High-Quality Colon Cleansing Improves Segmental Polyp and Adenoma Detection Rates: Post Hoc Analysis of Randomised Clinical Trials Using Two Validated Cleansing Scales

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Figure 4. The effect of the cleansing

quality, as measured by the HCS, on

ADR and PDR within the right colon

Premise

Colonoscopy is currently the only tool that enables both complete visualization of the colonic mucosa and excision of localized tumors and/or precancerous lesions; it has proven to be an effective tool for reducing the incidence and mortality of colorectal cancer.^{1–3}

However, successful colon cleansing is necessary for accurate detection of lesions of >5mm during colonoscopy.^{3,4} Two cleansing scales that have been developed and validated for use are the Boston Bowel Preparation Scale (BBPS) and the Harefield Cleansing Scale (HCS) (Figure 1 and Figure 2).

Successful colon cleansing is defined as a segmental score of 2 or higher on both the HCS and the BBPS. The additional clinical value of high-quality cleansing (HCS 3–4 and BBPS 3) is a subject of debate.

NER1006 is the first 1L polyethylene glycol (PEG)-based bowel preparation. The NER1006 clinical development program consisted of three randomized phase 3 trials (NOCT, MORA and DAYB) that assessed the efficacy and safety of 1L NER1006 versus standard bowel preparations.^{5–7}

Objectives

Post hoc analyses of the DAYB, MORA and NOCT clinical trials were conducted to assess the segmental lesion detection rate of the right colon in relation to cleansing success.

Methods

Patients: A total of 1749 patients were included.

- Pooled analysis from the three aforementioned phase 3 clinical trials assessed the right colon polyp detection rate (PDR) and adenoma detection rate (ADR) versus attained right colon cleansing quality.
- Polyps and adenomas were detected by site endoscopists as per local practice, while cleansing assessment was standardized with treatment-blinded central readers using the validated BBPS and HCS.
- A 1-sided t-test compared the effect of cleansing quality on the relative lesion detection rates in the right colon. The highest-quality right colon segmental scores for each scale (BBPS 3 and HCS 4) were compared to all other lower scores and cleansing failures (score 0 in the right colon on either scale.

Figure 3. The effect of the cleansing quality, as measured by the BBPS, on ADR and PDR within the right colon

