

Presenter Declarations



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High-Quality Colon Cleansing with Novel 1L PEG-Based Bowel Preparation NER1006 versus Current Alternatives: Post Hoc Analysis of 1521 Patients in Three Randomised Phase 3 Trials

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Introduction

Clinical colonoscopy guidelines recommend that colonoscopy be repeated if bowel preparation is inadequate, in the UK the minimum target for adequate bowel preparation is 90%, with an aspirational target of 95%.^{1,2}

UK quality assurance measures and key performance indicators published in 2016 state that high quality colonoscopy cannot occur without good quality bowel preparation.²

It has been shown that a Boston Bowel Preparation Scale (BBPS) score of 2 (per bowel segment) is non-inferior to a score of 3 in the detection of lesions >5mm, so a BBPS score ≥2 can be used as an adequate-level cleansing threshold.³

In contrast, it has been shown that high-quality cleansing (overall BBPS score ≥7 or score 3 in the right colon) is needed to improve detection of sessile serrated lesions in the whole and right colon.⁴

NER1006 is the first 1L polyethylene glycol (PEG)-based bowel preparation. It is a combination of two different formulations, with a low preparation volume, optimised for effective bowel preparation and taste. The efficacy and safety of NER1006 have been established in a Phase 3 clinical trial program consisting of three large European and US multicentre, randomised, treatment-blinded central reader-assessed, active-controlled trials.⁵⁻⁷

Objective

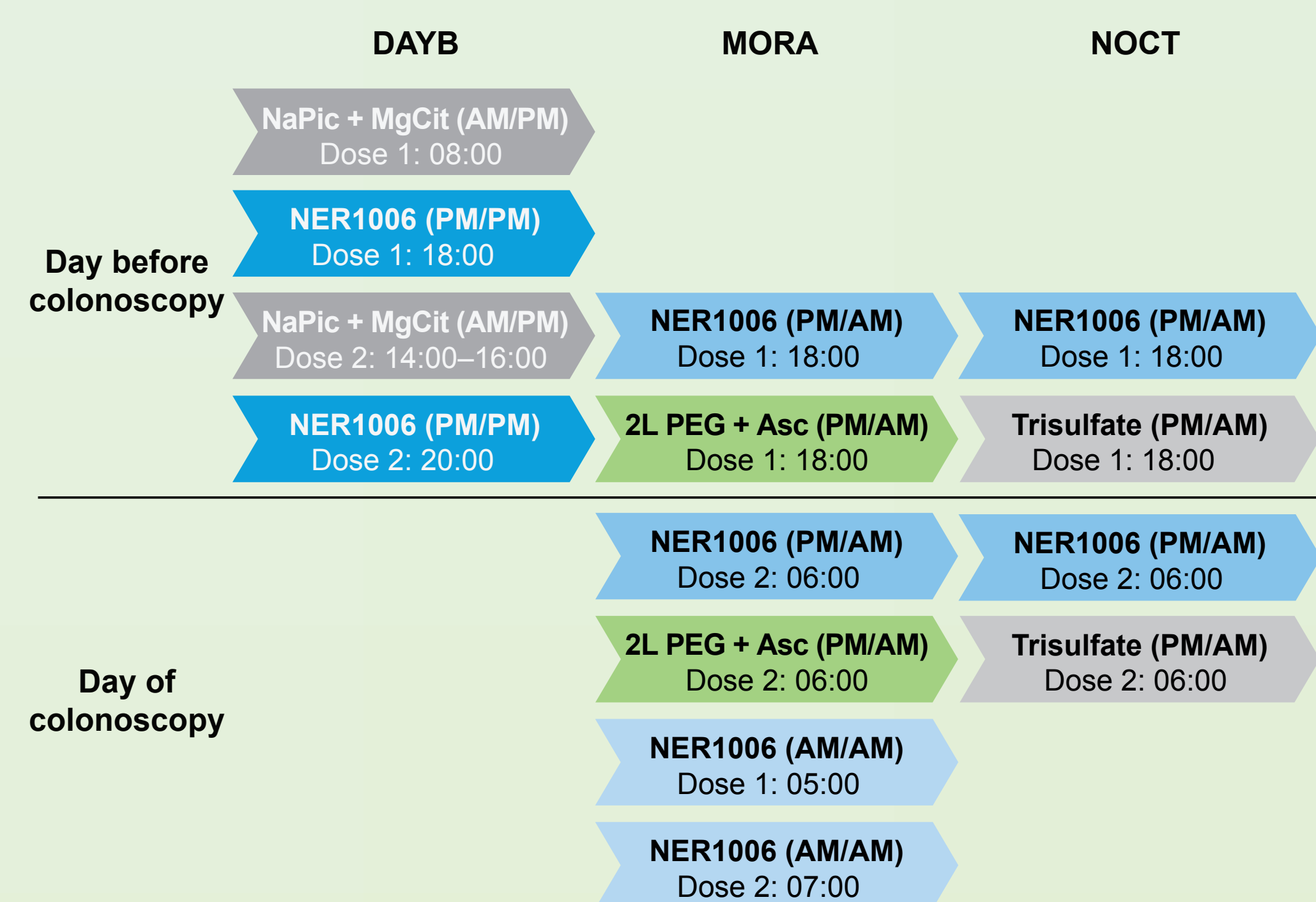
These post hoc analyses were conducted to compare attainment of high-quality and adequate level cleansing in the overall colon and right colon (including the ascending colon and caecum) using NER1006 versus the three comparator bowel preparations in the per protocol (PP) set, which consisted of all eligible patients without major protocol deviations who took ≥75% of both study preparation doses, and who had data for at least one of the primary endpoints.

