

Session/Poster#

Presenter

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Simran Patel

College of Medicine Student

Advisor(s): Dr. Raj Wadgaonkar, Medicine

The effect of sickle cell disease and sickle cell trait on COVID-19 infection outcomes

Introduction: COVID-19 infections have swiftly increased in the United States. The literature exploring the relationship between sickle cell and COVID-19 is sparse. We aim to describe the outcomes of sickle cell disease (SCD) and sickle cell trait (SCT) patients with COVID-19 at the University Hospital of Brooklyn (UHB).

Methods: A retrospective cohort chart review of patients at UHB between March 2020 to September 2022 was performed. We sampled patients over the age of 18 who tested positive for COVID-19 and had previously been diagnosed with SCD/SCT.

Results: 100 charts were reviewed of which 40 met the inclusion criteria. 15 (37.5%) were male, 25 (62.5%) were female and all were Black. 50% had SCT and 50% had SCD. The average age was 36.05 years for SCD and 48.6 for SCT patients ($p=0.01$). Pre-existing medical conditions included hypertension (15%), asthma (12.5%), type II diabetes mellitus (10%), end-stage renal disease (10%), splenic pathology (10%), avascular necrosis (7.5%), chronic obstructive lung disease (5%), hyperlipidemia (5%), HIV (5%), and miscellaneous conditions (20%). Patients presented with various symptoms, some overlapping. 42.5% presented with cough, 37.5% with fever, 35% with shortness of breath, 22.5% with acute pain, 12.5% with chills, 12.5% with fatigue, and 10% were asymptomatic. 40% of patients had no major complications; however, 22.5% developed COVID-19-related pneumonia, 17.5% had pain crisis, 12.5% had acute chest syndrome, 7.5% had acute kidney injury, and 20% had other complications including pulmonary embolism, hypertensive crisis, and altered mental status. The average length of hospital stay was 4.3 days. 5% of patients returned to the hospital due to COVID-19-related complications, with another 5% passing away due to respiratory sequelae.

Conclusions: The findings of this study show no significant difference in hospital stay length or level of medical acuity between patients diagnosed with SCD/SCT.