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A Pooled Safety Analysis of the 1 L Polyethylene Glycol–Based Bowel Preparation NER1006 in Adults With Versus Without Diabetes Mellitus: a Pooled Analyses of 2 Randomized, Phase 3 Studies

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INTRODUCTION

- Diabetes mellitus is an independent risk factor for inadequate bowel preparation for colonoscopy[1-3]
  - Diabetes aberrantly affects gastrointestinal (GI) motility and gastric emptying; however, the mechanism for GI dysfunction in diabetes remains to be elucidated, but is likely multifactorial[4-6]
  - GI dysfunction can affect the incidence of adverse events (AEs) with bowel preparation administration in patient with diabetes[7]
- NER1006 (Plenvu®, Norgine Ltd, Tir-Y-Berth Hengoed, United Kingdom) is a low-volume 1 L polyethylene glycol (PEG)-based bowel preparation indicated in the United States in 2018 for colon cleansing in preparation for colonoscopy in adults[8]
- Two randomized, phase 3 studies of NER1006 evaluating the US Food and Drug Administration-approved dosing regimens (2-day evening/morning [PM/AM] split dosing or 1-day morning [AM/AM] of colonoscopy split dosing) have demonstrated its efficacy and tolerability in adults[9,10]

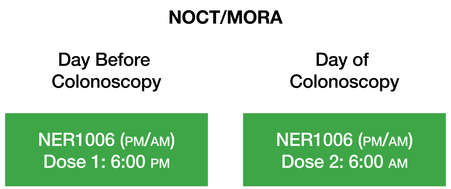
OBJECTIVE

- To evaluate the safety profile of 1 L NER1006 bowel preparation in adults with diabetes compared with those without diabetes

METHODS

- A pooled post hoc analysis was conducted of two phase 3, randomized, controlled, multicenter studies of adults undergoing screening, surveillance, or diagnostic colonoscopy (NOCT/MORA)[9,10]
- The current analysis included patients who received NER1006 as a 2-day PM/AM split-dose bowel preparation regimen (Figure)[9,10]

Figure. NER1006 Bowel Preparation Dosing Regimen*[9,10]



*A light breakfast and light lunch was permitted. NER1006 AM/AM split-dosing arm in MORA study and comparator arms of NOCT/MORA (oral sulfate solution/2 L polyethylene glycol plus ascorbate) were not included in the current analyses.

- Diabetes (type 1 or type 2) was determined as part of medical history at screening
- Safety assessments included treatment-emergent AEs and clinical laboratory test results through 7 ± 1 days after colonoscopy, and analysis included all patients randomly assigned for whom it could not be ruled out they received NER1006 at least once (per patient diary)

RESULTS

- A total of 524 patients were included in the safety analysis (Table 1)
  - Almost half of patients were male (46.4%), the majority were ≤65 years of age (77.5%), and 82.1% underwent screening or surveillance colonoscopy
  - 8.0% of patients had diabetes

Table 1. Demographic and Baseline Characteristics

Parameter	Patients Treated With NER1006 (n=524)
Age	
Mean, y (SD)	57.0 (11.1)
Range, y	18–86
Sex, male, n (%)	243 (46.4)
Race, n (%)	
White	477 (91.0)
Black	39 (7.4)
Other	8 (1.5)
Reason for colonoscopy, n (%)	
Screening	287 (54.8)
Surveillance	143 (27.3)
Diagnostic	94 (17.9)
Diabetes, n (%)	
Yes	42 (8.0)
No	482 (92.0)
BMI, mean (SD), kg/m²	28.4 (5.3)

BMI = body mass index; SD = standard deviation.

- The frequency of AEs was generally comparable between patients with diabetes and those without diabetes (Table 2)
  - No patients discontinued from the study due to an AE in either group
  - No AEs were reported by >1 patient with diabetes
  - The most common AEs in patients without diabetes were nausea (6.6%) and vomiting (5.6%)
  - 1 patient in the diabetes group experienced a serious AE of moderate ileus, which was not considered by the investigator to be related to NER1006
  - 2 patients without diabetes experienced serious AEs of alcohol abuse and procedural intestinal perforation; both were considered by the investigator to be unrelated to NER1006

Table 2. Summary of Adverse Events in Patients Treated With NER1006

Parameter	Patients With Diabetes (n=42)	Patients Without Diabetes (n=482)
Any AEs	9 (21.4)	109 (22.6)
Any drug-related AEs	2 (4.8)	67 (13.9)
AEs leading to discontinuation	0	0
Serious AEs	1 (2.4)*	2 (0.4)†
Drug related	0	0
Deaths	0	0
Most common AEs‡		
Nausea	1 (2.4)	32 (6.6)
Vomiting	0	27 (5.6)
Dehydration	1 (2.4)	8 (1.7)
Headache	1 (2.4)	8 (1.7)
Abdominal tenderness	1 (2.4)	6 (1.2)
Other AEs of interest		
Decreased GFR	1 (2.4)	4 (0.8)
Hypoglycemia	0	0
Hyperglycemia	0	0
Thirst	0	2 (0.4)

*1 event of ileus.
†1 event of alcohol abuse and 1 of procedural intestinal perforation.
‡AEs reported in ≥1% of patients in either group, and ordered by highest frequency in the group without diabetes.
AE = adverse event; GFR = glomerular filtration rate.

CONCLUSION

- **This analysis supports the safety of 1 L PEG-based NER1006 as a bowel preparation in adults with diabetes undergoing colonoscopy**

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