J Neurogastroenterol Motil, Vol. 27 No. 1 January, 2021
pISSN: 2093-0879 eISSN: 2093-0887
https://doi.org/10.5056/jnm20260
Journal of Neurogastroenterology and Motility

Editorial

Efficacy and Safety of DWJ1252 Compared With Gasmotin Treatment: Once Met 3 Times Tablets

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Article: Efficacy and safety of DWJ1252 compared with gasmotin in the treatment of functional dyspepsia: a multicenter, randomized, double-blind, active-controlled study
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(J Neurogastroenterol Motil 2021;27:87-96)

Previously, functional dyspepsia (FD) was divided into 3 categories of reflux-like, ulcer-like, and dysmotility-like FD.[1] A paradigm shift has occurred in FD, subdividing FD into epigastric pain syndrome and post-prandial discomfort.[2] According to the American and Canadian guidelines of FD management, in *Helicobactyer pylori*-positive patients, *H. pylori* eradication therapy should be considered the first-line treatment.[3] However, considering the high prevalence of *H. pylori* in Korea, *H. pylori* eradication therapy is recommended when proton pump inhibitors (PPIs) and prokinetics are not effective.[4] Meta-analysis shows significant but modest efficacy of *H. pylori* eradication on long-term resolution of FD symptoms.[5] *H. pylori* eradication therapy can be applied in cases where PPIs and prokinetics are not effective, or in young patients with chronic dyspeptic symptoms in Korea. In contrast, in patients with FD who do not respond to PPIs, *H. pylori* eradication therapy, or tricyclic antidepressant therapy, treatment with prokinetics should be tried according to the American and Canadian guidelines. Where does this difference come from? Postprandial fullness is the most troublesome symptom in FD patients, aggravated by a meal.[6] Therefore, prokinetics, improving gastric emptying, relaxing the fundus, and increasing gastric accommodation, may have a role in the treatment of FD.[7] However, most studies on prokinetics had significant and unexplained heterogeneity. Small studies showed positive results but larger trials could not demonstrate significant efficacy.[3]

In the *Journal of Neurogastroenterology and Motility*, a randomized clinical trial of 119 patients with FD (by Rome III criteria) conducted by Park et al[8] evaluated the efficacy and safety of once-a-day DWJ1252 (Gasmotin SR; Daewoong Pharm Co, LTD, Seoul, Korea), a sustained-release formulation of Gasmotin, compared with Gasmotin 3-times-a-day, in patients with FD. The primary endpoint was the change in gastrointestinal symptom (GIS) scores from baseline, assessed by GIS questionnaires on a 5-point Likert scale after 4 weeks of treatment. The study showed that the GIS scores at week 4 were significantly reduced −10.04 ± 4.45 points in the Gasmotin SR group and −10.86 ± 5.53 in the Gasmotin 3-times-a-day group ($P < 0.001$). The GIS changes from baseline were not different between the 2 groups (difference, 0.82 points; 95% CI, −1.17 to 2.81; $P = 0.643$). The other outcomes of interest demonstrated that dyspepsia-specific quality of life scores significantly increased in the 2 groups after week 4 of treatment (+63.82 ± 82.91 and +67.12 ± 81.11, $P < 0.001$), with no difference between the test

Received: November 27, 2020 Revised: December 3, 2020 Accepted: December 8, 2020

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and control groups ($P > 0.99$).

Gasmotin SR has a diffusion controlled-release system, which means the release rate is limited by the diffusion of the drug through a water-insoluble membrane. Frequent medication-taking leads to treatment non-adherence. The extended-release formulation of a drug can improve treatment adherence in patients with chronic diseases[9] and drug compliance also matters in short-term disease treatment.[10]

Another controlled-release tablet, UI05MSP015CT (Gastiin CR; Korea United Pharm Inc, Seoul, Korea), is also available in Korea. A similar study was conducted with 138 patients with FD who received either UI05MSP015CT or mosapride 3-times-a-day as controls.[11] It showed that changes in GIS scores at week 4 were –9.69 ± 6.44 in the UI05MSP015CT group and –10.01 ± 5.92 in the control group. The mean difference in GIS changes between the groups was 0.33 (95% CI, −1.75 to 2.41; $P = 0.755$).

A study by Park et al[8] regarding the efficacy of Gasmotin SR in FD lacked a placebo arm. In a randomized clinical trial of FD, the rate of response to the placebo was 30% to 60%.[12,13] Since the negative results of a placebo-controlled, randomized study of mosapride were reported,[12] mosapride was examined in FD and was not shown to be more effective than placebo in a meta-analysis of 13 randomized trials.[7] For this reason, the clinical effectiveness of mosapride in patients with FD has been evaluated by the comparison to other drugs without a placebo group.[14] Even though Gasmotin SR is a once-a-day tablet, better compliance with this drug could not be demonstrated due to the limitation of blinding. However, this study suggested that Gasmotin SR may achieve better compliance than conventional Gasmotin.

Acknowledgement: This study was supported by Dongguk University Research fund of 2020.

Financial support: None.

Conflicts of interest: None.

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