

## 009. Effect of Patiromer on Serum Potassium in Hyperkalemic Patients With and Without Obesity: Pooled Results from the AMETHYST-DN, OPAL-HK and TOURMALINE Trials

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### Purpose

Obesity (defined as body mass index [BMI]  $\geq 30$  kg/m<sup>2</sup>) is common in patients with chronic kidney disease (CKD). Activation of the renin-angiotensin-aldosterone system may play a causative role in the development of CKD in obesity along with other factors such as proteinuria and hypertension. Renin-angiotensin-aldosterone system inhibitors (RAASi) are effective in CKD or heart failure patients, with or without obesity. The risk of hyperkalemia in CKD or heart failure treated with RAASi, including aldosterone antagonists, is similar in obese and non-obese patients. Patiromer, a nonabsorbed, sodium-free, potassium binder, has been shown to effectively reduce serum potassium levels in hyperkalemic patients with CKD taking RAASi. The effect of patiromer in obese patients with hyperkalemia and CKD has not been previously reported.

### Methods

We evaluated patiromer's effect on serum potassium in hyperkalemic patients with and without obesity. The effect of four weeks of treatment with patiromer on serum potassium was investigated by combining data from three studies: AMETHYST-DN, OPALHK and TOURMALINE. Eligible patients had to have serum potassium (local lab)  $> 5.0$  mEq/L to receive patiromer. Starting doses of patiromer ranged from 8.4 to 33.6 g/d. Patients who took at least one dose of patiromer and had one post-baseline serum potassium measurement were included in this post-hoc analysis. Data were pooled and analyzed for change from baseline in serum potassium (primary endpoint in OPAL-HK and AMETHYST-DN; secondary endpoint in TOURMALINE) and the proportion of patients achieving target serum potassium (primary endpoint in TOURMALINE; secondary endpoints in OPAL-HK and AMETHYST-DN) according to BMI ( $\geq 30$  kg/m<sup>2</sup> obese, and  $< 30$  kg/m<sup>2</sup> non-obese) at baseline visit.

### Results

Of 653 patients included in the analysis, 62% were men, the mean (SD) age was 66 $\pm$ 9.9 years and 40.9% were obese. Other than BMI, patient characteristics were similar among obese and non-obese patients including baseline potassium (mean [SD] 5.39 $\pm$ 0.38, 5.39 $\pm$ 0.44 mEq/L), diabetes mellitus (87%, 78%) and eGFR (mean [SD] 38.8 $\pm$ 19, 39.7 $\pm$ 19 mL/min/1.73 m<sup>2</sup>) and the presence of hypertension (99%, 97%). More than 90% of patients were on RAASi during the studies. More patients with obesity were receiving dual RAASi blockade (21.0% vs. 10.9%) and aldosterone antagonists (10.5% vs. 5.4%). At Week 4, least square mean (SE) serum change from baseline in potassium was  $-0.77\pm 0.03$  mEq/L (n=240) and  $-0.74\pm 0.03$  in obese and non-obese patients, respectively. The proportion of patients who achieved a

target range potassium (3.8-5.0 mEq/L) by Week 4 was 96% in obese patients and 97% in non-obese. In those with moderate hyperkalemia (potassium  $\geq 5.5$  mEq/L) at baseline, 95.4% of obese and 95.7% of non-obese patients achieved target serum potassium by Week 4. Adverse events (AEs) were reported in 101 (38%) obese patients and 108 (28%) non-obese patients; the three most common AEs in obese and non-obese patients were, respectively, constipation: 7.1% and 5.2%, diarrhea: 3.0 % and 2.8%, and hypomagnesemia: 3.4% and 1.0%. Most AEs were mild to moderate in severity. AEs led to patiromer discontinuation in 4.1% of obese patients and 3.4% of non-obese patients.

### Conclusions

Patiromer reduced serum potassium in hyperkalemic obese and non-obese patients in a manner consistent with overall results in the individual studies.