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Original Article

Efficacy of Mosapride Citrate in Combination with Oral Mechanical Bowel Preparation for Colonoscopy

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Abstract

Objective: The present study aimed to evaluate the efficacy, in terms of bowel preparation quality, and safety of adjunctive mosapride citrate with oral mechanical bowel preparation for colonoscopy.

Methods: We conducted a randomized, controlled trial, mosapride in addition to mechanical bowel preparation. Of 330 patients undergoing colonoscopy, 158 were randomized to an additional 10 mg of mosapride citrate (intervention group) to oral mechanical bowel preparation, and 172 received only oral mechanical bowel preparation (control group). Patients completed questionnaires reporting the acceptability and tolerability of the bowel preparation process. The efficacy of bowel preparation was assessed by colonoscopists using a Boston Bowel Preparation Scale (BBPS).

Results: A total of 330 patients were included in the analysis. In the intervention group, optimal excellent bowel preparation rates were significantly higher compared with the control group (81.6% vs. 64.5%, $p < 0.001$). The incidence of adverse events was similar in both groups. Moreover, patients significantly favored intervention group over control, reflected by less clinical symptoms of nausea, abdominal pain, abdominal distension and willingness to repeat the same regimen.

Conclusion: Mosapride citrate may be an effective and safe adjunct to oral mechanical bowel preparation for colonoscopy that leads to improve quality of bowel preparation and patient compliance.

Keywords: Mosapride citrate, Colonoscopy, Boston bowel preparation scale, Polyethylene glycol, Sodium phosphate solution

Introduction

From the past to the present, many methods of detection of pathologies in the lining of the colon have been developed. Currently, it is accepted that colonoscopy is the best method. Since the pathology in the lining of the colon can be seen[1] as well as being able to cut or biopsies to prove the pathology of such pathologies. The quality of bowel preparation is the main factor in successful colonoscopy, with 19.6 percent of the unsuccessful colonoscopies caused by non-quality in colon cleansing bowel preparation.[2] However, oral mechanical bowel preparation often causes difficulties and discomfort to the patient. As a result, several patients refused to undergo screening for colon and rectum cancer, colonoscopy. In addition, poor bowel cleansing results in risks and dangers while performing procedures,[3] and increase the time it takes to insert the camera and withdraw the camera.

In preparation for colonoscopy, the two types of laxatives were use in Rajavithi Hospital, mainly 1) Polyethylene glycol electrolyte solution (PEG), 4 liters

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divided into 3 liters at the evening of the day before the test, and 1 liter at 5 a.m. on the colonoscopy day. Another laxative drug that use is sodium phosphate solution (NaP), takes 45 ml twice at a time, and is followed by a large amount of water. Both methods can cause nausea and vomiting, abdominal pain and bloating. Lead to some patient unable to take all dose of preparation drug. As a result, bowel preparation is not good enough for colonoscopy.

Mosapride citrate is drugs that increase gastrointestinal movement and drives food out of the stomach.[4] It has indications in patients who nausea vomiting and lower side effects than other drugs. The author try to study that in addition to reducing the side effects of nausea and vomiting, this drug also increases the movement of laxatives from the stomach to the intestines faster, As a result, Patients have an excellent bowel preparation then have a positive effect on both diagnosing and management in colonoscopy.

Patients and Methods

This was a single-center, prospective, randomized controlled trial study, comparing PEG or NaP plus Mosapride citrate (Intervention group) with PEG or NaP alone (control group) in patients who were scheduled for an elective colonoscopy. All patients provided written, informed consent prior to entering the study. The study was conducted at the Department of Surgery, Rajavithi Hospital, Thailand, from February 2021 to February 2022. This study was reviewed and approved by the ethics committee of Rajavithi Hospital EC No.029/2022.

The Primary Outcome is colon-cleansing quality measured on Boston Bowel Preparation Scale and the secondary outcome are nausea symptoms, compliance with bowel preparation, how easy/difficult it to take preparation compared with the previous one, willingness to repeat the same regimen and any adverse symptom.

