The Effects of Correction Insulin and Basal Insulin on Inpatient Glycemic Control

Abstract Information

Presentation Preference: SNRS Podium Presentation
Willing To Submit Poster? Yes
Abstract Categories: Interest Group: Researchers in Clinical Settings
Thematic Areas: Adult Health

Introduction:
Hospital-related hyperglycemia is associated with increased morbidity and mortality, hospital length of stay, nosocomial infections, and sepsis. Tight glycemic control can significantly reduce these adverse outcomes. This study described the glycemic control of two groups of patients with type 2 diabetes mellitus (DM). The research questions were: 1) What proportion of the sample received basal and correction insulin versus correction insulin only? 2) How many hyperglycemic and hypoglycemic blood glucose events (BGE) occurred for subjects in each group?

Method(s):
Using a descriptive, retrospective design, 45 subject records were randomly selected. Hypo- and hyperglycemia were defined as capillary blood glucose levels (CBG) < 60 mg/dL and >180 mg/dL. Blood glucose event (BGE) was recorded as the number of hypoglycemic and/or hyperglycemic events per day. A total of 4 blood glucose results (before meals and at bedtime) were collected per subject for 3 consecutive days. Data analyses included descriptive statistics and t-test analyses.

Results:
A total of 22 subjects received basal plus correction insulin, and 23 received correction insulin only. More than half (56%) of the blood sugars recorded were hyperglycemic BGE. In the basal plus correction insulin group, most (70%) of the CBGs were hyperglycemic, with a majority (58%) hyperglycemic throughout the day, indicating a complete lack of glycemic control. In the correction insulin only group, a large proportion (42%) of the CBGs were hyperglycemic, and many (44%) also indicated hyperglycemia throughout the day.

Discussion:
Lack of glycemic control was a pervasive and serial problem for both groups.
despite insulin administration. Suggested changes in practice are multidisciplinary and include promotion of basal-bolus insulin therapy that utilizes a mix of basal, correction, and prandial insulin; nursing efforts to alert physicians to patterns of hyperglycemia; increase in daily insulin adjustments; and nursing education to improve the glycemic control of hospitalized individuals with type 2 DM.

Research Completed: Yes
Abstract History: NA
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FDA Disclosure: Cleared: Yes
Non-Exclusive License: Accepted Terms: Yes
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