THE AMERICAN JOURNAL of MEDICINE®

Incidence of Sodium Polystyrene Sulfonate-associated Colonic Necrosis

To the Editor:

Harel et al[1] systematically describe 58 patients with sodium polystyrene sulfonate (SPS)-associated gastrointestinal events. The majority of events (76%) involved the colon, and one third resulted in death. Their evaluation is rigorous and detailed. However, as they indicate in their discussion, the case series model is inherently limited by selection and publication bias, and the lack of a "denominator…to calculate attributable risk."

Recently, a retrospective cohort study investigated SPS-associated colonic necrosis in 123,391 adult inpatients over 9 years at a single tertiary care center.[2] The outcome was tissue-confirmed ischemic colitis/colonic necrosis, considered SPS-associated if SPS had been prescribed $\leq$30 days before tissue accession. The 9-year cumulative incidence of colonic necrosis was 0.14% (95% confidence interval [CI], 0.03%-0.40%) in those prescribed SPS, vs 0.07% (95% CI, 0.05-0.08%) in those not prescribed SPS (relative risk 2.10; 95% CI, 0.68-6.48; $P = .2$).

Thus, inpatient SPS administration was not significantly associated with an increased relative risk of colonic necrosis, and the colonic necrosis incidence rate was not greater than reported in a recent prospective observational study.[3] It is not clear that there are indeed "safer, potentially more effective" alternatives to SPS for the management of mild to moderate, non-life-threatening hyperkalemia. No hyperkalemia therapy has been thoroughly studied for safety and efficacy in such a setting, and all potential options (SPS, loop diuretics, and dialysis initiation) are associated with side effects.[4] The documented rarity of SPS-associated colonic necrosis should be taken into account when considering practice guidelines for management of hyperkalemia, and SPS should remain an option for hyperkalemia management, especially when an excretory modality is required.

Christina M. Yuan, MD
Robert Nee, MD
Dustin J. Little, MD
Kevin C. Abbott, MD, MPH
Nephrology Service
Department of Medicine
Walter Reed National Military Medical Center
Bethesda, Md

http://dx.doi.org/10.1016/j.amjmed.2013.02.034

Funding: None.

Conflicts of Interest: None.

Authorship: All authors had a role in writing this letter, and have reviewed it. The views expressed in this letter are those of the authors and do not reflect the official policy of the Department of the Army, the Department of the Navy, the Department of Defense, or the United States government.

References

1. Harel Z, Harel S, Shah PS, Wald R, Perl J, Bell CM. Gastrointestinal adverse events with sodium polystyrene sulfonate (Kayexalate) use: a systematic review. *Am J Med*. 2013;126(3):264.e9-264.e24.
2. Watson MA, Baer TP, Nguyen A, et al. Association of prescription of oral sodium polystyrene sulfonate with sorbitol in an inpatient setting with colonic necrosis: a retrospective cohort study. *Am J Kidney Dis*. 2012;60(3):409-416.
3. Montoro MA, Brandt LJ, Santolaria S, et al. Workgroup for the Study of Ischaemic Colitis of the Spanish Gastroenterological Association (GTECIE-AEG). Clinical patterns and outcomes of ischaemic colitis: results of the Working Group for the Study of Ischaemic Colitis in Spain (CIE study). *Scand J Gastroenterol*. 2011;46(2):236-246.
4. Watson M, Abbott KC, Yuan CM. Damned if you do, damned if you don't: potassium binding resins in hyperkalemia. *Clin J Am Soc Nephrol*. 2010;5(10):1723-1726.

0002-9343/$ -see front matter Published by Elsevier Inc.