Methods

Patients

Patients were males and females aged 18–85 years who required a screening, surveillance or diagnostic colonoscopy. The three trials included in these post hoc analyses were all Phase 3, multicenter, randomised, colonoscopist- and central reader-blinded, active-controlled trials, conducted in Europe and the US (DAYB: NCT02273141; MORA: NCT02273167; NOCT: NCT02254486). The bowel preparation dosing regimens used in each trial are shown in Figure 1.

Figure 1: Split-dosing regimens used in the three trials

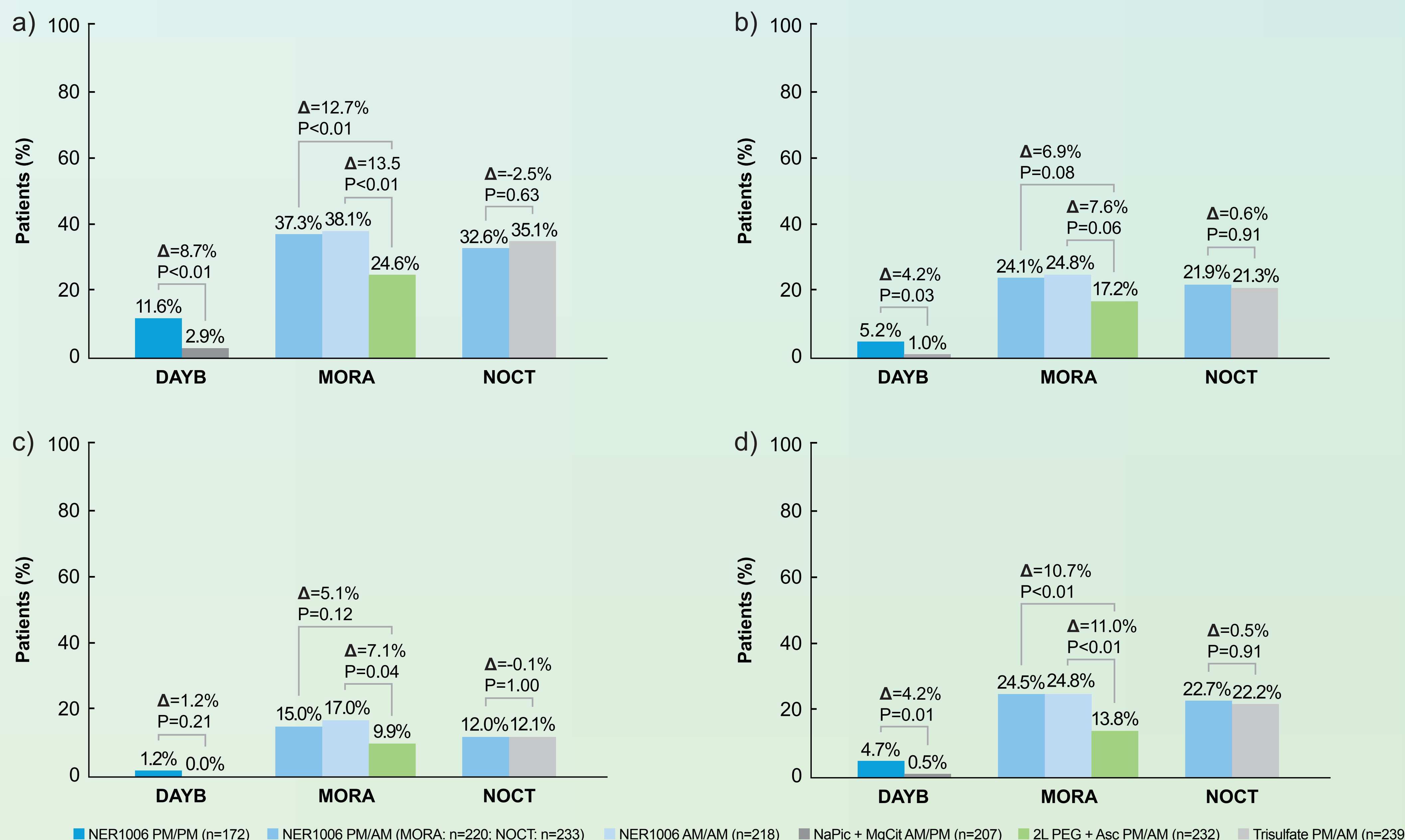


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Figure 2: Achievement of high-quality bowel cleansing (BBPS segmental score 3) in three trials among patients who had: (a) at least one segment with BBPS score 3, all other segments scored ≥2; (b) at least two BBPS segments scored 3 one scored ≥2; (c) all segments with BBPS score 3; (d) BBPS score 3 in the right colon



Endpoints

Central reader scores were compared against recently defined BBPS thresholds for adequate (BBPS segmental scores of ≥2) and high-quality cleansing in the overall bowel (at least one segment with BBPS score 3, all other segments score ≥2) and in the right colon (with BBPS score 3).³

Statistics

