Comparative study on two colonic bowel preparations for patients with chronic constipation.

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OBJECTIVE:
To determine the efficacy, tolerance, and safety of oral sodium phosphate compared with polyethylene glycol in patients with chronic constipation.

MATERIAL AND METHODS:
From May 2007 to October 2007, 100 patients with chronic constipation were prospectively randomized into two groups for colonoscopy. Group A (n=49) received sodium phosphate before colonoscopy, while Group B (n=51) received polyethylene glycol. During the same period, another 50 patients in Group C with normal defecation function were enrolled and received the polyethylene glycol preparation. Patients with intestinal stenosis found by colonoscopy were excluded. The quality of preparation was assessed by the endoscopist, who was blinded to the types of bowel preparation. Laboratory examinations including hematocrit, serum phosphorous, serum calcium, blood urea nitrogen, and serum creatinine were carried out in Groups A and B before and after preparation. A questionnaire was used to assess adverse effects and patients' tolerance to the bowel preparation.

RESULTS:
Two patients in Group A with a diagnosis of malignant tumor detected by colonoscopy were excluded. The baseline parameters, including weight, age, gender, endoscopic diagnosis, or constipation status, were homogeneously distributed in the three groups. It was shown that the quality of preparation in Group B was poorer than that in Group C (p<0.05). Compared with Group B, Group A showed better quality of preparation, a smaller amount of intestinal air bubble, and a higher number of defecations after taking the medicine (p<0.05 for all). There were no significant differences in acceptance of the two preparations and the prevalence of adverse effects. Transient hyperphosphatasemia was noted in four patients in Group A, but neither clinical symptoms nor hypocalcemia was observed.

CONCLUSIONS:
Based on our preliminary study, in the preparation of patients with chronic constipation for colonoscopy, sodium phosphate is just as well tolerated and safe as a standard polyethylene glycol preparation and might provide a better quality of bowel preparation.