

# HYPERKALAEMIA

A serious, recurrent disorder in need of better long-term treatments

Hyperkalaemia often has no warning signs until there are serious consequences:<sup>1</sup>



Cardiac arrhythmias

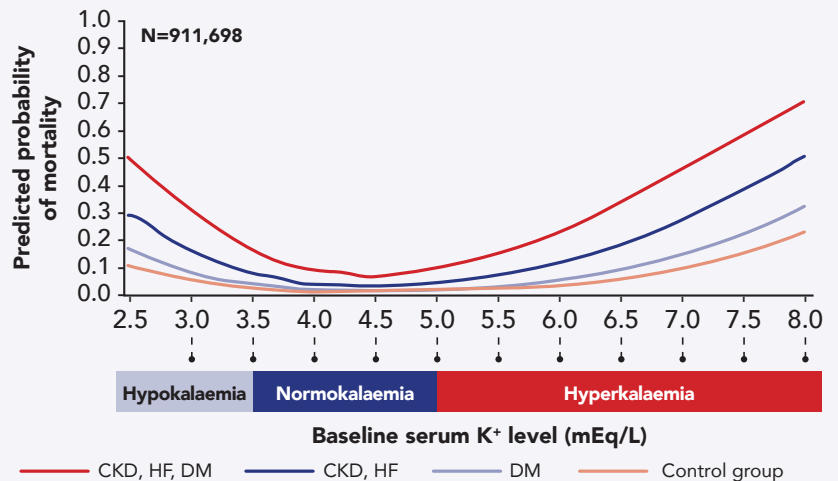


Sudden death

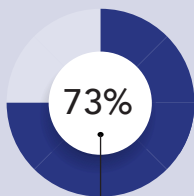


Emergency department visits & hospitalisations

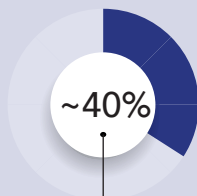
Elevated K<sup>+</sup> is associated with an increase in all-cause mortality<sup>2,3</sup>



Patients with chronic kidney disease (CKD) and/or heart failure (HF) with/without diabetes are at high risk for hyperkalaemia;<sup>4</sup> therefore, it is important to monitor K<sup>+</sup> levels in these populations

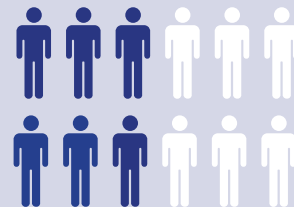


stage 3-4 CKD patients<sup>5</sup>



chronic HF patients<sup>5</sup>

...are at risk of elevated serum K<sup>+</sup> levels



~50%

of these patients with hyperkalaemia had 2 or more recurrences within 1 year<sup>5</sup>

Diabetes mellitus further elevates prevalence of HK in patients with HF and CKD<sup>6</sup>



Hyperkalaemia is one of the principal reasons for reducing or stopping RAASi therapy

Patients on a maximal dose of a RAAS inhibitor (RAASi) were down-titrated to a submaximal dose or the RAASi was discontinued...

47%

of the time after moderate-to-severe hyperkalaemia events

38%

of the time after mild events<sup>9</sup>



In a targeted retrospective chart review of 1,457 European patients experiencing ≥2 HK episodes within 12 months, 1 in 3 hospitalisations were hyperkalaemia related<sup>7</sup>



This already elevated risk of hyperkalaemia in patients with CKD and/or HF, with/without diabetes is greatly increased when they take RAASi therapy<sup>8</sup>

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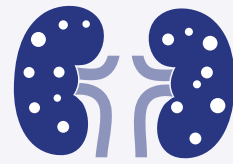
But RAASi therapy in patients with CKD and HF provides critical, life-saving benefits:<sup>10</sup>



Significant renal protection in patients with CKD (with proteinuria)<sup>11</sup>



Improved HF outcomes<sup>12</sup>



Beneficial effects in diabetic nephropathy<sup>13</sup>

**Stopping or reducing RAASi therapy in at-risk populations is associated with consistently worse outcomes for patients<sup>9</sup>**

Epstein *et al.* (2015) showed an association between submaximal RAASi use and adverse outcomes irrespective of comorbidity status<sup>9</sup>

This poses a dilemma for physicians when treating patients:



Prescribe RAASi and accept the occurrence of hyperkalaemia?

OR



Discontinue RAASi therapy (or reduce RAASi dosage) and lose the benefits of the clinical outcomes?

**Existing treatments (SPS, CPS, Low-K diet, loop diuretics) are either ineffective, poorly tolerated, or not suitable for long-term use<sup>14</sup>**

New options are needed for the long-term management of hyperkalaemia in patients with CKD and/or HF, with/without diabetes, to enable patients to receive optimal RAASi therapy, and potentially to improve outcomes

Abbreviations: CKD, chronic kidney disease; CPS, calcium polystyrene sulphonate; CV, cardiovascular; DM, diabetes mellitus; HF, heart failure; HK, hyperkalaemia; RAASi, renin-angiotensin-aldosterone system inhibitor; SPS, sodium polystyrene sulphonate; T2DM, type 2 diabetes mellitus.

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