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SHORT NOTE

Lubiprostone for the Treatment of Constipation in Patients with Dementia

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Chronic constipation is a common gastrointestinal disorder and it impairs patients' quality of life (QOL) [1]. Because of their reduced cognitive function, dementia patients often find it difficult to verbalize the abdominal discomfort caused by constipation and bloating, and it can lead to ileus and loss of appetite. Although stimulant and osmotic laxatives, and enemas are commonly used to treat constipation, it has been reported that they can cause dependency, cathartic colon, and hemorrhoids [2]. Lubiprostone is a new drug that activates the ClC-2 chloride channels, resulting in an enhancement of the intestinal luminal Cl^- secretion and water motility, which can be used for the treatment of chronic constipation [3]. We conducted a 4-week, prospective structured clinical trial to determine the efficacy, side effects, and tolerability of lubiprostone for the treatment of constipation in dementia patients.

In total, twelve consecutive patients with dementia (four females and eight males, mean age, 85.17 ± 4.83) presenting with constipation were enrolled. Dementia was diagnosed using the criteria of the International Classification of Diseases, Tenth Revision (ICD-10) (Alzheimer's disease, 7; vascular dementia, 2; dementia with Lewy bodies, 3). Constipation was defined as difficulty in evacuating more than four days in one week and temporary use of rescue therapy (i.e., glycerine suppository, stimulant laxatives, or enema). After explaining the study to patients and caregivers, written informed consent was obtained.

Treatment was initiated with a lubiprostone dose starting at 24 μg, increasing to 48 μg. The patients were evaluated at baseline and the 4th week after entry. Cognitive function and activities of daily living were determined by the Mini-Mental State Examination (MMSE), and Physical Self-Maintenance Scale (PSMS). The number of medicines needed to relieve the bowels (including stimulant laxatives, osmotic laxatives, and lubiprostone) and the necessity for rescue therapy during the study was documented. Regarding side effects, we monitored patients for diarrhea, nausea, and loss of appetite during the study.

One patient suffered from pneumonia after three weeks and was excluded from the study. Eleven patients completed the trial. The lubiprostone dose at the endpoint was 48 μg in all eleven patients. The baseline scores for the MMSE, and PSMS were as follows: 12.58 ± 7.98, 11.75 ± 5.82, and they had not significantly changed at the study endpoint. The number of types of medication required for bowel relief was: 3 in 4 patients, 2 in 4 patients, 1 (lubiprostone only) in 4 patients. Nine patients required rescue therapy during the study. The other two patients did not need this. The patients who did not use rescue therapy during the study were prescribed only the lubiprostone and their MMSE scores were not severely low (an average score of 18.5 points). No side effects were observed during the follow-up period. Our results suggest that dementia patients with con-

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stipation who have low cognitive function and need medication in addition to rescue therapy may need other therapy to prevent constipation (i.e., physical activity, food, or review of medication-induced constipation).

Disclosure Statement

The authors declare no conflicts of interest.

Authors' Contributions

Atsushi Hamuro, MD, Ph.D., designed the study, wrote the manuscript, followed up patients, and collected and analyzed data. Minoru Honda followed up patients and collected and analyzed data. Hideki Kawaguchi followed up patients and collected data. Hoai Noguchi followed up patients.

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