ICU and 34% of NCG were admitted to ICU (p=0.003). Median LOS (days) in discharged patients was 8 in CG and 5 in NCG (p=0.02). Mortality was 40% in CG and 3.41% in NCG (p<0.0001). 12 patients in CG and 2 patients in NCG developed new-onset diabetes. In the subset of DKA, interestingly, mean age (years) was 61.63 (SD±17.73) in CG and 39.67 in NCG (SD±13.39) (p=0.001). **Conclusion:** In our study, patients in the CG carry worse laboratory parameters, unfavorable clinical outcomes and strikingly higher mortality. We discovered increased incidence of new-onset diabetes and elderly DKA in CG. In an inner city population like ours, the burden of DM with significant social and health care disparities is quite severe. Diabetic patients with concurrent C-19 infection can have particularly negative outcomes and C-19 possibly damages the pancreatic islets resulting in acute hyperglycemic crisis. Further research on larger population is required. **References:** (1)https://dx.doi.org/10.1016%2Fj.diabres.2020.108142(2) https://doi.org/10.2337/dc20-0723(3)https://www.nejm.org/doi/full/10.1056/NEJMc2018688

Diabetes Mellitus and Glucose Metabolism

COVID-19 AND DIABETES

Sugar Is Not Always Sweet: Exploring the Relationship Between Hyperglycemia and COVID-19 in a Predominantly African American Population

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Introduction: A relationship between hyperglycemia and outcomes in patients with COVID-19 has been proposed, however there is a paucity of literature on this. In this study, we examined the effect of admission glucose in diabetics and non-diabetics on outcomes in patients hospitalized with COVID-19. Our study uniquely examines this association in a largely African American cohort, a population disproportionately affected by COVID-19.
Methods: In this retrospective cohort study, we analyzed all adults admitted with COVID-19 to a designated COVID hospital in Brooklyn, NY from March 1 to May 15, 2020. Diabetics were compared to non-diabetics, and were further stratified based on admission glucoses of 140 and 180 mg/dL. Diagnosis of diabetes was based on history and/or Hba1c > 6.5%. Univariate, multiple and logistic regressions were used for analyses, examining outcomes of mortality, intubation, ICU admission, acute kidney injury (AKI), and length of stay based on admission glucose levels, while controlling for age, gender, lab values (serum creatinine and WBC), and comorbidities including *hypertension, cardiovascular disease,* and *obesity*. Outcomes are presented as an adjusted odds ratio (OR) with 95% confidence interval (95% CI).
Results: 708 patients were analyzed; 54% diabetics, 83.5% non-Hispanic Blacks, 51% male with a mean age of 68, BMI of 29 kg/m^2 and crude mortality rate of 40%. The length of hospital stay was greater in diabetics than non-diabetics, (13±26 days vs 9.5±18.5 days, p<0.05). *Diabetics* with an admission glucose > 140 mg/dL (vs<140 g/dL) had a 2.4-fold increased odds of both intubation and ICU admission (95% CI: 1.2, 4.5; 1.3, 4.6). *Diabetics* with admission glucoses > 180 mg/dL (vs <180 g/dL) had a 1.8-fold increased mortality (95% CI: 1.2, 2.9). *Non-diabetics* with admission glucoses >140 mg/dL (vs<140 g/dL) had a two-fold increased mortality (95% CI: 1.2, 3.5), 3.5-fold increased odds of ICU admission (95% CI: 1.8,6.6) and a 2.3-fold increased odds of both intubation and AKI (95% CI: 1.3, 4.2; 1.3,4.2). *Non-diabetics* with a glucose >180 mg/dL (vs <180 g/dL) had a four-fold increased mortality (95% CI: 1.8, 8.8), 2.7-fold increased odds of intubation (95% CI: 1.3, 5.6) and 2.9-fold increased odds of ICU admission (95% CI: 1.3, 6.2).
Conclusion: Our results show hyperglycemia portends worse outcomes in diabetics and non-diabetics with COVID-19. Elevated admitting glucoses >180 mg/dL increased odds of mortality four-fold in non-diabetics and 1.8- fold in diabetics. In COVID-19, diabetic patients had a 37% greater length of hospital stay than non-diabetics. Whether hyperglycemia is a marker or a cause of more severe COVID-19 is unknown. These findings suggest that patients presenting with hyperglycemia require closer observation and more aggressive therapies. This raises the testable hypothesis that intensive glucose control may improve outcomes in patients with COVID-19.

Diabetes Mellitus and Glucose Metabolism

COVID-19 AND DIABETES

The Impact of Diabetes and African American Race in COVID-19 Severity

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Introduction: COVID-19, an illness caused by the novel coronavirus usually presents as a mild to moderate flu like illness, but can lead to pneumonia, acute respiratory distress syndrome and death in some patients. Since the onset of the COVID-19 pandemic there has been special attention towards patients with diabetes. Not only is diabetes highly prevalent in patients with COVID-19, but diabetes has been reported as a significant predictor of morbidity and mortality. Furthermore, race seems to be a predictor of severity with black people dying at 2.3 times the rate of white people. **Methods:** Here we performed a retrospective study of 524 cases of COVID-19 at an academic center in Chicago between March 2020 until August 2020. Data were obtained from patients that consented to the study to examine the relationship between diabetes, BMI, age, and race with degree of COVID-19 severity. Not all patients had all clinical and demographic data available. COVID-19 severity was determined using a severity index obtained from the measured SpO2 divided by the FiO2/fraction of inspired oxygen times 100. Numbers ≥ 315 mmHg were defined as low severity with patients generally requiring outpatient care, while 235–314 mm Hg were classified as moderate severity generally requiring inpatient care and≤ 234 mm Hg