DDW2022 Digestive Disease Week®

MAY 21-24 | SAN DIEGO, CA

An intracolonoscopy bowel cleansing system for hard-to-prepare patients

Milou L.M. van Riswijk, MD[1], Kelly E. van Keulen, MD[1], Helmut Neumann, MD[2,3], Peter D. Siersema, MD, PhD[1]

1 Department of Gastroenterology and Hepatology, Radboud Institute for Health Sciences, Radboud university medical center, Nijmegen, The Netherlands

2 Department of Gastroenterology and Hepatology, University of Mainz, Mainz, Germany, 3 GastroZentrum Lippe, Bad Salzuflen, Germany

What to do with hard-to-prepare patients?

High-quality bowel preparation is paramount for the diagnostic accuracy and safety of colonoscopy. However, **inadequate bowel preparation** is reported in up to **20%** of colonoscopies.

Despite **intensified regimes up to even 9L PEG + ascorbate and/or clinical admission** for bowel preparation, some patients *remain repeatedly* inadequately prepared.

An **intraprocedural bowel cleansing system** (Pure-Vu System, Motus GI, Tirat Carmel,Israel), consisting of a workstation and oversleeve, could fill this **gap in BP strategies for hard-to-prepare patients**.

OBJECTIVES

In this study, we assessed the safety and efficacy of the Pure-Vu System in patients with a history of poor bowel preparation for colonoscopy.

International multicenter feasibility study including 44 patients

Patients: history of inadequate bowel preparation in the last 2 years and undergoing outpatient screening or surveillance colonoscopy, were enrolled for this analysis.

Intervention: 300mL split dose sodium picosulfate/magnesium citrate + 2-day low fiber diet, liquid diet upon starting bowel prep. Additional intraprocedural cleansing with Pure-Vu System.

Primary outcome: Percentage adequately prepared patients. Boston Bowel Preparation Scale (BBPS) score per segment

Secondary outcomes: Cecal intubation rate (CIR), procedure times, and safety

RESULTS

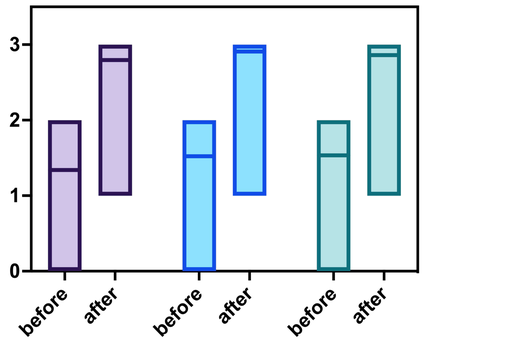
Baseline characteristics (n=44)

Male, n (%)	36 (81.8)
Age, median (IQR), years	61 (55-66.8)
BMI, median (IQR), kg/m²	26.2 (24.4-29.1)
ASA, median (IQR)	2 (1-2)
Medication, n (%)	
Tricyclic antidepressant	2 (4.5)
Chronic laxative use	6 (13.6)
Patient history, n (%)	
Chronic constipation	5 (11.4)
Diabetes	5 (11.4)
Intra-abdominal or pelvic surgery	7 (15.9)
Cerebrovascular accident	1 (2.3)
Diverticulosis	19 (43.2)
Reason for previous poor bowel preparation, n (%)	
Non-compliance	25 (56.8)
Laxative side effects	6 (13.6)
Medical history	9 (20.5)
Medication use	1 (2.3)
Unknown	3 (6.8)

Cecal intubation rate: 88.6%

Reasons for incomplete colonoscopy were looping (n=2), technical malfunction (n=1), relative stricture (n=1), and residual solid feces which could not be removed (n=1, BBPS 0-0-0 → 1-1-1).

Primary outcome: BBPS before and after Pure-vu

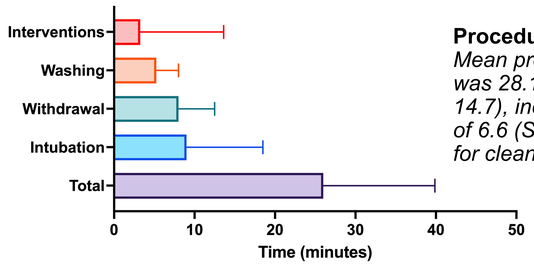


Before Pure-Vu: 31.8% adequately prepared
BBPS median 1-2-2 (IQR 1-2)

After Pure-Vu: 97.7% adequately prepared
BBPS median 3-3-3 (IQR 3-3)

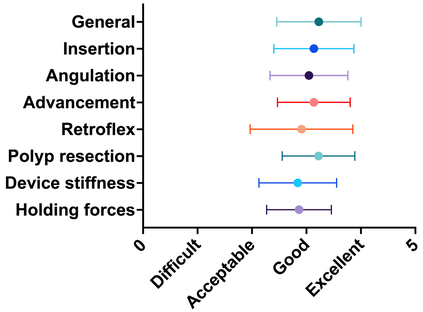
P<0.0001

Procedure times



Procedure times.
Mean procedure time was 28.1 minutes (SD 14.7), including a mean of 6.6 (SD 5.4) minutes for cleaning.

Usability scores



Usability.
The general usability score (based on standard size colonoscope with Pure-Vu oversleeve), assessed by the performing endoscopist, was a median 3 (IQR 3-4) (scale 0-4), corresponding to "as good as conventional colonoscopy".

THE PURE-VU SYSTEM, GEN 2

The Gen 2 Pure-Vu system consists of an oversleeve that fits on to regular and slim colonoscopes.

The workstation (right) connects saline to the flushing- and suctioning output.

Operation is intuitively controlled by a foot pedal.

CONCLUSIONS

The Pure-Vu system **provides adequate cleaning** in patients with a history of poor bowel preparation.

Additionally, it might **prevent repeat colonoscopies** and clinical admissions for intensified bowel preparation.

Since these patients often have a complicated anatomy (scarring after surgery, diverticulosis, etc.), **adequate patient selection** is advised to avoid incomplete procedures.

CONFLICTS OF INTERESTS

The study was investigator initiated and financially sponsored by Motus GI. The financial sponsor did not have a role in data collection, data analysis or interpretation, writing of the manuscript or decision to submit for publication.

CONTACT INFORMATION

milou.vanriswijk@radboudumc.nl

@Milou van Riswijk

in/milouvanriswijk