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Letter to the Editor Open Access

Letter to the Editor

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We appreciate McCullough et al. extensive review of the interrelationship between cardiovascular and renal diseases (Cardiorenal Syndromes [CRS]: Advances in Determining Diagnosis, Prognosis, and Therapy) [1]. An understanding of the complex cardiorenal axis is of significant clinical importance in the management of patients with dysfunction of these organ systems. This letter serves to highlight inaccuracies and inconsistencies in the article regarding the potassium binders patiromer (recently approved by the FDA as the first new medicine for the treatment of hyperkalemia in more than 50 years) [2] and sodium zirconium cyclosilicate (under development).

Unfortunately, the authors incorrectly describe the amount of calcium as 1.6 g per 4.2 g of patiromer. The correct amount is 1.6 g per 8.4 g of patiromer [3]. While the authors report the amount of the calcium counterion in patiromer, they don't describe the amount of the sodium counterion in sodium zirconium cyclosilicate. The drug is reported to contain less than ~8% sodium by total weight [4]. Therefore the approximate sodium content in the sodium zirconium cyclosilicate dose tested in clinical trials (10 g) is ~800 mg (35 mEq) sodium.

The authors also incorrectly describe the sorbitol in patiromer as an adjunct cathartic. This is an inaccurate characterization. Sorbitol is part of the calcium counterion complex and improves stability by slowing the rate of elimination of fluoride from the patiromer polymer. The minimum effective dose of sorbitol required to induce a laxative effect in humans is reported as ~50 g [5], approximately 13-fold higher than the 4 g of sorbitol that is present in the typical daily dose of patiromer (8.4 g QD) [3]. The typical dose of sodium polystyrene sulfonate, 45 g/day, contains ~60 g of sorbitol (for formulations that contain sorbitol), ~15 times the amount of sorbitol in the 8.4 g QD dose of patiromer. The rate of diarrhea observed in patiromer clinical trials was low (4.8%). If the sorbitol content in patiromer was high enough to cause a laxative effect, much higher rates of diarrhea would have been observed.

As noted in the peer-reviewed article by Pitt et al. (Eur Heart J), PEARL-HF was the first prospective double-blind, placebo-controlled trial of patiromer to prevent hyperkalemia in chronic HF patients receiving standard therapy including an ACE-I or ARB and beta blocker, in addition to spironolactone 25–50 mg/day [6]. Mean serum K^+ at baseline was 4.7 mEq/L in both the patorimer and placebo groups; 41% and 31%, respectively, had a history of HK at baseline. The correct generic name of the approved hyperkalemia therapy is patiromer not patiromer calcium [2].

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Conflicts of Interest

Dr. Bakris reports consulting fees from AbbVie; AstraZeneca; Bayer; CVRx; Janssen; Medtronic; Relypsa; and Takeda. Dr. Weir reports consulting fees from Akebia; Amgen; Astra Zeneca; Boston Scientific; Janssen; Lexicon; Merck Sharp & Dohme; Sanofi; Sandoz; and Relypsa. Dr. Epstein reports consulting fees from Bayer; OPKO Health; Novartis; and Relypsa.

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