



Efficacy of rapid bowel preparation with new 1 L polyethylene glycol ascorbate solution in severe acute lower GI bleeding

Paola Soriani, MD,¹ Cesare Hassan, MD,² Laura Ottaviani, MD,¹ Tommaso Gabbani, MD,¹ Mauro Manno, MD¹

Ileocolonoscopy (IC) is the usual procedure in cases of acute lower GI bleeding (LGIB). It should be performed within 8 to 24 hours of a patient's presentation after adequate colon cleansing to improve its diagnostic and therapeutic yield, which can range from 48% to 90%.¹

According to American guidelines, 4 to 6 liters of polyethylene glycol (PEG)-based iso-osmolar solution should be rapidly administered over 3 to 4 hours until rectal effluent is clear; also, a nasogastric tube is used to facilitate the instillation in high-risk patients.¹ However, the high volume delays the procedure, and it is poorly acceptable to patients. Recently, a very-low-volume hyperosmolar bowel preparation, based on a combination of ascorbate with 1 L PEG (PEG-Asc), has been validated in randomized trials, showing superiority compared with 2 L PEG-Asc, trisulfate, and sodium picosulfate with magnesium citrate.²⁻⁴

We report the case of a 70-year-old man with a history of chronic atrial fibrillation who had been receiving ongoing anticoagulant therapy. He was hospitalized for hemorrhagic shock and severe anemia, secondary to massive LGIB.

Initial resuscitation with fluids and blood transfusions was performed. Once the patient's condition was hemodynamically stable, a nasogastric tube (to avoid the adverse event of aspiration of stomach contents in a patient with compromised mental status) was used to instill the novel 1-L PEG+Asc solution (Plenvu; Norgine, The Netherlands)

and then 1 L water, in 2 hours. Urgent IC was performed 2 hours after the end of the solution intake, before the recommended 8 hours,¹ with the patient in stable but critical clinical condition.

The choice of a rapid hyperosmolar preparation permitted excellent bowel preparation (Boston Bowel Preparation Scale 9) but in less time, with an optimal clinical outcome. In fact, the diagnosis of oozing bleeding vessel in the cecum, type 2a Dieulafoy lesion according to the Yano-Yamamoto classification^{5,6} (Fig. 1) was made,^{2,3} and the lesion was successfully treated with 5 through-the-scope clips (Fig. 2; Video 1, available online at www.VideoGIE.org). Low-molecular-weight heparin was reintroduced 24 hours after the procedure. The patient was discharged home a few days later, without adverse events.

In conclusion, the new 1-L PEG-Asc solution can be considered for rapid bowel preparation when IC has to be rapidly planned in a critical patient with severe acute LGIB. The 1-L regimen preserves similar efficacy to that of higher-volume preparations and a substantial time reduction for bowel preparation, which is clinically relevant in an urgent setting, to improve diagnostic and therapeutic IC yields.

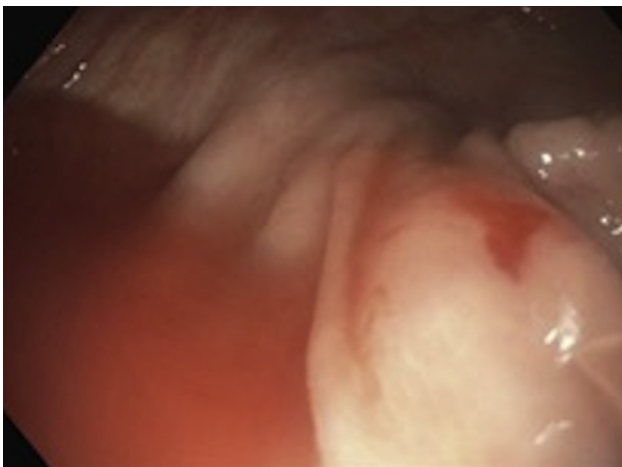


Figure 1. Type 2a Dieulafoy lesion, according to Yano-Yamamoto classification, in the cecum.



Figure 2. Endoscopic hemostasis with through-the-scope clip.

DISCLOSURE

Dr Hassan is a consultant with Norgine. All other authors disclosed no financial relationships relevant to this publication.

Abbreviations: IC, ileocolonoscopy; LGIB, lower GI bleeding; PEG, polyethylene glycol.

REFERENCES

1. Strate LL, Gralnek IM. Management of patients with acute lower gastrointestinal bleeding. *Am J Gastroenterol* 2016;111:459-74.
2. DeMicco MP, Clayton LB, Pilot J, et al. Novel 1 L polyethylene glycol-based bowel preparation NER1006 for overall and right-sided colon cleansing: a randomized controlled phase 3 trial versus trisulfate. *Gastrointest Endosc* 2018;87:677-87.
3. Bisschopps R, Manning J, Clayton LB, et al. Colon cleansing efficacy and safety with 1 L NER1006 versus 2 L polyethylene glycol + ascorbate: a randomized phase 3 trial. *Endoscopy* 2019;51:60-72.
4. Schreiber S, Baumgart DC, Drenth JPH, et al. Colon cleansing efficacy and safety with 1 L NER1006 versus sodium picosulfate with magnesium citrate: a randomized phase 3 trial. *Endoscopy* 2019;51:73-84.
5. Yano T, Yamamoto H, Sunada K, et al. Endoscopic classification of vascular lesions of the small intestine (with videos). *Gastrointestinal Endosc* 2008;67:169-72.
6. Reynolds JK, Mejia VA. Appendiceal Dieulafoy lesion: an unusual cause of massive lower gastrointestinal bleeding. *Am Surg* 2015;81:E18-9.

Gastroenterology and Digestive Endoscopy Unit, Azienda USL, Modena, Italy (1); Gastroenterology and Digestive Endoscopy Unit, Nuovo Regina Margherita Hospital, Rome, Italy (2).

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