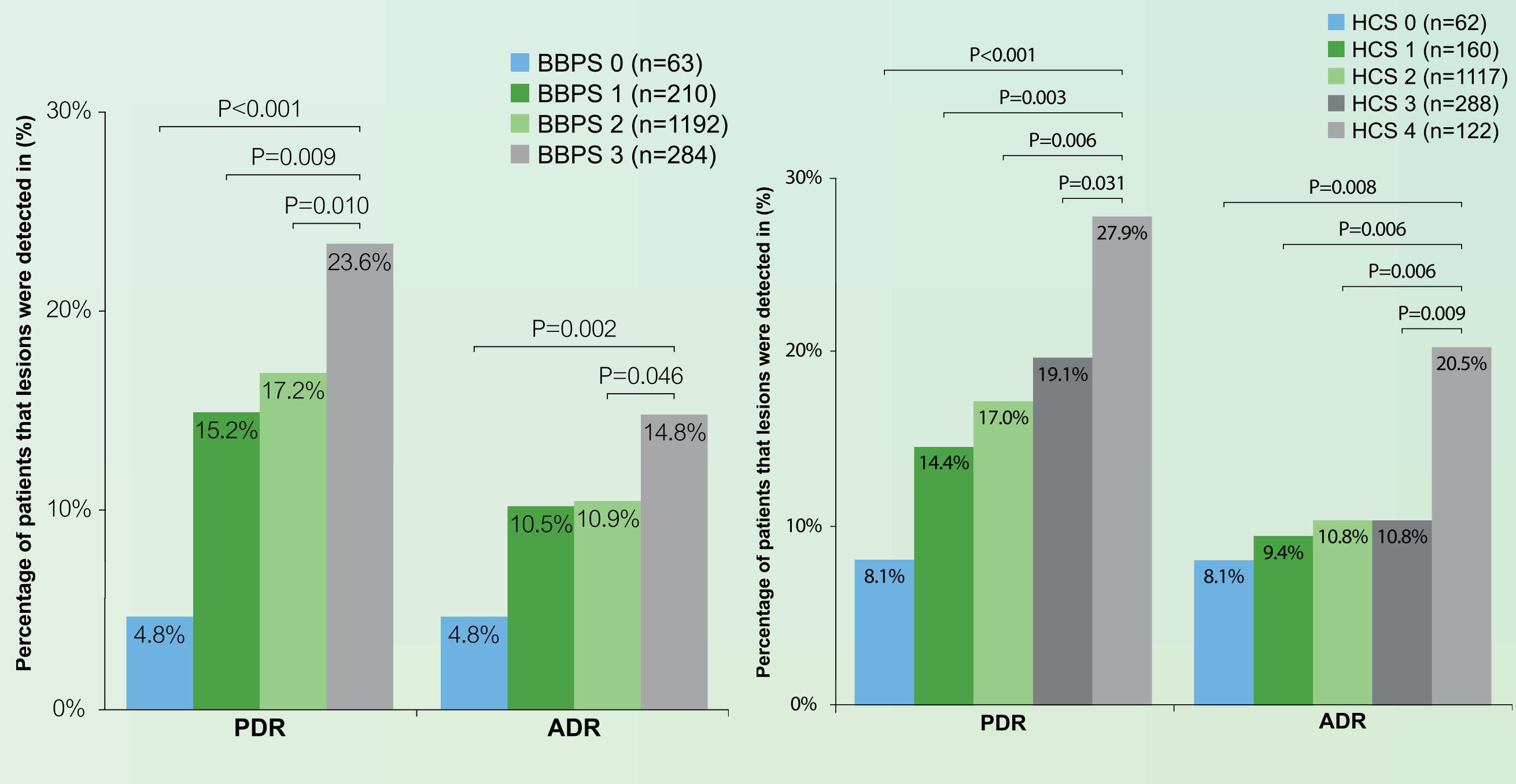
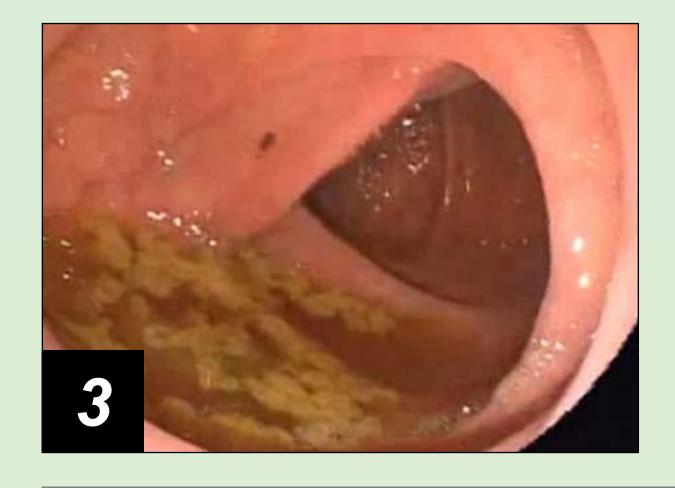