Subjects are all outpatients of both sexes, aged 18 to 80 years, who were scheduled for screening or diagnostic colonoscopy at Rajavithi Hospital and were evaluated for inclusion criteria of the study. Patients with the following clinical features were excluded: history of Mosapride citrate allergies, uncorrectable coagulopathy, renal impairment, pregnant or lactating, clinical complete bowel obstruction, congestive heart failure (NYHA 3-4) or severe liver dysfunction (serum albumin < 2.5 g/dL or Child-Pugh score ≥ 10). After written informed consent then will be randomly allocated to the intervention group and control group.

The allocation to the intervention group and control group was performed by random 1:1 Switch back and forth up to the required amount (Figure 1).

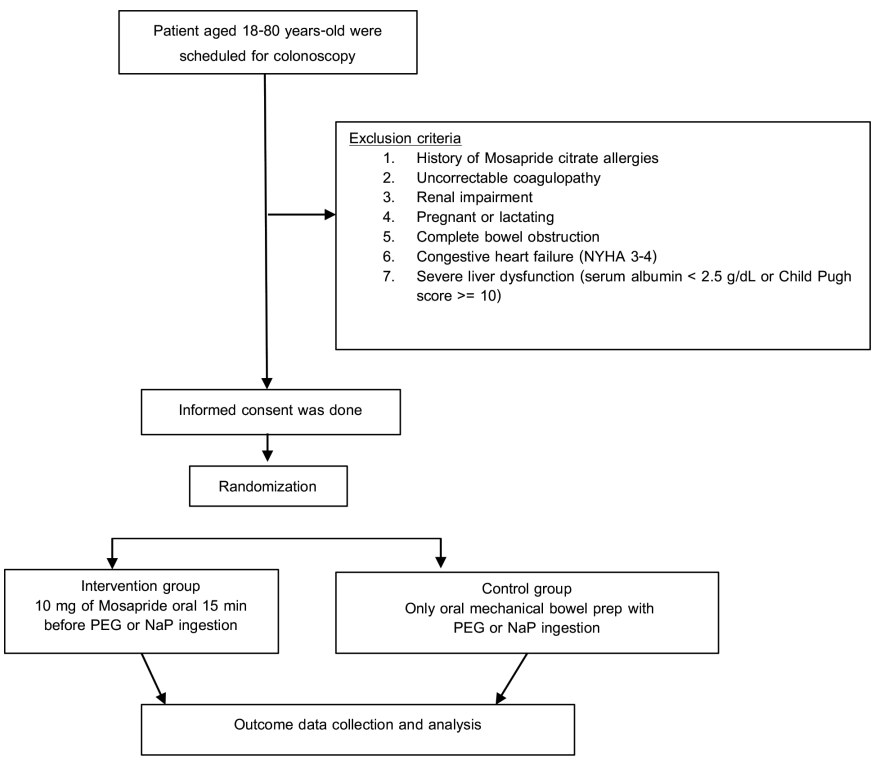

Figure 1 The study design flowchart showing details of the randomized controlled trial

The colonoscopy preparation steps used in this study are shown in Figure 2. Steps of preparation for colonoscopy. Two days before the colonoscopy, all participants were instructed to eat only a liquid diet. On one day before the colonoscopy, all participants were instructed to eat a clear liquid diet and in the evening, they will be received oral bowel preparation. An oral bowel preparation type which is PEG or NaP was chosen individually from surgeon. The Control group will not receive any other drug but only oral mechanical bowel preparation with PEG or NaP ingestion. All patients from both groups will be received the same regimen of PEG or NaP which are PEG total of 4 L, 3L at 17:00, 18:00, 19:00 on the evening and another 1L at 5:00 in the morning or NaP By taking 45 ml. every 4 hrs, total 2 doses. In the Intervention group, two tablets of mosapride citrate total of 10 mg were administered orally with water 15 minutes before oral mechanical bowel preparation.

