Comparison of two bowel preparations for colonoscopy Moviprep® and CitraFleet® in daily practice

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Background
The success of any colonoscopy depends upon the quality of bowel preparation. Low volume preps (Moviprep® with 2 l, CitraFleet® with twice 0.15 l) are increasingly used.

Aim
• The scope of our study was to evaluate possible differences between the two products and the type of application (e.g. same-day or split dosing) in daily routine of bowel preparation for colonoscopy.

Method
RCT Study
• From February 2015 through December 2016 we tested two types of bowel preparation (Moviprep® and CitraFleet®) in daily routine as an additional part of our colonoscopy study.

Subjects
Mainly screening population from a private practice has derived from our colonoscopy study.

We compared 450 randomly assigned persons prepared with CitraFleet® to 1111 Moviprep® cases.

Exclusion criteria:
- None, except failure to undergo an ambulatory colonoscopy.

Bowel Preparation
Bowel preparation was instructed to each patient by a nurse. Leaflets with dietary instruction and drinking times were handed out, available on our homepage: http://www.gastroenterologie-wettingen.ch/index.php?id=36

According to the scheduled colonoscopy time there are two types of application
• Split dosing (1st dose approximately 8 pm on the day before; 2nd dose 4 - 6 hours before colonoscopy)
• Same-day dosing (1st dose approximately 8 am on the day of colonoscopy; 2nd dose 3 hours before colonoscopy)

CitraFleet® sachets are dissolved in 150 ml of water. After drinking this solution, at least 1 liter of clear liquid is drunk in portions to 250 ml at hourly intervals. After second administration of 150 ml CitraFleet®, clear liquid is once more drunk in the same manner, till clear liquid is discharged.

With Moviprep® the first liter of the prepared solution (A+B) is taken between 7 and 9 pm if investigation takes place in the following morning. 1/2 to 1 liter of clear liquid is drunk thereafter. The time for the morning dose of Moviprep® is scheduled according to the examination time (e.g. 4 to 5 am). Clear liquid is drunk afterwards as after the first dose. For the afternoon examination the first dose of Moviprep® is given 7 to 9 am, second dose 10 to 11 am.

Rating of the Bowel Preparation
Preparation is rated according to Boston bowel preparation scale (BBPS) (picture below) giving maximally 3 points for each segment (left, transverse, right) for the best cleaning (maximum score 9) and 0 for the worst in accordance with the pictures below.

Statistical Analyses
Analyses were done by Dr. Dominik Leiner Ludwig-Maximilians University Munich and his company SoSci Survey GmbH
- ANOVA single-factor variance analysis
- Risk factors for bad preparation (e.g. males, adipositas, diabetes and age) were tested with a fitting linear model

Results
450 used CitraFleet® (mean age 61; 42% males), 1111 patients were prepared with Moviprep® (mean age 68; 51% males). BMI was identical with 25 kg/m2 in both groups.

Effect of gender, age and obesity on quality of preparation was negligible (R2 < 1%).

BBPS scores overall were 7.1 for CitraFleet® and 7.2 (p=0.03), for Moviprep® (p=0.03). The scores for the right colon (RC) were 2.35 vs 2.34, for transverse colon (TC) 2.4 vs 2.4 and 2.4 vs 2.4 for the left colon (LC).

There was no difference in adenoma detection rate in morning versus afternoon examinations as an indirect sign of the fact that the afternoon preparation with the single day application does not perform inferior.

Conclusions
Our data revealed no clinically relevant difference neither for split or same day dosing nor for the two preps used, especially not in what concerns cleaning of the right colon

Disclosure
None of the authors listed above has any financial or other relationships to disclose.