Sleep Disturbances in Functional Gastrointestinal Disorders

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Sleep disturbance is a common medical problem and has been associated with several diseases, including pulmonary disease, gastroesophageal reflux disease (GERD) and fibromyalgia. It causes significant morbidity, as evidenced by the increased need for general medical treatment and mental health treatment for emotional problems. A number of studies have found an association between sleep disorders and functional gastrointestinal (GI) disorders (1-5). Sleep disturbance is known as an important extra-esophageal complication in patients with GERD. It is also associated with impaired health-related quality of life (QOL) and often found in older subjects.

GERD has been reported to be associated with interruptions of sleep, sleepiness and consequent impaired work productivity. Lee et al. have also identified that heartburn and regurgitation have different impacts on sleep disturbances, eating or drinking problems, work interference, and QOL (6). In addition, Iwakura et al. have reported that the prevalence of sleep disturbances was significantly higher in GERD patients (66/124, 53.9%) than in those without this condition (89/126, 39.3%) (7). Interestingly, they demonstrated that the prevalence of depression and anxiety was higher in both GERD and non-GERD patients with sleep disturbances than in those without sleep disturbances (7). They also addressed the issue that there were no differences in the prevalence rates of depression and anxiety between GERD and non-GERD patients (7). Specifically, they speculated that depression and/or anxiety are associated with sleep disturbances, but are not specific to GERD patients (7). Jansson et al. have also presented results similar to those of Iwakura et al. (8). However, the exact reasons for the association between daytime sleepiness and GERD remained unclear.

The effects of proton pump inhibitor (PPI) therapy on the objective sleep parameters in GERD patients are controversial and have not been precisely elucidated in Japanese patients with this condition. Johnson et al. showed that esome-

prazole significantly improved nighttime heartburn and GERD-associated sleep disturbances as well as improved sleep quality when compared with a placebo (9). Orr et al. also used polysomnography to determine the effects of rabeprazole treatment and found that such treatment improved sleep quality (10). Meanwhile, Chand et al. reported that the administration of esomeprazole was not associated with sleep efficiency (11) and Jha et al. also reported that esomeprazole had no impact on the duration of the recumbent-awake period and the frequency or duration of awakening to a conscious states in GERD patients (12). The reasons for these discrepancies in previous studies are unknown. Although the evaluation of sleep disturbances is important, the Pittsburgh Sleep Quality Index (PSQI) score (13) is commonly used to assess subjective sleep disturbances, but polysomnography is the gold standard for assessing sleep parameters.

Jha et al. also reported that a subgroup exhibiting non-erosive reflux disease (NERD) with regurgitation had a significantly higher rate of impaired daily activity than a subgroup exhibiting erosive esophagitis with regurgitation particularly, regarding eating or drinking problems and work interference (12). In Japan, patients with NERD as well as erosive esophagitis were also reported to be affected by sleep impairment (1, 2). In addition, subjects with NERD have total QOL scores similar to those of patients with erosive esophagitis (1, 14). Further studies will be needed to clarify whether the mechanisms of sleep disturbance in NERD patients differ from those in erosive esophagitis.

The authors state that they have no Conflict of Interest (COI).

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