Methods This randomized controlled trial enrolled 221 patients undergoing screening, surveillance or diagnostic outpatient colonoscopies. Study subjects were randomized to have all detected polyps measured for size either using VSE or a snare of known size to estimate the size of each polyp during the colonoscopy. All polyps were measured for reference size directly after their removal from the colon using a digital caliper and before formalin fixation.

Results 93 polyps were included in the VSE group and 102 in the Snare group. VSE demonstrated significantly higher relative accuracy (80.0 % [95 % CI: 77.0-82.9]) compared to snare-based size estimation (66.4 % [95 % CI: 62.4-70.5]; p < 0.001). Misclassification rates were lower with VSE for polyps > 2mm (13.1 % vs. 39.3 %) and > 3mm (22.6 % vs. 55.4 %). For diminutive polyps, VSE better prevented misclassification (< 5mm: 6.1 % vs. 2.6 %; > 5mm: 21.4 % vs. 73.0 %; p =). VSE also outperformed snare in measuring within 10 % of reference standard size (30.1 % vs. 18.6 %) and had lower rates of size underestimation (36.5 % vs. 65.7 %).

Conclusions Using VSE improves polyp size measurement accuracy during colonoscopy in comparison with snare-based size estimation. In clinical scenarios, VSE reduced misclassifications at clinically relevant size thresholds 2,3 and 5mm which is relevant for adequate choice of polypectomy techniques or when implementing resect and discard strategies.

Conflicts of interest Daniel von Renteln has received research funding from ERBE Elektromedizin GmbH, Ventage, Pendopharm, Fujifilm and Pentax, and has received consultant or speaker fees from Boston Scientific Inc., ERBE Elektromedizin GmbH, and Pendopharm. The remaining authors declare that they have no conflict of interest.

OP075 Clearing the Way: Impact of a combined low volume polyethylene glycol lavage with low residue diet and preprocedure simethicone on bowel cleansing quality – a randomised controlled trial

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Aims The quality of bowel cleansing is known to influence the quality of colonoscopy. A case has been made for dietary modification in the form of low residue diet (LRD) along with polyethylene glycol (PEG) preparation resulting in better bowel cleansing. Also, combined use of simethicone and PEG as lavage solution for bowel preparation has been shown to reduce abdominal pain, bloating and discomfort. We aimed to assess the safety and efficacy of a combined bowel preparation with low volume PEG, low residue diet and simethicone and compare it to the traditional PEG based bowel preparation regimens.

Methods Patients who attended our department of gastroenterology over a period of 1 year and who underwent colonoscopy for routine clinical indications were randomised into 3 arms in a ratio of 1:1:1 according to the bowel preparation that they received – 1) 4L PEG with clear liquid diet 2) 2L PEG with LRD 3) 2L PEG with LRD with simethicone solution. A computer-generated randomization chart was used to determine allocation. Written instruction on how to prepare and ingest the bowel preparation solution as well as specific dietary advices depending on the allocated study arm was explained at the time of scheduling the exam by trained paramedical staff. All colonoscopies were performed by trained endoscopists (> 275 colonoscopies) who were blinded to the preparation received by the patient. The primary outcome was quality of bowel preparation measured by the Boston Bowel Preparation Score (BBPS) and Bubble score. Colonoscopy quality indicators like cecal intubation time and overall procedure duration were recorded. Overall patient satisfaction was assesed using the a 5 point Likert scale. Adverse events like abdominal pain, vomiting, nausea and headache during the course of taking the bowel preparation regimen was also noted.

Results 353 patients were included for the final analysis (4L PEG group – 120, 2LPEG with LRD – 117, 2L PEG with LRD with simethicone – 116). The cleansing quality was not significantly different between the groups (p = 0.224). However, the bubble score was significantly better in patients in the simethicone arm (p = 0.013). On evaluation of colonoscopy quality metrics, overall duration of the procedure (p = 0.016) as well as cecal intubation time (p = 0.004) was lower in the simethicone arm.Overall patient satisfaction was better in the simethicone arm although the difference was stastically non-significant (p = 0.102). Adverse events like nausea/vomiting (p = 0.024), abdominal cramps (p = < 0.001) and headache (p = 0.002) were reported less frequently in the simethicone arm.

Conclusions Combined use of PEG with low residue diet and simethicone offers advantages in terms of lower overall procedure duration time, cecal intubation time, fewer adverse events and better overall patient satisfaction. However, there was no significant difference in terms of bowel cleansing efficacy.

Conflicts of interest Authors do not have any conflict of interest to disclose.

OP076 Magnetic Balloon-Assisted Colonoscopy in Patients with Prolonged Cecal Intubation Time: A Single-Arm European Multicenter Clinical Investigation

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Aims Incomplete colonoscopy has been associated with higher risk of post-colonoscopy interval cancer. Colon loop formation is the main risk factor for incomplete colonoscopies. To address these challenges, a marked magnetic balloon technology add-on device was developed to facilitate colonoscope unlooping and progression. This study aims to assess the safety and efficacy of magnetic balloon-assisted colonoscopy in completing prolonged procedures.

Methods We conducted an open-label, single-arm, prospective, post-market, multicenter study in Italy, Belgium, and Germany. Outpatients undergoing diagnostic or surveillance colonoscopy were eligible if cecal intubation was not achieved within 10 minutes. Patients with angulated and fixed colon curves were excluded. Study technology consists of a balloon catheter that can be inserted on demand in the colonoscope tool channel, filled with a syringe of ferromagnetic fluid, and anchored with an external permanent magnet. Magnetic balloon anchorage stabilizes the scope tip and facilitates easy straightening. Primary endpoint was an incompletion rate ≤ 10 %. Rate of serious adverse events was also collected.

Results Between January and May 2023, a total of 38 patients who experienced an insertion time ≥ 10 minutes with incompleteness of colonoscopy, were included for the interim analysis. Technical success of the magnetic balloon technology was 100 %. The cecum was successfully intubated in all 38 patients, achieving a colonoscopy completion rate of 100 %, also corresponding to a 0 % incompleteness rate (95 % CI: 0 % – 7.6 %). Polyp detection rate was 45 % (95 % CI: 26 % – 71 %).

Conclusions This clinical investigation provides evidence that magnetic balloon-assisted colonoscopy is both safe and effective in completing prolonged colonoscopies. This on-demand technology has the potential to serve as a useful tool for large-scale solution for facilitating colonoscopy completion in a subset of patients at a higher risk of incomplete procedures or adverse events.

Conflicts of interest Authors do not have any conflict of interest to disclose.