



Nighttime Acid Reflux in Gastroesophageal Reflux Disease - Is It a Problem That Can Be Solved?

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Article: Effects of tegoprazan versus esomeprazole on nighttime heartburn and sleep quality in gastroesophageal reflux disease: a multicenter double-blind randomized controlled trial

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Patients with gastroesophageal reflux disease (GERD) frequently experience heartburn at night.¹ This nighttime acid reflux not only lowers the quality of life through difficulties in sleep induction and frequent awakenings,¹ but could also increase the risk of certain diseases including cardiovascular diseases,² esophageal adenocarcinoma,³ and obstructive sleep apnea syndrome.⁴ Proton pump inhibitors (PPIs) showed some improvement of nocturnal symptoms⁵ but also showed incomplete acid suppression, attributable to the pharmacological characteristics, slow onset of action and short half-life.^{5,6}

Potassium-competitive acid blockers (P-CABs) inhibit H⁺/K⁺ ATPase in a reversible and K⁺-competitive manner, and has advantages such as fast onset of action and longer duration compared to PPIs.⁷ So far, the efficacy of P-CABs is thought to be comparable to PPIs and are recommended as the initial treatment of GERD.⁸ Tegoprazan is a novel P-CAB approved in South Korea in 2018, which showed effectiveness in improvement of symptoms of GERD, including resolution of reflux symptom and daytime heartburn-free days, as well as improvement of erosions in previous study.⁹

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Motility, Kim et al⁹ evaluated the efficacy of tegoprazan, a novel P-CAB, compared to esomeprazole for improving nocturnal symptoms and sleep disturbances.¹⁰ The authors hypothesized that tegoprazan could inhibit gastric acid secretion rapidly, leading to faster improvement of nighttime symptoms. Forty-six patients with erosive esophagitis and GERD-related nocturnal symptoms were enrolled, randomly assigned and treated with either tegoprazan 50 mg or esomeprazole 40 mg. In results, time to the first nighttime heartburn-free interval of tegoprazan group was about half shorter than that of esomeprazole group and the percentage of nighttime heartburn-free days was also higher in tegoprazan group than in esomeprazole group. Improvement of symptom scores including the Korean Gastrointestinal Symptom Rating Scale and the Korean version of the Epworth Sleepiness Scale were more prominent in tegoprazan group compared to esomeprazole group, although the differences between the 2 groups were not statistically significant.

There are some limitations, since it was a pilot study for subsequent large-scale studies and it is thought to be difficult to perform sophisticated sample size calculation since there were no existing studies to refer to. The statistical significance for the difference between the 2 groups was not confirmed, and the authors reported

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that statistically significant differences could be confirmed with recruitment of 60 or more patients in each group based on the result. But this study is meaningful that it is the first study to compare tegoprazan and PPIs in terms of the effectiveness on nocturnal symptoms, except 1 study showed the sustained night-time acid suppression of tegoprazan in of healthy subjects.¹¹ The result of this study suggests the possibility that tegoprazan has a better effect on nocturnal symptoms than PPIs with rapid onset of action and effective acid suppression. In summary, tegoprazan would be an effective treatment option for nighttime reflux symptoms as well as daytime symptoms of GERD.

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