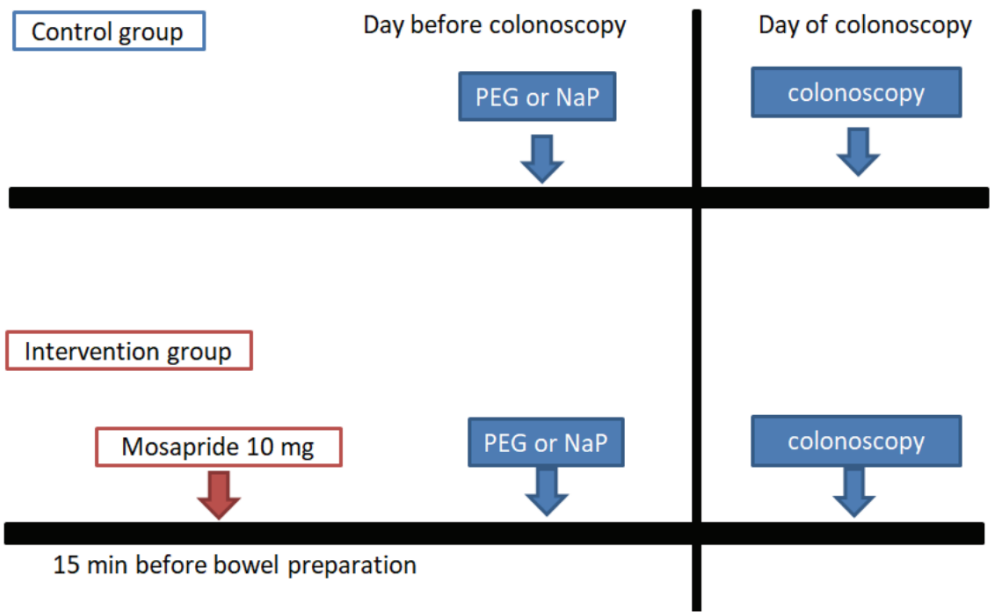

Figure 2 Steps in the preparation for colonoscopy

The colonoscopy was performed by 4 endoscopist who are surgeons. The efficacy of bowel preparation was assessed based on Boston Bowel Preparation Scale. The Boston bowel preparation scale (BBPs) has recommended as the current standard for use in clinical practice.[5] It is rated as follows. Unprepared colon segment with mucosa not seen due to solid stool: 0; portion of mucosa of the colon segment seen, but other areas of colon segment not well seen due to staining, residual stool and/or opaque liquid: 1; minor amount of residual staining, small fragment of stool and/or opaque liquid, but mucosa of colon segment seen well: 2; entire mucosa of colon segment seen well with no residual staining, small fragment of stool or opaque liquid: 3.

The results provide separate information for each of the three parts of the colon and then combined. For example, for scores 3-3-3 the total score is of 9 points and the quality of preparation is excellent, or for 1-1-1, the total is 3 points and the quality of preparation is poor. The rating if total score is as follows. Excellent: 7-9; good: 4-6; poor: 1-3; inadequate: 0.

The researcher and nursing staff whose access the secondary outcomes are blind, which recorded the Nausea symptom, compliance with bowel preparation, how easy/difficult to take preparation compared with the previous one, willingness to repeat the same regimen and any adverse symptoms through completing the patient's questionnaire.

The primary efficacy analysis based on an intention to-treat analysis and included patients who were randomized and received any treatment. In this study, the preparation was classified as adequate or inadequate

based on the Boston bowel preparation scale. These score were compared between the groups by chi-square test or Fisher's exact test for categorical variables. For the secondary endpoints, student t-test was used to compare continuous variables. Categorical variables were tested by using the corrected chi-square test.

Results

The study subjects allocation and disposition are described in Figure 3. A total of 369 consecutive patients met inclusion criteria for scheduled elective colonoscopy and consent participated in this study. After being randomized into two groups, the intervention group total of 182 patients, 16 patients have to postpone the colonoscopy due to the covid 19 situation, and 8 patients absent. In the control group total 187 participants, 9 patient has to postpone the colonoscopy due to the covid 19 situation, 5 patients were absent, one of them declare death before colonoscopy. The remaining patients 158 in the intervention group and 172 in control group were compared by intention to treat analysis.