Figure 1. Segmental scoring using the Boston Bowel Preparation Scale





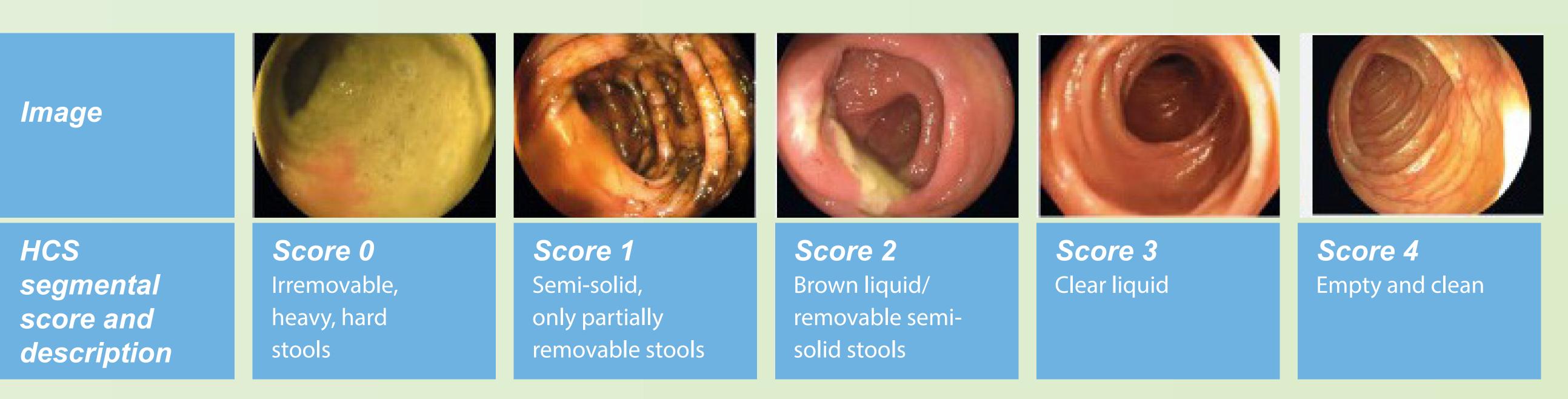




Adequate cleansing

High-quality cleansing

Figure 2. Segmental scoring using the Harefield Cleansing Scale⁶



Results

BBPS: PDR

- In the right colon, BBPS 3 was observed in 16% of patients. It was associated with a significantly higher PDR than in patients with BBPS 2 (23.6% vs 17.2%; P=0.010) (Figure 3).
- BBPS 3 was also associated with a significantly higher PDR than was BBPS 1 (23.6% vs 15.2%; P=0.009) or BBPS 0 (23.6% vs 4.8%; P<0.001).

BBPS: ADR

- BBPS 3 in the right colon was associated with a significantly higher ADR than was BBPS 2 (14.8% vs 10.9%; P=0.046) (Figure 3).
- BBPS 3 in the right colon was also associated with a significantly higher ADR than was BBPS 0 (14.8% vs 4.8%; P=0.002).
- BBPS 1 had a numerically smaller ADR than BBPS 3 or 2 (non-significant).

