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REAL-WORLD TREATMENT AND CLINICAL OUTCOMES IN END-STAGE RENAL DISEASE PATIENTS WITH SEVERE HYPERKALEMIA UNDERGOING HEMODIALYSIS IN THE UNITED STATES

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INTRODUCTION AND AIMS: Hyperkalemia (HK) is common in end-stage renal disease (ESRD) patients undergoing hemodialysis (HD) and is associated with hospitalization and death. We examined patient characteristics, HK treatment, and outcomes of patients with moderate to severe HK undergoing HD in a large ESRD provider network in the United States (US).

METHODS: In this retrospective, observational study between 01Aug2015 and 31Jan2017, ESRD patients undergoing HD at Fresenius Kidney Care (FKC) centers in the US were identified from the FKC dialysis database who were age ≥18 years and prescribed permanent in-center HD ≥3 times/week. Three cohorts were identified: baseline serum potassium (sK) value ≥5.1 mEq/L without potassium (K) binder therapy (non-K binder) or any baseline sK value and initiated K binder therapy with patiromer (patiromer) or oral sodium polystyrene sulfonate (SPS). We examined patient characteristics in the 90 days prior to cohort entry (baseline period), the K binder prescribed dose at cohort entry and events including hypokalemia (sK <3.5 mEq/L), hospitalizations and death in the following 6 months. This analysis focused on the subgroups of patients with more severe HK, specifically baseline sK >5.5 and baseline sK >6.0.

RESULTS: The subgroup with baseline sK >5.5 included 106 patiromer, 649 SPS, and 26,400 non-K binder. Mean age was highest for non-K binder (59.8±14.4 years) followed by patiromer (57.1±12.0) and SPS (57.1±13.9). Non-K binder had the highest percentage of Blacks/African Americans (33.9%) followed by SPS (22.2%) and patiromer (18.9%). Majority were males (patiromer: 57.5%; SPS: 57.8%; non-K binder: 55.6%) and mean dialysis vintage was 5.0 years for patiromer (±3.1) and SPS (±4.2) and 4.9 years (±4.3) for non-K binder. Majority (64.2%) of patiromer initiated with 8.4 g daily and another 19.8% with 8.4 g 4 times/week, whereas 9.6% of SPS treated daily and another 25.0% 4 times/week. Further, nearly one-third (32.4%) of SPS were treated as needed or emergently. During 6 months follow up, percent of patients with ≥1 hypokalemia event was lowest for patiromer (sK >5.5: 1.9%, sK >6.0: 1.7%) and higher for non-K binder (sK >5.5: 3.1%; sK >6.0: 3.9%) and SPS (sK >5.5: 4.0%; sK >6.0: 4.2%). Percent of patients with ≥1 hospitalization was also lowest for patiromer (sK >5.5: 34.0%, sK >6.0: 37.3%) and higher for SPS (sK >5.5: 41.8%; sK >6.0: 39.8%) and non-K binder (sK >5.5: 44.1%; sK >6.0: 46.5%). For sK >6.0, the percent of all cause deaths was 0.0%, 1.8% and 2.5% for patiromer, SPS, and non-K binder, respectively; for sK >5.5 death occurred in 2.8%, 2.5%, and 2.3%, respectively.

CONCLUSIONS: Descriptive analyses of these real-world data showed that among more severe HK patients, a lower percentage treated with patiromer (predominantly 8.4 g daily or 4 times/week) had hypokalemia than those treated with oral SPS or not treated with K binders. Additionally, a lower percentage treated with patiromer had a hospitalization and among the most severe with sK >6.0, fewer deaths were observed with patiromer. Further studies are warranted to confirm the results from these descriptive analyses.