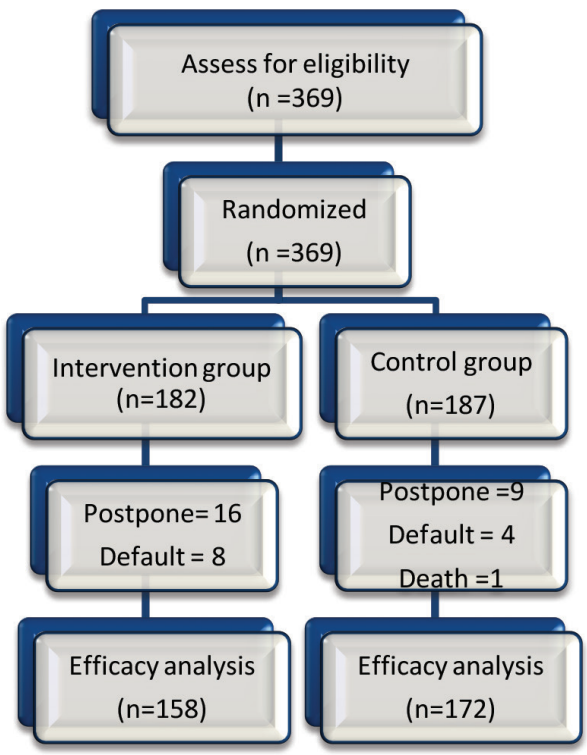

Figure 3 Schematic flow of the study.

The baseline characteristics are summarized in Table 1. There were no significant differences among the 2 groups concerning age, sex, body weight, height, underlying disease, bowel preparation type, indications for colonoscopy, previous colorectal surgery, or frequency of defecating .There were significant in BMI (23.30 ± 4.40 vs. 24.28 ± 4.53, $P < 0.047$) but after subgroup analysis there are not significant ($p = 0.169$).

In this study, 16 colorectal cancers were detected in 16 patients (9.2%), 10 (6.3%) in the intervention group, and 5 (2.9%) in the control group (Table 1). A total of 111 patients were detected with colonic polyp, 34.2% in the intervention group, and 33.2% in the control group. There were no significant differences in finding and histopathology from both groups .Total of 57 polyps from the control group were sent for pathology reveal to tubular adenoma 42 (71.2%), hyperplasia 8 (13.6%), adenocarcinoma 4 (6.8%), inflammatory 2 (3.4%), and carcinoma 1 (1.7%). In the intervention group 50 from 54 polyps was sent for pathology reveal to tubular adenoma 37 (60.7%), hyperplasia 6 (9.8%), tubulo-villous adenoma 5 (8.2%). and inflammatory 2 (3.3%). Other colonoscopy finding has no significant differences between both groups such as normal finding and diverticular.

Table 1 Comparison of patient characteristics between control and intervention groups

Characteristics	Control n = 172	Intervention n = 158	*p*-value
Age (years): mean ± SD	57.42 ± 10.7	57.59 ± 12.92	0.901
Female sex: number (%)	96 (55.8)	89 (56.3)	0.925
Weight (kg): mean ± SD	61.64 ± 13.27	60.45 ± 13.33	0.417
Height (cm): mean ± SD	160.12 ± 8.9	160.44 ± 8.61	0.735
BMI (kg/m^2): mean ± SD	24.28 ± 4.53	23.30 ± 4.40	0.047*
Underlying Disease: number (%)			0.206
No	96 (55.8)	99 (62.7)	
Yes	76 (44.2)	59 (37.3)	

Table 1 (cont.) Comparison of patient characteristics between control and intervention groups

