**Supplemental Appendix**

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Real-World management of hyperkalemia with patiromer among United States Veterans

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# Table S1. ICD-9 codes to classify baseline characteristics

|  |  |
| --- | --- |
|  | **ICD 9 code used** |
| CKD | 585.2, 585.3, 585.4, 585.5, 585.9 |
| Diabetes mellitus | 250.00, 250.01, 250.02, 250.03, 250.10, 250.11, 250.12, 250.13, 250.20, 250.21, 250.22, 250.23, 250.30, 250.31, 250.32, 250.33, 250.40, 250.41, 250.42, 250.43, 250.50, 250.51, 250.52, 250.53, 250.60, 250.61, 250.62, 250.63, 250.70, 250.71, 250.72, 250.73, 250.80, 250.81, 250.82, 250.83,250.90, 250.91, 250.92, 250.93, 357.2, 362.01, 362.02, 362.03, 362.04, 362.05, 362.06, 362.07 |
| Heart failure | 398.91, 402.01 ,402.11, 402.91, 404.03, 404.13, 404.93, 425.0, 425.1, 425.11, 425.18, 425.2, 425.3, 425.4, 425.5, 425.7, 425.8, 425.9, 428.0, 428.1, 428.20, 428.21, 428.22, 428.23, 428.30, 428.31, 428.32, 428.33, 428.40, 428.41, 428.42, 428.43, 428.9, 429.3, V42.1 |

**Table S2.** **ICD-10 codes to classify baseline characteristics**

|  |  |
| --- | --- |
|  | **ICD 10 code used** |
| CKD | N18.2, N18.3, N18.4, N18.5, N18.9 |
| Diabetes mellitus | E08.36, E08.42, E09.36, E09.42, E10.10, E10.11, E10.21, E10.22, E10.29, E10.311, E10.319, E10.321, E10.3211, E10.3212, E10.3213, E10.3219, E10.329, E10.3291, E10.3292, E10.3293, E10.3299, E10.331, E10.3311, E10.3312, E10.3313, E10.3319, E10.339, E10.3391, E10.3392, E10.3393, E10.3399, E10.341, E10.3411, E10.3412, E10.3413, E10.3419, E10.349, E10.3491, E10.3492, E10.3493, E10.3499, E10.351, E10.3511, E10.3512, E10.3513, E10.3519, E10.3521, E10.3522, E10.3523, E10.3529, E10.3531, E10.3532, E10.3533, E10.3539, E10.3541, E10.3542, E10.3543, E10.3549, E10.3551, E10.3552, E10.3553, E10.3559, E10.359, E10.3591, E10.3592, E10.3593, E10.3599, E10.36, E10.37X1, E10.37X2, E10.37X3, E10.37X9, E10.39, E10.40, E10.41, E10.42, E10.43, E10.44, E10.49, E10.51, E10.52, E10.59, E10.610, E10.618, E10.620, E10.621, E10.622, E10.628, E10.630, E10.638, E10.641, E10.649, E10.65, E10.69, E10.8, E10.9, E11.00, E11.01, E11.10, E11.11, E11.21, E11.22, E11.29, E11.311, E11.319, E11.321, E11.3211, E11.3212, E11.3213, E11.3219, E11.329, E11.3291, E11.3292, E11.3293, E11.3299, E11.331, E11.3311, E11.3312, E11.3313, E11.3319, E11.339, E11.3391, E11.3392, E11.3393, E11.3399, E11.341, E11.3411, E11.3412, E11.3413, E11.3419, E11.349, E11.3491, E11.3492, E11.3493, E11.3499, E11.351, E11.3511, E11.3512, E11.3513, E11.3519, E11.3521, E11.3522, E11.3523, E11.3529, E11.3531, E11.3532, E11.3533, E11.3539, E11.3541, E11.3542, E11.3543, E11.3549, E11.3551, E11.3552, E11.3553, E11.3559, E11.359, E11.3591, E11.3592, E11.3593 ,E11.3599, E11.36, E11.37X1, E11.37X2, 11.37X3, E11.37X9, E11.39, E11.40, E11.41, E11.42, E11.43, E11.44, E11.49, E11.51, E11.52, E11.59, E11.610, E11.618, E11.620, E11.621, E11.622, E11.628, E11.630, E11.638, E11.641, E11.649, E11.65, E11.69, E11.8, E11.9, E13.00, E13.01, E13.10, E13.11, E13.21, E13.22, E13.29, E13.311, E13.319, E13.321, E13.3211, E13.3212, E13.3213, E13.3219, E13.329, E13.3291, E13.3292, E13.3293, E13.3299, E13.331, E13.3311, E13.3312, E13.3313, E13.3319, E13.339, E13.3391, E13.3392, E13.3393, E13.3399, E13.341, E13.3411, E13.3412, E13.3413, E13.3419, E13.349, E13.3491, E13.3492, E13.3493, E13.3499, E13.351, E13.3511, E13.3512, E13.3513, E13.3519, E13.3521, E13.3522, E13.3523, E13.3529, E13.3531, E13.3532, E13.3533, E13.3539, E13.3541, E13.3542, E13.3543, E13.3549, E13.3551, E13.3552, E13.3553, E13.3559, E13.359, E13.3591, E13.3592, E13.3593, E13.3599, E13.36, E13.37X1, E13.37X2, E13.37X3, E13.37X9, E13.39, E13.40, E13.41, E13.42, E13.43, E13.44, E13.49, E13.51, E13.52, E13.59, E13.610, E13.618, E13.620, E13.621, E13.622, E13.628, E13.630, E13.638, E13.641, E13.649, E13.65, E13.69, E13.8, E13.9 |
| Heart failure | I09.81, I09.9, I11.0, I13.0, I13.2, I42.0, I42.1, I42.2, I42.3, I42.4, I42.5, I42.6, I42.7, I42.8, I42.9, I43., I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43 |

