoće usnivanja i neokrepljujuće spavanje mogu dodatno pridonijeti emocionalnom distresu, anksioznosti i depresiji, koji su prepoznati čimbenici rizika za kronifikaciju migrene. Klinička istraživanja upućuju na to da bolesnici s nesanicom imaju veći rizik od razvoja kronične migrene u usporedbi s osobama urednog obrasca spavanja. Nadalje, liječenje nesanice, osobito kognitivno-bihevioralnom terapijom za nesanicu (KBT-I) i optimizacijom higijene spavanja, pokazalo je povoljne učinke na učestalost glavobolja i stupanj onesposobljenosti povezane s migrenom. Prepoznavanje nesanice kao promjenjivog čimbenika rizika važno je u sveobuhvatnom liječenju migrene. Rano otkrivanje i ciljano liječenje poremećaja spavanja može predstavljati važnu preventivnu strategiju usmjerenu na smanjenje kronifikacije migrene i poboljšanje ishoda liječenja.

Ključne riječi: nesanica; migrena; poremećaji spavanja i budnosti

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