Characteristics	Control n = 172	Intervention n = 158	*p*-value
HT: number (%)	70 (40.7)	50 (31.6)	0.088
DM: number (%)	21 (12.2)	24 (15.2)	0.431
CAD: number (%)	4 (2.3)	4 (2.5)	1.000
Liver disease: number (%)	3 (1.7)	0 (0)	0.249
CKD: number (%)	1 (0.6)	3 (1.9)	0.353
Bowel Preparation: number (%)			0.178
PEG	141 (82.0)	138 (87.3)	
NaP	31 (18.0)	20 (12.7)	
Indication: number (%)			0.334
Surveillance	58 (33.7)	39 (24.7)	
Screening	48 (27.9)	30 (19.0)	
Stool occult positive	6 (3.5)	2 (1.3)	
Lower GI bleeding	27 (15.7)	44 (27.8)	
Abdominal pain	16 (9.3)	10 (6.3)	
Chronic constipation	10 (5.8)	16 (10.1)	
Other	7 (4.1)	17 (10.8)	
Defecation frequency: number (%)			0.678
Every 1-2 day	135 (78.5)	121 (76.6)	
More than 3 day	37 (21.5)	37 (23.4)	
Previous colorectal surgery: number (%)			0.310
No	135 (78.5)	131 (82.9)	
Yes	37 (21.5)	27 (17.1)	0.063
Right Hemicolectomy	4 (11.4)	5 (21.7)	
Left Hemicolectomy	2 (5.7)	2 (8.7)	
Low anterior resection	16 (45.7)	6 (26.1)	
Sigmoidectomy	9 (25.7)	2 (8.7)	
Anterior resection	3 (8.6)	4 (17.4)	
Abdominal pelvic resection	0 (0)	3 (13)	
Other	1 (2.9)	1 (4.3)	
Previous colonoscopy: number (%)			0.002*
0 (none)	96 (55.8)	116 (73.4)	
1 (once)	43 (25.0)	27 (17.1)	
2-3	32 (18.6)	13 (8.1)	
> 3	1 (0.6)	2 (1.3)	
Familial colonic cancer: number (%)			0.029*
No	140 (81.4)	142 (89.9)	
Yes	32 (18.6)	16 (10.1)	
Findings: number (%)			0.439
Normal	91 (52.9)	72 (45.6)	
Cancer	5 (2.9)	10 (6.3)	
Polyp	57 (33.2)	54 (34.2)	
Diverticular	9 (5.2)	9 (5.7)	
Other	10 (5.8)	13 (8.2)	
Histopathology: number (%)			0.111
Inflammatory	2 (3.4)	2 (3.3)	
Hyperplasia	8 (13.6)	6 (9.8)	
Tubular adenoma	42 (71.2)	37 (60.7)	
Tubulo-villous adenoma	0 (0)	5 (8.2)	
Adenocarcinoma	4 (6.8)	10 (16.4)	
Carcinoma	1 (1.7)	0 (0)	
Colitis	1 (1.7)	1 (1.6)	

p-value from student t-test and chi-square test *significant at $p < 0.05$

The efficacy of bowel preparation is shown in Table 2. The overall Excellent bowel preparation rates were 81.6% in the intervention group and 64.5% in the control group, the overall Non-excellent bowel preparation rates were 18.4% in the intervention group and 35.5% in the control group. The Good bowel preparation rates were 12.1% in the intervention group and 31.4% in the control group, the poor bowel preparation rates were 6.3% in the intervention group and 3.5% in the control group. ($p < 0.001$).There is no Inadequate bowel preparation in intervention group but only 1 patient in the control group.

Table 2 Results of colon-cleansing efficacy

Variables	Control Number (%); n = 172	Intervention Number (%); n = 158	*p*-value
BBPs			< 0.001*
Excellent (7-9)	111 (64.5)	129 (81.6)	
Non-excellent (0-6)	61 (35.5)	29 (18.4)	
BBPs			< 0.001*
Excellent (7-9)	111 (64.5)	129 (81.6)	
Good (4-6)	54 (31.4)	19 (12.1)	
Poor (1-3)	6 (3.5)	10 (6.3)	
Inadequate (0)	1 (0.6)	0 (0.0)	

Abbreviations: BBPs-The Boston bowel preparation scale

Value were represented as n (%), the *p*-value from chi-square test *significant at $p < 0.05$

Results of patient tolerability and safety are shown in Table 3. There were significant difference in patient compliance and tolerability as no nausea symptom (65.2% vs 59.3%, $p < 0.001$), nausea but not vomiting (27.2% vs 17.4%, $p < 0.001$), no abdominal pain (62.7% vs 66.9%, $p = 0.019$), no abdominal distension (77.2% vs 54.7%, $p < 0.001$), frequency of defecation > 7 times (74.1% vs 52.9%, $p < 0.001$), how easy to take preparation compared with previous one (79.5% vs 42.3%, $p < 0.001$), willingness to repeat the same regimen (51.3% vs 20.9%, $p < 0.001$) between intervention group and control group. However, there were no significant differences in Compliance with bowel preparation and any adverse symptoms.

Table 3 Results of patient questionnaire.

Variables	Control Number (%); n = 172	Intervention Number (%); n = 158	*p*-value
Nausea Symptom			< 0.001*
No Nausea	102 (59.3)	103 (65.2)	
Nausea	30 (17.4)	43 (27.2)	
Vomiting 1-2 times	35 (20.3)	12 (7.6)	
Vomiting 3-4 times	5 (2.9)	0 (0)	
Abdominal Pain			0.019*
No abdominal pain	115 (66.9)	99 (62.7)	
Mild abdominal pain	39 (22.7)	53 (33.5)	
Mod abdominal pain	14 (8.1)	6 (3.8)	
Severe abdominal pain	4 (2.3)	0 (0)	

Table 3 (cont.) Results of patient questionnaire.