# Table S3. Patient disposition

|  |  |  |
| --- | --- | --- |
|  | **Number of patients who met criterion** | **Number of patients who were excluded** |
| K+ ≥5.1 between 2015 and 2018 | 918 206 |  |
| Outpatient patiromer dispensing | 501 | 917 705 |
| K+ <5.1 within 3 months prior to the first patiromer dispensing | 397 | 104 |
| No heart failure, diabetes mellitus, or renal disease | 393 | 4 |
| SPS and patiromer fill on index date | 391 | 2 |
| Not seen every 6 months in baseline | 386 | 5 |
| No end-stage renal disease | 288 | 98 |
| **Final patiromer cohort** | **288** | |

K+, potassium; SPS, sodium polystyrene sulfonate.

## Table S4. Patient attrition

|  |  |  |  |
| --- | --- | --- | --- |
| **All patients** | | | |
| **Patients, N** | **0–1 month** | **0–3 months** | **0–6 months** |
| Total eligible | 288 | 288 | 288 |
| Censored: end of study | 31 | 55 | 69 |
| Censored: death | 0 | 2 | 3 |
| Censored: switched drugs | 1 | 5 | 7 |
| Censored: patiromer discontinuationa | 15 | 158 | 184 |
| **Uncensored through the end of analysis interval** | **241** | **68** | **25** |
| **Patients with continuous baseline RAASi therapy** | | | |
| **Patients, N** | **0–1 month** | **0–3 months** | **0–6 months** |
| Total eligible | 288 | 288 | 288 |
| Censored: no continuous baseline RAASi course | 196 | 196 | 196 |
| Censored: end of study | 11 | 17 | 22 |
| Censored: death | 0 | 0 | 0 |
| Censored: switched drugs | 0 | 2 | 3 |
| Censored: patiromer discontinuation | 6 | 45 | 53 |
| **Uncensored through the end of analysis interval** | **75** | **28** | **14** |

RAASi, renin-angiotensin-aldosterone system inhibitor.

a potential reasons for discontinuation: tolerability, progression of disease, physician/pharmacist/patient decision, effectiveness, drug price

