SUPPLEMENTARY DATA

Insulin Dosing Protocol: Glargine and Glulisine in Renal Insufficiency

All previous outpatient treatment regimens for the patient's diabetes (oral agents or insulin) will be discontinued on hospital admission and entrance into the study.

Subjects were randomized 1:1 to:

Group 1 (total daily insulin dose 0.5 units/kg)

OR

Group 2 (total daily insulin dose 0.25 units/kg)

Insulin glargine is 50% of the total daily dose in both groups

The first dose of insulin glargine is:

0.25 units/kg for group 1

OR

0.125 units/kg for group 2

Insulin glargine is given either at 8 AM or 6 PM depending on what time the subject enters the study and then repeated every 24 hour thereafter.

The first dose of insulin glulisine is given only if the subject was eating or required a correction per the correction scale.

The first dose of insulin glulisine is:

0.083 units/kg per meal for group 1

OR

0.041 units/kg per meal for group 2

All mealtime doses of insulin glulisine are given between 0-20 minutes after each meal after verifying the patient's ability to eat at least half of the meal.

All patients have blood glucose measured 4 times daily, fasting AM, pre-lunch, pre-dinner and at bedtime by point of care meters. Additional measurements of capillary blood glucose may be performed as needed per the clinical judgment of the treating nursing and medical staff.
All patients undergo HBA1C testing after admission.

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SUPPLEMENTARY DATA

Insulin adjustment

The goal of inpatient insulin therapy is to maintain fasting , pre-meal, and bedtime blood glucose between 100 and 180 mg/dl mg/dl while avoiding hypoglycemia

Insulin glargine doses are adjusted as follow:
If the fasting blood glucose is less than 100 mg/dl: decrease insulin glargine dose by 20%.
If the fasting blood glucose is between 100-140 mg/dl in the absence of hypoglycemia the previous day: no change
If the fasting blood glucose is between 140-180 mg/dl in the absence of hypoglycemia the previous day: increase insulin glargine dose by 10%
If the fasting blood glucose is >180 mg/dl in the absence of hypoglycemia the previous day: increase insulin glargine dose by 20%
The physician may consider using the total supplemental insulin dose, patient's nutritional intake, and results of blood glucose testing to adjust insulin regimen.

Correction Dosing of Insulin glulisine

LOW DOSE	MEDIUM DOSE	HIGH DOSE
Total insulin dose < 40 units per day	Total insulin dose 40-80 units per day	Total insulin dose >80 units per day

BG	Additional insulin	BG	Additional insulin	BG	Additional insulin
120-170	1 unit	120-170	1 unit	120-170	3 units
171-220	2 units	171-220	3 units	171-220	5 units
221-270	3 units	221-270	5 units	221-270	7 units
271-320	4 units	271-320	7 units	271-320	9 units
> 320	5 units	> 320	9 units	> 320	11 units

The numbers in each column indicate the number of units of insulin glulisine per dose. The correction dose is to be added to the scheduled dose of insulin glulisine. If a patient is able and expected to eat all or most of his/her meal, correction doses of insulin glulisine will be added to the mealtime dose. If the patient is not able to eat, then they would only receive a correction dose at 7 AM, 1 PM, and 6 PM. They may also be given a correction dose of insulin glulisine at bedtime but only for blood glucose greater than 170 mg/dl and in that situation the correction dose will be 50% of the dose per scale.

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