

eGlycemic Management Solution Safely Maintains Glycemic Targets with a Low Incidence of Hypoglycemia for Non-diabetic CV Surgical Patients in the Inpatient Setting

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OBJECTIVE

Patients without a prior diagnosis of diabetes admitted for cardiovascular (CV) surgery commonly experience inpatient hyperglycemia. Data from the Sentara Heart Hospital suggest that as many as 40-50% of patients without a diagnosis of diabetes evaluated for CV surgery will have post-operative hyperglycemia (BG > 180 mg/dL). Hyperglycemia in patients without a diagnosis of diabetes is frequently ignored and perceived as transient and/or at high risk to induce hypoglycemia with use of insulin.

METHODS

This study evaluated outcomes for 40 CV surgical patients requiring IV and SubQ insulin to control hyperglycemia post surgery. Patients without a diagnosis of diabetes (DM) and an A1c < 6.5% on admission requiring insulin to maintain glycemic targets were included in the study. Patients were placed on Glucomander (GM) IV, transitioned with GM and then managed on GM SubQ until discharge. The glucose target was set at 100-140 mg/dL for both IV and SubQ.

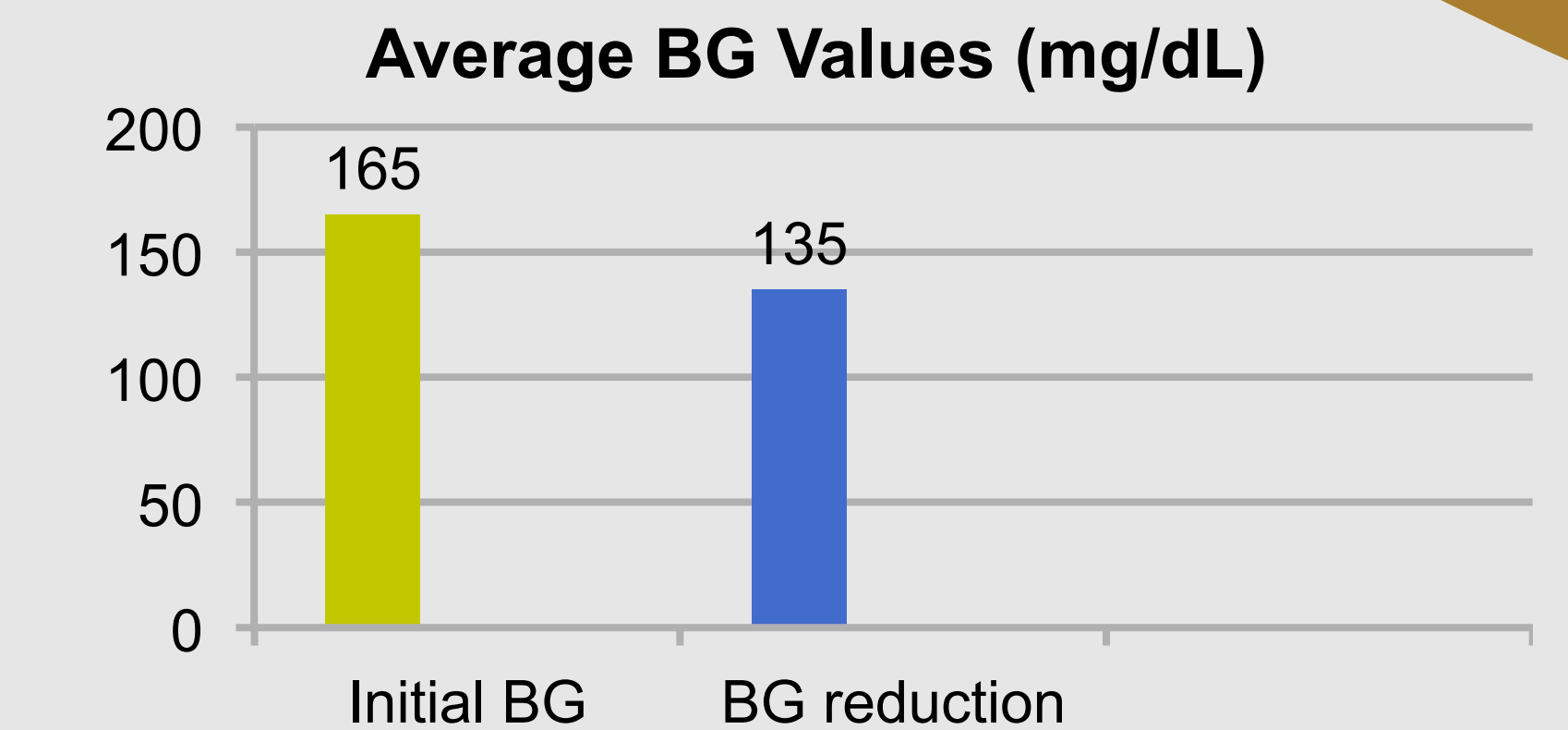
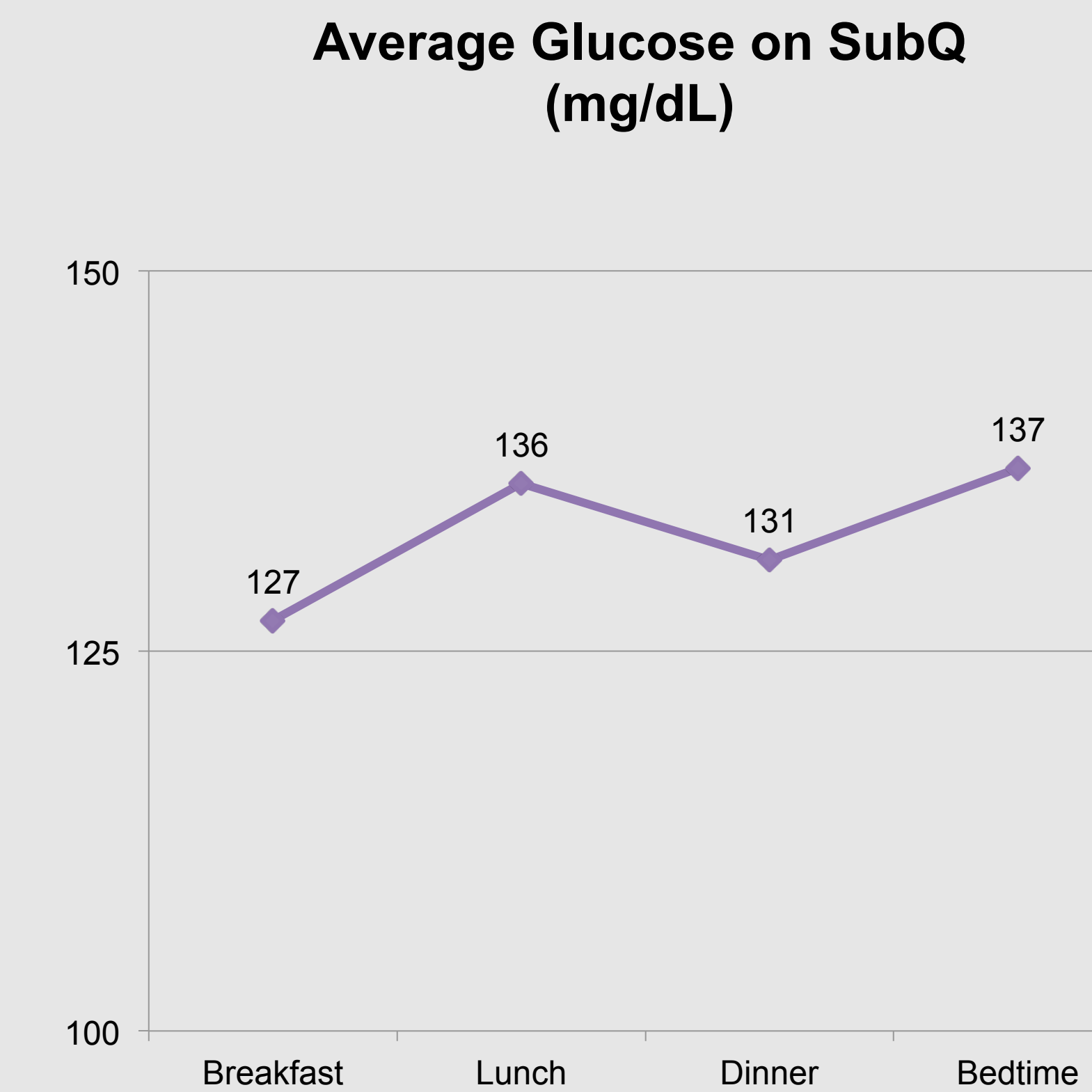
Measured outcomes were (1) % of glucose readings in target (2) % of glucose reading above 180 mg/dL (3) mild (<70 mg/dl) and severe (<40 mg/dl) hypoglycemia (4) average A1c on admission and (5) average glucose control during SubQ at breakfast, lunch, dinner and bedtime (6) average glucose on IV start and average glucose on SubQ day of discharge and (7) average length of treatment.