HCS: PDR

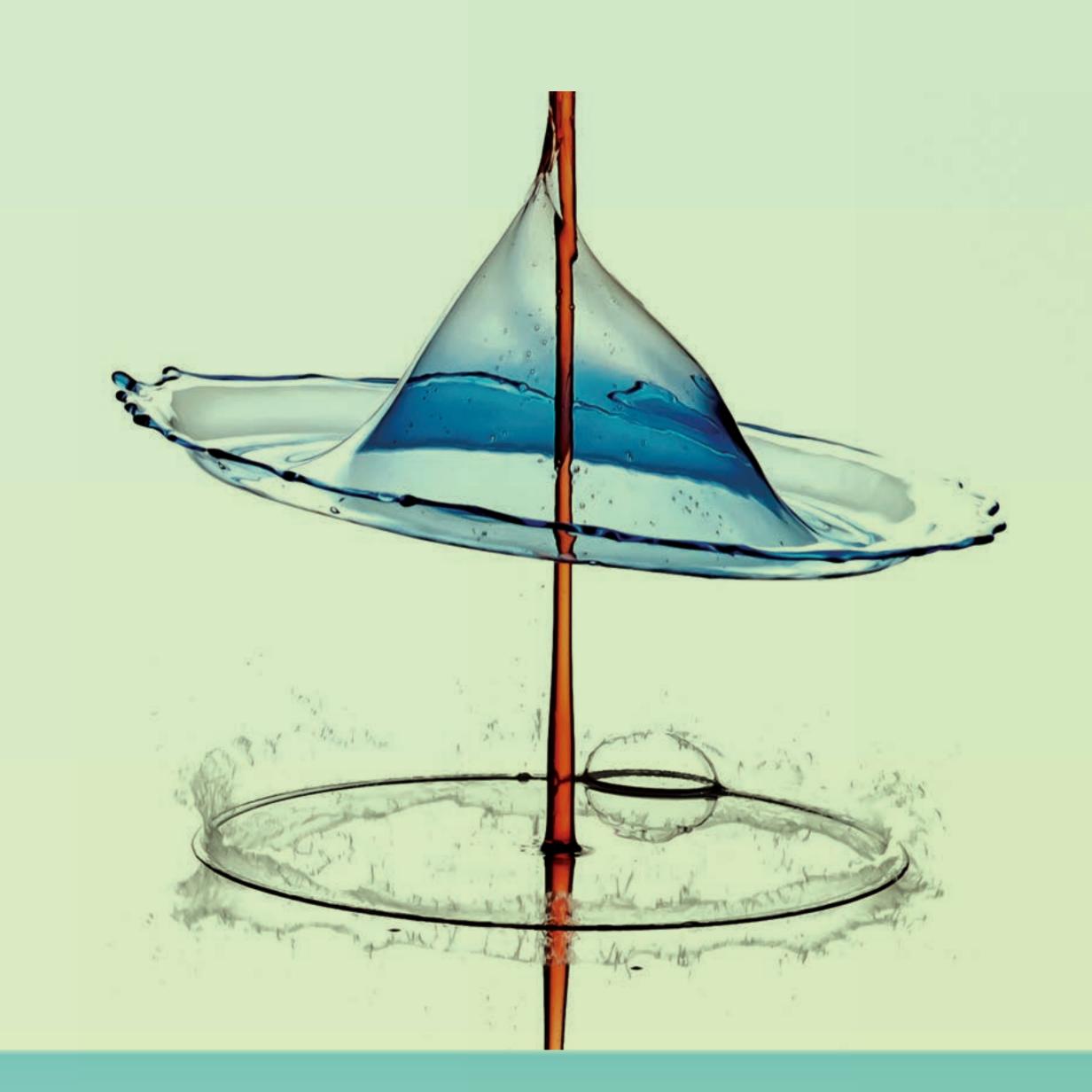
- Patients with a right colon HCS score of 4 had a significantly higher PDR than those with HCS 2 (27.9% vs 17.0%; P=0.006) (Figure 4).
- HCS 4 was also associated with a significantly higher PDR than was HCS 3 (27.9% vs 19.1%; P=0.031), HCS 1 (27.9% vs 14.4%; P=0.003) or HCS 0 (27.9% vs 8.1%; P<0.001)

HCS: ADR

- Similarly, right colon HCS 4 demonstrated significantly higher ADR than did HCS 2 (20.5% vs 10.8%; P=0.006).
- A HCS score of 4 also demonstrated significantly higher ADR than did HCS 3 (20.5% vs 10.8%; P=0.009), HCS 1 (20.5% vs 9.4%; P=0.006) or HCS 0 (20.5% vs 8.1%; P=0.008) (Figure 4).

Conclusions

- On both validated cleansing scales, BBPS and HCS, higher PDR and ADR were obtained with high-quality versus adequate right colon cleansing.
- As expected, high-quality right colon cleansing also enabled significantly greater PDR and ADR than failed cleansing on both scales.
- These findings encourage endoscopists to prioritize cleansing efficacy when selecting bowel preparations for their patients.



Author disclosure information: Michael Epstein: safety advisor for Aspire Bariatrics, consultant for Eli Lilly and Zx Pharma, speaker bureau member for Ferring and Otsuka; Jonathan Manning: received Norgine sponsorship to attend the MORA study investigator meeting; Juha Halonen:

employee of Norgine; Cesare Hassan: received Norgine sponsorship to attend the DAYB study investigator meeting. **Acknowledgements:** The authors would like to thank the MORA, DAYB and NOCT study groups for their contributions and TVF Communications for

DAYB 781–794

help with the preparation of this poster. **References: 1.** Saltzman JR et al. Gastrointest Endosc. 2015; 81 (4): 781–794; **2.** Allameh Z et al. Arch Iran Med. 2011; 14 (2): 110–114; **3.** Brenner H et al. BMJ 2014; 348: g2467; **4.** Clark BT et al. Gastroenterology.

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Presented at DDW 2019 in San Diego Presentation number: Sa1074