All analyses were carried out using the statistical package R v3.1.3 (The R Foundation, 2015) and confidence intervals and the t-statistic for each mean difference and two-sided P-values were calculated using Fisher's exact test.

Table 1: Patient baseline demographics

	DAYB		MORA			NOCT	
	NER1006 PM/PM (n=172)	NaPic + MgCit AM/PM (n=207)	NER1006 PM/AM (N2D) (n=220)	NER1006 AM/AM (N1D) (n=218)	2LPEG + Asc PM/AM (n=232)	NER1006 PM/AM (n=233)	Trisulfate PM/AM (n=239)
Mean age, years (SD)	53.4 (11.7)	51.9 (12.9)	56.6 (11.8)	55.4 (13.1)	54.2 (12.8)	57.4 (10.2)	56.7 (10.1)
Age ≤65 years, n (%)	147 (85.5)	179 (86.5)	162 (73.6)	168 (77.1)	194 (83.6)	189 (81.1)	196 (82.0)
Male, n (%)	63 (36.6)	66 (31.9)	93 (42.3)	106 (48.6)	121 (52.2)	118 (50.6)	137 (57.3)
Race, n (%)							
White or Caucasian	171 (99.4)	206 (99.5)	217 (98.6)	217 (99.5)	229 (98.7)	197 (84.5)	195 (81.6)
Black	0	0	2 (0.9)	1 (0.5)	1 (0.4)	29 (12.4)	23 (9.6)
Asian	1 (0.6)	1 (0.5)	0	0	2 (0.9)	7 (3.0)	16 (6.7)
Other	0	0	1 (0.5)	0	0	0	5 (2.1)
Mean BMI, kg/m ² (SD)	26.7 (4.4)	26.7 (4.5)	27.1 (4.6)	27.0 (4.3)	26.4 (4.0)	29.5 (5.4)	29.8 (6.1)
Reason for colonoscopy, n (%)							
Screening	80 (46.5)	108 (52.2)	110 (50.0)	117 (53.7)	117 (50.4)	135 (57.9)	144 (60.3)
Diagnostic	25 (14.5)	33 (15.9)	33 (24.1)	36 (16.5)	49 (21.1)	71 (30.5)	69 (28.9)
Surveillance	67 (39.0)	66 (31.9)	57 (25.9)	65 (29.8)	66 (28.4)	27 (11.6)	26 (10.9)