RESULTS

Percent of glucose readings in the prescribed target range of 100-140 mg/dL was 95.4% for IV and SubQ GM treated patients from 2,051 total BG's. Percent of glucose readings above 180 mg/dL was 4.2%. There were no (0.0%) episodes of severe hypoglycemia <40 mg/dL for IV or SubQ managed patients. The percent of hypoglycemia <70 mg/dL was 0.4% for both IV and SubQ managed patients. Patients average A1c on admission was 6.0%. Glucose averages for Breakfast was 127 mg/dL, lunch 136 mg/dL, dinner 131 mg/dL and bedtime a 137 mg/dL.

Average BG prior to starting IV insulin was 165 mg/dL and BG average on the day of discharge was 135 mg/dL. Average length of IV + SubQ GM treatment was 2.5 days.

Table	
Patients	40 CV Surgical Patients w/No-DM
Average A1c	6%
Glucose Target	100-140 mg/dL
Blood Glucose Readings	2,051
Avg. Length of Treatment (IV & SubQ combined)	2.5 days



DISCUSSION

Our results demonstrate that non-DM patients undergoing CV surgery who require insulin were able to maintain prescribed glucose targets safely for both IV and SubQ regimens with Glucomander. Targets were achieved at each IV and SubQ meal measurement period and sustained on day of discharge.

CONCLUSION

Both IV and SubQ regimens are safe with no severe hypoglycemia (BG <40 mg/dL) and low rates ,0.4%, of mild hypoglycemia (BG <70 mg/dL).

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