Variables	Control Number (%); n = 172	Intervention Number (%); n = 158	*p*-value
Distension			< 0.001*
No distension	94 (54.7)	122 (77.2)	
Mild distension	54 (31.4)	13 (8.2)	
Mod distension	20 (11.6)	15 (9.5)	
Severe distension	4 (2.3)	8 (5.1)	
Time to first defecation (Mean ± SD)	29.13 ± 17.32	22.88 ± 13.98	0.011*
Frequency of defecation			< 0.001*
< 4 times	27 (15.7)	7 (4.4)	
4-7 times	54 (31.4)	34 (21.5)	
> 7 times	91 (52.9)	117 (74.1)	
Compliance of bowel preparation			0.722
Not 100% intake	11 (6.4)	15 (9.5)	
Less than 3 hours	69 (40.1)	59 (37.3)	
In 3-4 hours	52 (30.2)	50 (31.6)	
More than 4 hours	40 (23.3)	34 (21.5)	
Difficulty compared with previous			< 0.001*
Easy	33 (42.3)	31 (79.5)	
Invariable	40 (51.3)	8 (20.5)	
Difficult	5 (6.4)	0 (0)	
Willingness to repeat same regimen			< 0.001*
Very Satisfied	36 (20.9)	81 (51.3)	
Somewhat Satisfied	78 (45.3)	57 (36.1)	
Neutral	51 (29.7)	20 (12.7)	
Somewhat dissatisfied	6 (3.5)	0 (0)	
Very dissatisfied	1 (0.6)	0 (0)	
Any Symptom			0.611
No	91 (52.9)	88 (55.7)	
Yes	81 (47.1)	70 (44.3)	
Dry lip	45 (26.2)	41 (25.9)	
Abdominal pain	14 (8.1)	15 (9.5)	
Palpitation	15 (8.7)	14 (8.9)	
Headache	15 (8.7)	1 (0.6)	
Dizziness	33 (19.2)	19 (12)	
Rash	2 (1.2)	1 (0.6)	

p-value from student t-test and chi-square test * significant at $p < 0.05$

Discussion

From a previous study, many alternate regimens of bowel preparation was used for excellent cleansing efficacy some using Ascorbic Acid,[6] showed PEG with Ascorbic Acid regimen is improve patient compliance and acceptance of surveillance colonoscopy. Some studies used olive oil.[7] Pretreatment with olive oil before administration of a low volume of Polyethylene glycol electrolyte lavage solution (PEG-ELS) enhances both patient satisfaction and the quality of right-side colonic cleansing over the administration of the conventional.

Mine Y. et al, have used mosapride in guinea pigs and found that mosapride enhances the colon cleansing action of Polyethylene glycol electrolyte lavage solution (PEG-ELS) via an increase in colonic transit in guinea pigs, that is, it reduces not only fecal residue but also excessive fluid in the colonic lumen. It is therefore believed that co-administration of mosapride and PEG-ELS can allow better visualization in barium enema examination.[8]

Later studies, Jung IS et al, studies of prokinetic drug using a 10 mg dose of mosapride and prove that it can be enhanced gastric emptying time, assessed by both endoscopy ,compared with scintigraphy and radiopaque markers.3 Another study from Mishima Y. et al, Administration of mosapride citrate or itopride hydrochloride prior to oral lavage solution statistically significantly fewer uncomfortable abdominal symptoms found that prokinetic agents effectively decreased the incidence of uncomfortable abdominal symptoms experienced during colonoscopy preparation.[9] Masahiro T. et al, evaluate the possibility of reducing the volume of polyethylene glycol (PEG)-electrolyte solution using adjunctive mosapride citrate for colonoscopy preparation. Although the 1.5 L group had better acceptability and tolerability, 15 mg of mosapride may be insufficient to compensate for a 0.5-L reduction of PEG solution.[10]

In recent year Lee J et al, administration of mosapride citrate with a split-dose of PEG plus ascorbic acid in elderly patients showed an increase in bowel preparation efficacy and reduced adverse events, particularly abdominal fullness, during the administration of a bowel cleansing agent.[11] Also Mishima Y. et al showed that administration of mosapride prior to PEG solution significantly decreased the incidence of uncomfortable abdominal symptoms.[12] But there still are no demonstrated the optimal dosage and timing of administration required to clarify the proper regimen for colonoscopy.

