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High Glucose Variability Increases Mortality Risk in Patients with COVID-19

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Abstract

Background: In patients with COVID 19, with or without history of diabetes, having hyperglycemia is an important factor in mortality; approximately 45.2% of patients with this disease have elevated blood glucose levels. Glucose variability (GV) has also been shown to be an independent predictor of mortality in critically ill patients. A patient is considered uncontrolled if he/she has a value above 36%. Objective: To determine whether GV is a prognostic factor for mortality in patients with COVID-19 admitted to the Intensive Care Unit (ICU) Methods: All patients with positive PCR for COVID-19, who were admitted to the ICU of the Guatemalan Institute of Social Security during the months of May and June 2021, were subjected to glycosylated hemoglobin and periodic serum glucose samples to calculate the GV, using the coefficient of variation of glucose. Results: To determine the normality of the sample, the Kolmogorov-Smirnov statistic was used, after that, it was determined which variables to include in the statistical model, Student's t-test was used for quantitative variables and chi-square for categorical variables. The following variables were included in the final model: Sex, History of diabetes, Glycosylated Hemoglobin, and GV ($p=<0.05$), the model predicts between 69 and 97%, according to Cox and Snell and Nagelkerke's R-squared values. Conclusions: Having VG above 36% is associated with mortality in patients with COVID-19 admitted to the ICU.

Funding and Conflicts of Interest

No conflict of interest