

Effective treatments for chronic constipation in elderly patients in view of the differences in intestinal bacteria

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Introduction

Chronic constipation, a characteristic disease of the elderly, is accompanied by various complaints, such as abdominal pain and fullness, resulting in decreased appetite and weakness. It is one of the important diseases that is yet to be resolved in geriatric patients, as it may result in malnutrition and frailty syndrome if left untreated [1]. There are many types of drugs that improve stool abnormalities; however, in several cases, defecation disorders are often difficult to treat despite the administration of these drugs. Moreover, drugs such as sennoside, a stimulant laxative that directly stimulates the large intestinal mucosa, is commonly used for the treatment of constipation; however, they have a drawback that they should be used temporarily because frequent use decreases their effectiveness. In recent years, evidence suggests that changes in intestinal bacteria may be associated with defecation disorders [2]. The intestinal flora varies from person to person and has been reported to be completed at approximately 3 years of age. With increasing age, it gradually changes due to environmental factors such as eating habits and oral medications for some illnesses [3]. It has been clarified that harmful bacteria, such as *Clostridium* and *Clostridium perfringens*, increase with age [4]. Similarly, the older the patient, the more likely they suffer from constipation, suggesting that changes in the intestinal flora may be associated with abnormal bowel movements. Numerous reports have suggested that substances produced by these harmful bacteria affect the motor function of the intestinal tract [5]. Although there are individual differences in alterations of intestinal bacteria with age, it has recently been suggested that they might affect the maintenance of the intestinal mucosa and peristaltic movements, causing abnormal bowel movements. Conventionally, probiotics are used for intestinal regulation by replacing the toxic intestinal flora responsible for diseases, such as bacterial enteritis [6]. However, considering that constipation could be caused by a disturbance of intestinal bacteria, it has recently gained attention as an important disease that requires treatment [7]. Moreover, it improves intestinal flora and can be used as a remedy for elderly patients with an increasing number of harmful intestinal bacteria that are assumed to cause constipation.

Based on the findings obtained from the results of intervention studies conducted so far [8], in this study, we have shown treatment methods using probiotics that are considered extremely useful for the treatment of constipation in elderly patients.

Summary

To verify the usefulness of probiotics in the treatment of constipation, we conducted an intervention study. In this study, elderly patients suffering from constipation who provided consent were divided into the following two groups: Group A, that received only

laxatives; Group B, that received probiotics added to laxatives. Both groups were compared in terms of improvement in constipation and changes in intestinal environment.

The results of this intervention study showed that defecation disorders tended to be resolved earlier when probiotics were administered in combination with a laxative. In addition, some harmful bacteria, such as *Bacteroidetes* phyla, were reduced in Group A, found in the analysis of the composition of intestinal bacteria, suggesting that the intestinal environment was in good condition [9]. Furthermore, in the preliminary examination of Group B, a decrease in the number and composition ratio of the phylum *Proteobacteria* seemed to be observed in addition to the change in *Bacteroidetes* phyla; therefore, the combined use of probiotics and a laxative might improve the intestinal bacteria by relieving constipation in a better environment.

Intestinal flora is closely related to intestinal immunity [10]. As the large intestine is the largest immune system in humans, it can greatly influence systemic immunity [11]. Conclusively, the development of better treatment protocols for constipation from our data may be useful for maintaining better health in elderly patients [12].

It is necessary to verify whether it assists in improving intestinal immunity and subsequently, systemic immunity.

Acknowledgments

We would like to thank the BioBank and NCGG for quality control of the clinical samples.

We would also like to thank Editage (www.editage.com) for English language editing.

Conflict of interest

The authors declare that they have no competing interests.

Source of funding and data availability

The results shown in this paper were supported by research grants from the Research Funding of Longevity Sciences (29-13) and from the National Center for Geriatrics and Gerontology (NCGG).

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Key words: chronic constipation, elderly patients, intestinal bacteria

Received: April 18, 2022; **Accepted:** April 25, 2022; **Published:** April 28, 2022

This study is registered in the UMIN Clinical Trial Registry (UMIN-CTR, <https://www.umin.ac.jp/ctr/index.htm>, UMIN000043819).

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