This is the prospective, randomized, controlled study to evaluate the efficacy, acceptability, and tolerance of mosapride citrate as an adjunct to PEG or NaP in bowel preparation for colonoscopy. We aimed to study which mosapride citrate increases the movement of laxatives from the stomach to the intestines faster as the hypothesis so that patients should have an excellent bowel preparation in addition to having a positive effect on both diagnostic and management in colonoscopy.

We found that there were no significant differences in patient characteristics among the 2 groups including age, sex, race, body weight, underlying disease, bowel preparation type, indications for colonoscopy, Frequency of defecating, or historic of previous colorectal surgery. The significant differences such BMI of 23.30 ± 4.40 in the intervention group vs. 24.28 ± 4.53 in the control group ($p < 0.0047$) but after subgroup analysis there are not significant ($p = 0.169$).

Results of colon-cleansing efficacy. The overall excellent bowel preparation rates were 81.6% in the intervention group vs. 64.5% in the control group. More than 90% of patients have at least good bowel preparation. It may explain why there were no significant differences in disease detection rates between both groups. Go the same way with the study of Tholey DM., determine whether excellent bowel cleansing is superior to good for the detection of adenomas. Found out that adenomas detection rate is not significantly different between the adequate subcategories of excellent and Good. However, excellent cleansing is associated with superior detection of advanced adenomas and sessile serrated polyps (SSP).[13] The polyp detection rate found more in the excellent bowel preparation group than non-excellent.

Results of patient tolerability and safety are derived from the completion of the questionnaire (Table 3). There were significant difference in patient compliance and tolerability as No Nausea Symptom (65.2% vs 59.3% , $p < 0.001$), Nausea but not vomiting (27.2% vs 17.4%, $p < 0.001$), No abdominal pain (62.7% vs 66.9%, $p = 0.019$), No abdominal distension (77.2% vs 54.7%, p < 0.001), Frequency of defecation > 7 times (74.1% vs 52.9%, $p < 0.001$), Easier to take preparation compared with previous one (79.5% vs 42.3%, $p < 0.001$), Willingness to repeat the same regimen (51.3% vs 20.9%, $p < 0.001$) between intervention group and control group. It can explain from the fill-in questionnaire, that patients from intervention group who received mosapride, the patients knew that the drug was effective in reducing nausea and vomiting, possibly biased while filling the

question because the patient in the control group didn't get any placebo. When receiving the drug, patient tolerability, whether it is a matter of Nausea Symptoms or abdominal distension, there are less common symptoms in the intervention group, including how easier to take preparation compared with the previous one or willingness to repeat the same regimen as well. In the same way with surveillance study, the most common adverse events associated with mosapride are abdominal pain and loose stools (both 0.35%).[14] There were more number of patient have abdominal pain in the intervention group to the control group (37.3% vs. 33.1%, $p = 0.019$), but the loose stools, it would be difficult to explain, since all patients get laxatives. However, there were no significant differences in compliance with bowel preparation and any adverse symptoms from the drug between the two groups. The previous study did not evaluate adverse symptoms or events, as co-administration of mosapride with PEG or NaP, so we try to collect such data on which possible adverse effects from mosapride such as dry lip, abdominal pain, palpitation, headache, dizziness or rash. The most common adverse symptom is dry lip 41 (25.9%) vs. 45 (26.2%) in both groups. It can explain by the patient has a frequency of defecation from the laxative drugs. There are no serious adverse symptoms have been reported.

One of the limitations of this study was due to the covid-19 situation we have to postpone colonoscopy appointments for many participants. As a result, some patient data are missing. Other limitations are the difference in surgeon operated colonoscopy, patients in the intervention group possible to bias while completing the questionnaire due to known themselves taking medication.

Conclusion

Mosapride citrate may be found to have a benefit when used in combination with oral mechanical bowel preparation adjunct to PEG or NaP leads to improve colonoscopy cleansing quality without severe adverse complications. Furthermore, mosapride citrate still helps to reduce nausea symptoms and improve compliance with bowel preparation.