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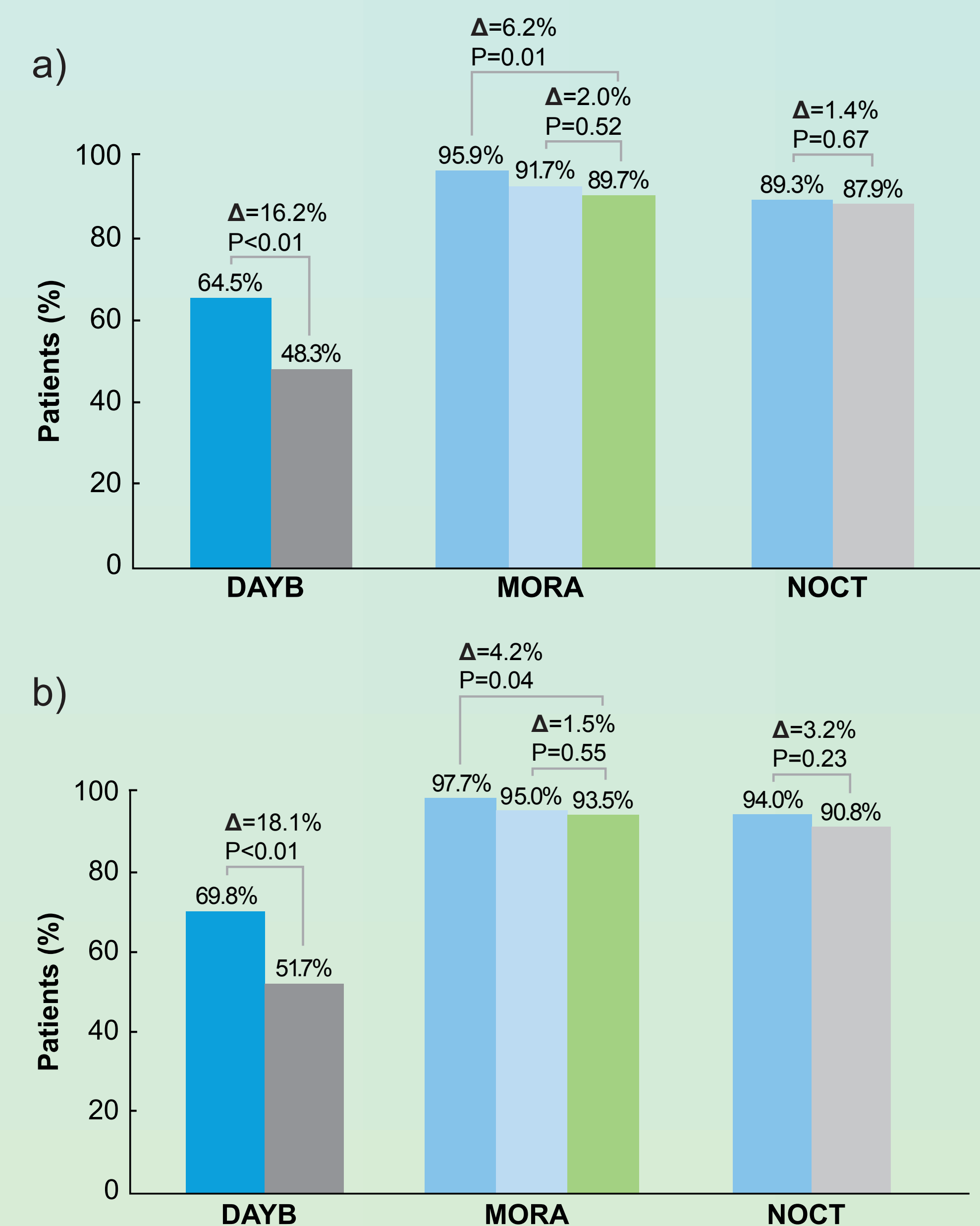
Results

Patient baseline demographics for the PP set from each study are shown in Table 1.

The rates of high-quality cleansing on the BBPS for the overall colon and right colon for all bowel preparations studied in the three trials are shown in Figure 2.

The rates of adequate-level cleansing in the overall colon (BBPS score ≥2 in all segments) and right colon (BBPS score ≥2) are shown in Figure 3.

