

eGlycemic Management System Safely Achieves Rapid and Sustained Glycemic Control in Kidney Transplant Patients and Reduces Risk of Hypoglycemia Compared to Standard Treatment Protocols

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OBJECTIVE

Management of patients with steroid-induced hyperglycemia can be difficult. Intravenous insulin infusions are generally recommended for flexibility with dynamic insulin requirements. Blood glucose control in patients undergoing renal transplant is particularly difficult as high-dose steroids, immunosuppression and renal function each play an important but varying contribution to insulin resistance.

METHODS

Record review: 11 patients treated with Glucommander IV™ (GM), a computerized IV insulin dosing algorithm, to examine the ability of GM to safely achieve glycemic targets versus standard insulin infusions (SII).

Inclusion criteria:

- Renal transplant
- 1 blood glucose (BG) > 200 mg/dL or 2 BGs > 180 mg/dL
- Treated with GM during the post-operative period

Glucose results were collected for the patient's entire IV insulin treatment.

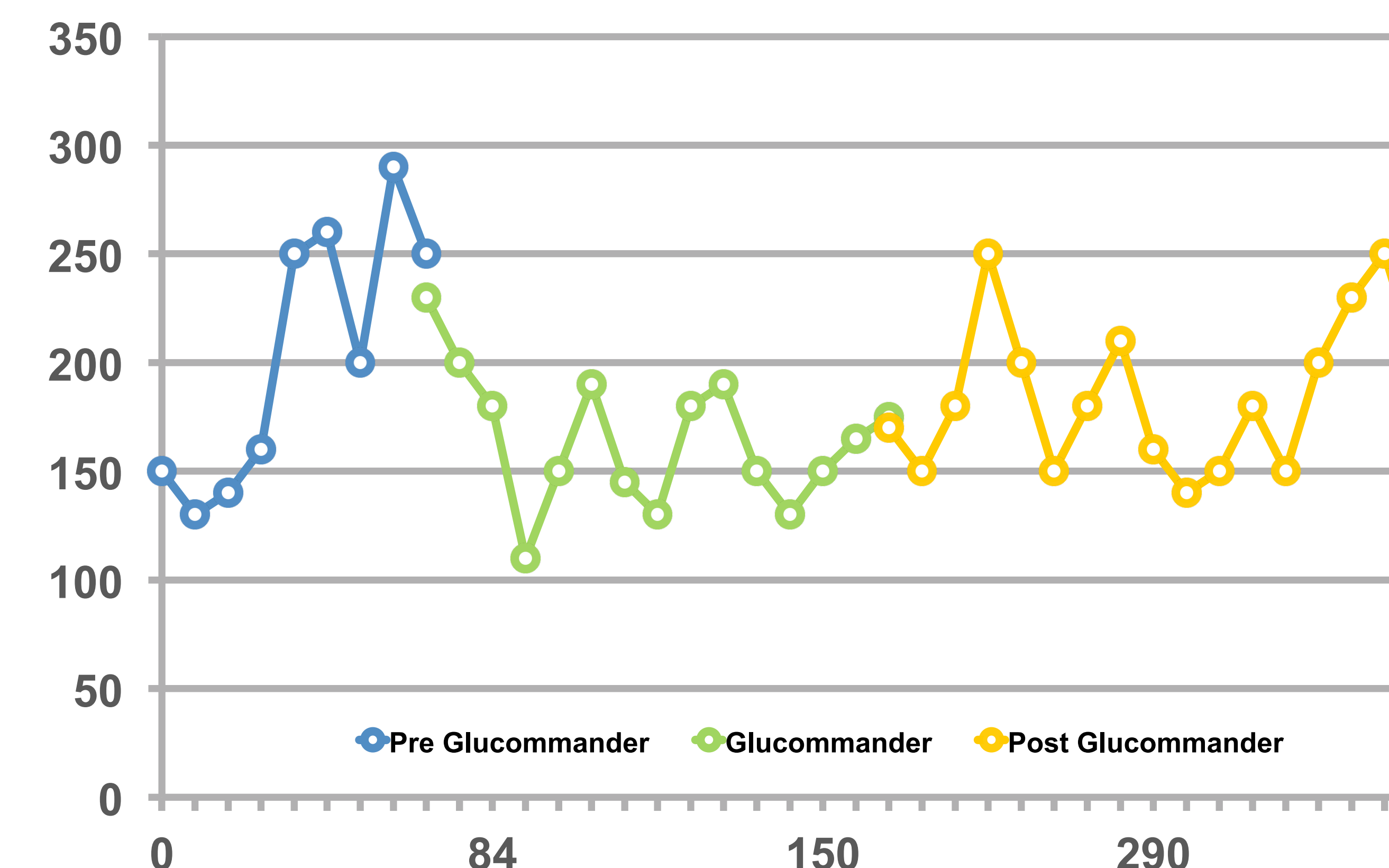
RESULTS

Prior to treatment with GM, patients' mean BG was 200 mg/dL ± 87; during treatment with GM patients' mean BG was 163 mg/dL ± 57. Patients continuing IV insulin with SII after GM discontinuation had a mean BG of 178 mg/dL ± 60. Hypoglycemia <70 mg/dL was 2% prior to treatment with GM, 0.7% during treatment with GM, and 1% after discontinuation of GM. Percentage of glucose results in goal was 68% with GM versus 45% before and 55% after.

	Glucommander IV		P-Value	Pre-Glucommander IV	
	N	%		%	N
Patients	11				10
NBGs	803				85
BG's < 70	6	0.7%	> 0.1	2%	2
BG's (71 to 180)	549	68%	< 0.0001	45%	38
BG's > 180	248	31%	< 0.0001	53%	45
	Value		P-Value		Value
Mean BG	163		< 0.0001		200
Standard Deviation	57		< 0.0001		87

	Glucommander IV		P-Value	Post-Glucommander IV	
	N	%		%	N
Patients	11				11
NBGs	803				301
BG's < 70	6	0.7%	> 0.7	1%	3
BG's (71 to 180)	549	68%	< 0.0001	55%	165
BG's > 180	248	31%	< 0.0001	44%	133
	Value		P-Value		Value
Mean BG	163		< 0.0001		178
Standard Deviation	57		> 0.2		60

Blood Glucose Control Pre, During, and Post Glucommander



CONCLUSIONS

Renal transplant patients treated with Glucommander™ achieved a higher percentage of BG results in goal, lower mean glucose levels, less hypoglycemia, and lower glucose variability compared to patients on SII.

AFFILIATIONS

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