Appendix 6: Description of randomized trials of combination therapy for management of acute hyperkalemia

Author, year, number of subjects (N)	Study design	Study population	Hyperkalemia definition	Intervention	Comparator	K^+ baseline (mmol/L)* t = 0 min (SD)	K^+ treatment (mmol/L)* t = 30 min (SD) t = 60 min (SD)
Allon, 1990 (n=12)[1]	RCT cross-over	Patients on chronic hemodialysis	Pre-dialysis K^+ > 5.0 mmol/L	Insulin 10U IV + nebulized albuterol 20 mg	• Insulin 10U IV + dextrose • Nebulized albuterol 20 mg	5.89 (0.87)	5.04 (NR) 4.68 (NR)
Allon, 1996 (n=8)[2]	RCT cross-over	Patients on chronic hemodialysis	NR	• Isotonic $NaHCO_3$ in dextrose + insulin IV • Isotonic $NaHCO_3$ IV + nebulized albuterol	• Nebulized albuterol 10 mg + isotonic saline IV • Isotonic saline IV • Isotonic $NaHCO_3$ at 90 mmol/h IV • Insulin 5 mU/kg/min + dextrose IV	• HCO_3 + Insulin 4.23 (0.37) • HCO_3 + Albuterol 4.34 (0.54)	• HCO_3 + Insulin 3.58 (NR) 3.44 (NR) • HCO_3 + Albuterol 3.79 (NR) 3.63 (NR)
Ngugi, 1997 (n=70)[3]	RCT	ARF patients (n=10) and CRF patients (n=60)	K^+ > 5.0 mmol/L	• Insulin 10U + $NaHCO_3$ IV • Insulin 10U + Albuterol 0.5 mL IV • $NaHCO_3$ + Albuterol 0.5 mL IV • Insulin + Albuterol + $NaHCO_3$ IV	• Insulin 10 U IV + dextrose • Albuterol 0.5 mL IV • $NaHCO_3$ at 3.3 mmol/min IV x 15 min	• Insulin + HCO_3 5.77 (NR) • Insulin + Albuterol 6.19 (NR) • HCO_3 + Albuterol 5.92 (NR) • HCO_3 + Albuterol + Insulin 6.63 (NR)	• Insulin + HCO_3 4.95 (NR) 4.57 (NR) • Insulin + Albuterol 5.15 (NR) 4.79 (NR) • HCO_3 + Albuterol 5.19 (NR) 5.03 (NR) • HCO_3 + Albuterol + Insulin 5.40 (NR) 5.00 (NR)
Gruy-Kapral, 1998 (n=6)[4]	RCT cross-over	Patients on chronic hemodialysis	NR	• Phenolphthalein-docusate + Resin • Sorbitol + Resin	• 8 gelatin capsules/placebo • Phenolphthalein-docusate • Sodium polystyrene sulfonate 30g	• Phenolphthalein-docusate + Resin 4.35 (0.64) • Sorbitol + Resin 4.27 (0.93)	• Phenolphthalein-docusate + Resin NR 4.42 (1.00) *240 min* • Sorbitol + Resin NR 4.31 (1.08) *240 min*

*K^+ values in intervention group.

Abbreviations: K^+, serum potassium; t, time; SD, standard deviation; RCT, randomized controlled trial; U, units; IV, intravenous; NR, not reported; ARF, acute renal failure; CRF, chronic renal failure; $NaHCO_3$, sodium bicarbonate

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Appendix to: Elliott MJ, Ronksley RE, Clase CM, et al. Management of patients with acute hyperkalemia. *CMAJ* 2010. DOI 10.1503/cmaj.100461.