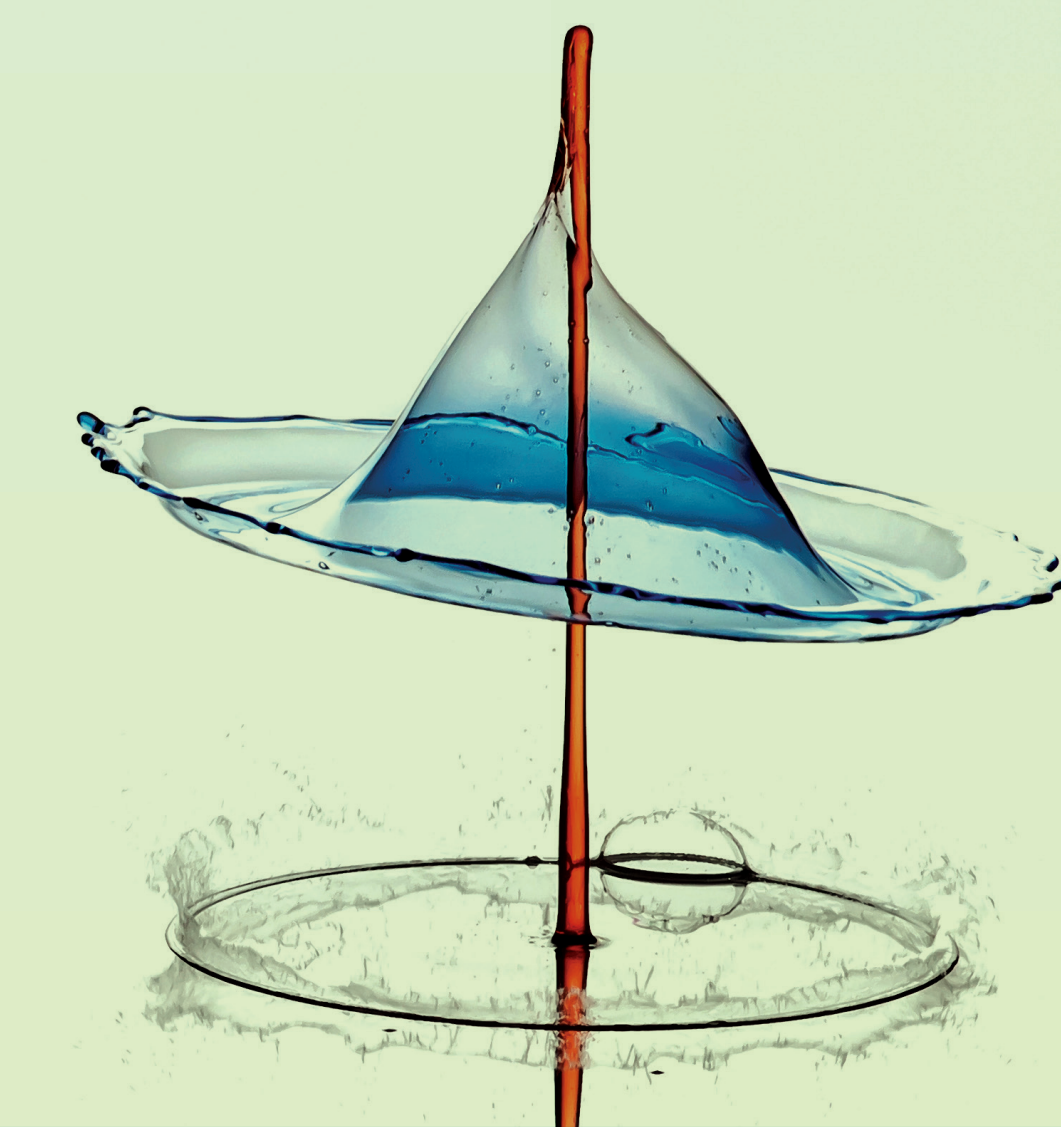
Figure 3: Adequate-level bowel cleansing (BBPS segmental score ≥2) in the three trials in: (a) the overall colon; (b) the right colon



Discussion

• These results confirm previous findings that NER1006 is a more effective bowel preparation than NaPic + MgCit and 2LPEG + Asc. The results of this post hoc analysis show that, in the per protocol population, NER1006 demonstrates superior adequate (BBPS≥2) cleansing in both the overall and right colon compared to NaPic + MgCit. Numerically, NER1006 achieved more high quality cleansing (BBPS score 3) than NaPic + MgCit and 2LPEG + Asc across all segments and with statistically superior high quality cleansing in the right colon. Since colonoscopy guidelines recommend that procedures with inadequate bowel preparation are repeated, the use of NER1006 could offer increased efficiencies over comparator bowel preparations.

• If used routinely in large populations, the higher level of cleansing obtained with NER1006 will likely contribute towards increased lesion detection rates.



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