Global Heart Failure Academy

Potassium Management

Persistent hyperkalemia is a risk factor for RAASi underuse which then mediates poor heart failure outcomes. The use of potassium binders may enable the optimization of RAASi therapy.

In practice, this requires consideration of multiple factors, including current serum potassium levels, targeted RAASi dosing, kidney function, and personalized management plans to reach the recommended serum potassium target zone of 4.0 mEq/L to 5.0 mEq/L (Table 1). Nevertheless, these binders provide the opportunity to reach guideline-recommended RAASi targets, which have known benefits for patient outcomes.

Table 1. Proposal for K^+ Binder Use

Serum K^+ (mEq/L)	K^+ Binder Use
<5.5	- Maintain guideline-recommended treatment - Do not stop K^+ binder if the patient is taking one - Consider initiating K^+ binder between 5.0 and 5.5 mEq/L if reliable patient follow-up is a concern and therefore consideration is given to compromising RAASi dosing
5.5-5.9	- Adapt MRA dose as suggested in Table 2 - Do not reduce ACE inhibitors/ARB/ARNi - Reassess K^+ levels after 1 week; if K^+ still high add K^+ binder, preferably those with long-term enablement data, i.e., patiromer or SZC - Reassess K^+ levels after 1 week (a ≈1 mEq/L K^+ decrease could be expected) - If K+ <5.5 mEq/L, increase MRA dose and maintain K^+ binder for 1 additional week then continue routine follow-up - If K^+ 5.5-5.9 mEq/L, do not increase MRA and maintain/uptitrate K^+ binder for 1 additional week reassessing K^+ levels afterwards
≥6.0	- Adapt MRA dose as suggested in Table 2 - Reduce ACE inhibitors/ARB/ARNi by 50% - Reassess K^+ levels after 1 week; if K^+ levels still high add a K^+ binder, preferably those with long-term enablement data, i.e., patiromer or SZC

ACE = angiotensin-converting enzyme; ARB = angiotensin receptor blocker; ARNi = angiotensin receptor–neprilysin inhibitor; MRA = mineralocorticoid receptor antagonist; RAASi = renin-angiotensin-aldosterone system inhibitors; SZC = sodium zirconium cyclosilicate

Table 2. Spironolactone and Eplerenone Dose Adjustment*	
Serum K^+	Dose Adjustment*
	Baseline - eGFR ≥50 mL/min/1.73 m^2 → spironolactone dose = 25 mg/d or eplerenone 50 mg/d - eGFR 30-40 mL/min/1.73 m^2 → spironolactone dose = 25 mg every other day or eplerenone 25 mg/d
<4.0	Increase dose: - If spironolactone dose = 25 mg/d → increase to 50 mg/d or if eplerenone dose = 50 mg/d → increase to 100 mg/d - If spironolactone dose = 25 mg every other day → increase to 25 mg/d or if eplerenone dose = 25 mg/d → increase to 50 mg/d
4.0-5.4	No adjustment recommended
5.5-5.9	Decrease dose: - If spironolactone dose = 50 mg/d → decrease to 25 mg/d or if eplerenone dose = 100 mg/d → decrease to 50 mg/d - If spironolactone dose = 25 mg/d → decrease to 25 mg/d every other day or if eplerenone dose = 50 mg/d → decrease to 25 mg/d - If spironolactone dose = 25 mg/d every other day → interrupt treatment and reassess K^+ levels within 1 week or if eplerenone dose = 25 mg/d → interrupt treatment and reassess K^+ levels within 1 week
≥6.0	- Stop MRA treatment and reassess K^+ levels after 1 week - When K^+ levels <6.0 mEq/L, initiate a K^+ bind- er and reintroduce MRA
	- Stop MRA treatment in any case if eGFR ≤30 mL/min/1.73 m^2 and reintroduce upon clinical decision, i.e., upon renal function improvement and K^+ stabilization
*Providing renal function is stable and eGFR >30 mL/min/1.73 m^2 and BP is stable and systolic BP >100 mm Hg.	

Reference

Ferreira JP, Butler J, Rossignol P, et al. Abnormalities of Potassium in Heart Failure: JACC State-of-the- Art Review. *J Am Coll Cardiol*. 2020;75(22):2836-2850.