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บทคัดย่อ ผลการศึกษาความสะอาดของลำไส้ใหญ่เมื่อเพิ่ม โมซาพรายด์ ซิเตรต ในการเตรียมเพื่อการส่องกล้องลำไส้ใหญ่

พรชนก จารุวงศ์วณิชย์, พ.บ.[1], สิริพงศ์ สิริกุลพิบูลย์, พ.บ.[2]

[1] สาขาวิชาศัลยศาสตร์ลำไส้ใหญ่และทวารหนัก กลุ่มงานศัลยศาสตร์ โรงพยาบาลราชวิถี

[2] วิทยาลัยแพทยศาสตร์ มหาวิทยาลัยรังสิต

ความเป็นมา: การเตรียมลำไส้เป็นปัจจัยสำคัญสำหรับผลลัพธ์ที่ดีที่สุดของการส่องกล้องตรวจลำไส้ใหญ่ ปัจจุบันยาที่ใช้เตรียมลำไส้ที่นิยม ได้แก่ สารละลายโพลีเอทิลีนไกลคอล (polyethylene glycol, PEG) และสารละลายโซเดียมฟอสเฟต (Sodium phosphate, Sopho) เพื่อความสะอาดลำไส้เพื่อส่องกล้องตรวจลำไส้ใหญ่ แต่ผู้ป่วยบางรายไม่สามารถทนต่อ PEG หรือ Sopho ได้เนื่องจากรสชาติและหรือปริมาตรที่ต้องดื่ม

วัตถุประสงค์: การศึกษานี้มีวัตถุประสงค์เพื่อประเมินความสะอาดของลำไส้ใหญ่เมื่อมีการใช้ โมซาพรายด์ ซิเตรต (mosapride citrate) เป็นยาเสริม

วิธีการศึกษา: การศึกษาทดลองแบบสุ่ม โดยกลุ่มควบคุม และกลุ่มที่ได้ยา ยาโมซาไพรด์ ซิเตรต เสริมโดยการรับประทานก่อนยาเตรียมลำไส้เป็นเวลา 15 นาที โดยประเมิน ประสิทธิภาพของการเตรียมไส้ได้รับการประเมินโดยแพทย์ผู้ตรวจส่องกล้องตรวจลำไส้ใหญ่ โดยใช้มาตราคะแนนความสะอาดลำไส้ใหญ่ของบอสตัน (Boston Bowel preparation Score,BBPS) และเก็บข้อมูลจากแบบสอบถาม ผู้ป่วยในด้านการยอมรับและความอดทนต่อกระบวนการเตรียมลำไส้

ผลการศึกษา: ผู้ป่วยทั้งหมด 330 ราย รวมอยู่ในการวิเคราะห์ ในกลุ่มทดลองที่ได้รับยาเสริมมีคะแนนความสะอาดลำไส้ใหญ่ที่ดีเยี่ยมสูงกว่ากลุ่มควบคุมอย่างมีนัยสำคัญ (ร้อยละ 81.6 กับ ร้อยละ 64.5, $p < 0.001$) อุบัติการณ์ของเหตุการณ์ไม่พึงประสงค์มีความคล้ายคลึงกันในทั้งสองกลุ่ม นอกจากนี้ ความพึงพอใจของกลุ่มทดลองต่อการเตรียมลำไส้ใหญ่มีมากกว่ากลุ่มควบคุมอย่างมีนัยสำคัญ โดยสะท้อนจากอาการทางคลินิกที่น้อยกว่า ได้แก่ คลื่นไส้ ปวดท้อง ท้องอืด และความเต็มใจที่จะทำซ้ำวิธีการเดิม

สรุปผลการศึกษา: โมซาพรายด์ ซิเตรต (Mosapride citrate) อาจเป็นยาเสริมที่มีประสิทธิภาพและปลอดภัยในการเตรียมลำไส้สำหรับการส่องกล้องตรวจลำไส้ใหญ่ ซึ่งนำไปสู่การปรับปรุงคุณภาพของการเตรียมลำไส้ใหญ่และช่วยให้ผู้ป่วยสามารถปฏิบัติตามข้อกำหนดในการเตรียมลำไส้ได้ดีขึ้น