

#11 - ORAL LACTULOSE IS SUPERIOR TO POLYETHYLENE GLYCOL FOR COLONOSCOPY BOWEL PREPARATION

<https://doi.org/10.46613/congastro2023-11>

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Introduction: Bowel preparation is critical for colonoscopy quality. Polyethylene glycol (PEG) is considered the gold standard for bowel preparation, however the need for high volumes impairs patient's tolerance. Lactulose has emerged as a new alternative for colonoscopy preparation.

Aims: This study aimed to investigate the efficacy-safety profile of a lactulose-based colonoscopy bowel preparation in comparison to PEG. Research question: Is the bowel preparation for colonoscopy based on oral lactulose superior to the traditional scheme with polyethylene glycol?

Methods: Prospective non-blinded comparative study, developed in two tertiary centers from July 2021 to April 2023. Outpatients undergoing colonoscopy were randomly divided into 2 groups: Group 1 (111 patients): Polyethylene glycol and Group 2 (111 patients): Oral lactulose. The bowel preparation scheme based on oral lactulose was performed as follows: 200 ml of lactulose diluted in 600 ml of water with 15 ml of simethicone ingested 6 hours before the procedure (in a single dose). The following clinical outcomes were assessed for each group: degree of bowel clearance using the Boston Score, colorectal polyp detection rate, adenoma detection rate, tolerability and adverse events.

Results: The rate of inadequate bowel preparation was 8.1% and 1.8% for the PEG and oral Lactulose groups respectively ($p = 0.030$). The Boston score for entire colon was 7.34 ± 1.17 and 8.36 ± 1.09 for the PEG and oral Lactulose groups respectively ($p = 0.000$). The adenoma detection rate was 44.1% and 59.4% for the PEG and oral Lactulose groups respectively ($p = 0.022$). The satisfactory overall experience rate was 27.9% and 62.1% for the PEG and oral Lactulose groups respectively ($p = 0.000$).

Conclusions: In this prospective study the bowel preparation with oral lactulose was superior to PEG as regards to colon cleansing, adenoma detection rate, tolerance and patient's overall experience with statistically significant results.

Comparative efficacy-safety profile outcomes

	PEG (n= 111)	Lactulose (n=111)	p value
Average age (range)	58.0 (18-83)	57.9 (20-87)	0,937
Male (%), Female (%)	35 (31.5%), 76 (68.4%)	37 (33.3%), 74 (66.6%)	0,626
Polyp, n (%)	86 (77.4%)	91 (81.9%)	0,404
Adenoma detection rate, n (%)	49 (44.1%)	66 (59.4%)	0,022
Inadequate bowel preparation	9 (8.1%)	2 (1.8%)	0,030
Colon cleansing efficacy (Boston score)			
Right colon	2.29 ± 0.57	2.76 ± 0.46	0,000
Transverse colon	2.77 ± 0.43	2.85 ± 0.37	0,069
Left colon	2.27 ± 0.51	2.73 ± 0.45	0,000
Entire colon	7.34 ± 1.17	8.36 ± 1.09	0,000
Adverse events and tolerability			
Nausea	44 (39.6%)	35 (31.5%)	0,207
Vomiting	7 (6.3%)	17 (15.3%)	0,031
Abdominal pain	29 (26.1%)	0 (0%)	0,000
Bloating	33 (29.7%)	0 (0%)	0,000
Disagreeable flavor	51 (45.9%)	4 (3.6%)	0,000
Excessive volume perception	78 (70.2%)	0 (0%)	0,000
Difficulty in taking the preparation	43 (38.7%)	16 (14.4%)	0,000
Satisfactory overall experience	31 (27.9%)	69 (62.1%)	0,000