## Table S5. Additional baseline and follow-up K+ concentration data

|  |  |  |  |
| --- | --- | --- | --- |
| **Baseline** | **N=288** | | |
|  | **Mean** | **SD** | **Median** |
| K+ value | 5.8 | 0.4 | 5.7 |
| K+ categories, n (%) | | | |
| K+ <5.1 mmol/L | 0 (0) | | |
| K+ ≥5.1–<5.5 mmol/L | 54 (19) | | |
| K+ ≥5.5–<6.0 mmol/L | 153 (53) | | |
| K+ ≥6.0–<6.5 mmol/L | 56 (19) | | |
| K+ ≥6.5 mmol/L | 25 (9) | | |
| K+ missing | 0 (0) | | |
|  | | | |
| **0–1 month** | **n=241** | | |
|  | **Mean** | **SD** | **Median** |
| K+ value | 4.8 | 0.5 | 4.8 |
| K+ categories, n (%) | | | |
| K+ <5.1 mmol/L | 96 (63) | | |
| K+ ≥5.1–<5.5 mmol/L | 40 (26) | | |
| K+ ≥5.5–<6.0 mmol/L | 16 (10) | | |
| K+ ≥6.0–<6.5 mmol/L | 1 (1) | | |
| K+ ≥6.5 mmol/L | 0 (0) | | |
| K+ missing | 88 | | |
|  | | | |
| **1–3 months** | **n=68** | | |
|  | **Mean** | **SD** | **Median** |
| K+ value | 4.7 | 0.5 | 4.7 |
| K+ categories, n (%) | | | |
| K+ <5.1 mmol/L | 42 (76) | | |
| K+ ≥5.1–<5.5 mmol/L | 6 (11) | | |
| K+ ≥5.5–<6.0 mmol/L | 5 (9) | | |
| K+ ≥6.0–<6.5 mmolL | 2 (4) | | |
| K+ ≥6.5 mmol/L | 0 (0) | | |
| K+ missing | 13 | | |
|  | | | |
| **3–6 months** | **n=25** | | |
|  | **Mean** | **SD** | **Median** |
| K+ value | **4.7** | **0.5** | **4.6** |
| K+ categories, n (%) | | | |
| K+ <5.1 mmol/L | 15 (71) | | |
| K+ ≥5.1–<5.5 mmol/L | 5 (24) | | |
| K+ ≥5.5–<6.0 mmol/L | 1 (5) | | |
| K+ ≥6.0–<6.5 mmol/L | 0 (0) | | |
| K+ ≥6.5 mmol/L | 0 (0) | | |
| K+ missing | 4 | | |

K+, potassium; SD, standard deviation.

## Table S6. Baseline characteristics for patients with continuous baseline RAASi use

|  |  |  |  |
| --- | --- | --- | --- |
| **Patients, n** | 92 | | |
| **Demographic data (as of index date)** | **Mean** | **SD** | **Median** |
| Age | 68.3 | 8.0 | 69.5 |
| Age categories, n (%) | | | |
| <35 years | 1 (1.1) | | |
| 35–50 years | 1 (1.1) | | |
| 51–64 years | 21 (22.8) | | |
| 65–75 years | 55 (59.8) | | |
| ≥75 years | 14 (15.2) | | |
| Sex, n (%) | | | |
| Male | 89 (96.7) | | |
| Female | 3 (3.3) | | |
| Race/ethnicity, n (%) | | | |
| Caucasian Non-Hispanic | 62 (67.4) | | |
| Caucasian Hispanic | 0 (0) | | |
| African American Non-Hispanic | 25 (27.2) | | |
| African American Hispanic | 0 (0) | | |
| Asian Non-Hispanic | 1 (1.1) | | |
| Asian Hispanic | 0 (0) | | |
| Other | 1 (1.1) | | |
| Unknown | 3 (3.3) | | |
| **Comorbidities within 12 months prior to index date, n (%)** | | | |
| Cancer | 11 (12) | | |
| Cardiac dysrhythmias | 26 (28.3) | | |
| Cerebrovascular disease | 21 (22.8) | | |
| Chronic kidney disease | 90 (97.8) | | |
| Chronic pulmonary disease | 26 (28.3) | | |
| Congestive heart failure | 33 (35.9) | | |
| Connective tissue disease | 0 (0) | | |
| Coronary artery disease | 43 (46.7) | | |
| Diabetes type II | 83 (90.2) | | |
| End-stage renal disease | 0 (0) | | |
| Liver disease | 7 (7.6) | | |
| Myocardial infarction | 7 (7.6) | | |
| Peptic ulcer disease | 2 (2.2) | | |
| Peripheral vascular disease | 26 (28.3) | | |
| **Laboratory values (within 3 months prior to the index date)** | | | |
| **eGFR, mL/min/1.73m2** | **Mean** | **SD** | **Median** |
| n=91 | 29.9 | 14.9 | 25.1 |
| **K+, mmol/L** | | | |
| n=92 | 5.7 | 0.3 | 5.7 |

eGFR, estimated glomerular filtration rate; K+, potassium; RAASi, renin-angiotensin-aldosterone system inhibitor; SD, standard deviation.