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Title

Sickle Cell Patients with Crisis or Acute Chest Syndrome are at Significant Risk for Readmission with COVID-19

Priority 1 (Research Category)

COVID-19

Presenters

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Abstract

Context: Understanding the risk of readmission for COVID-19 in patients with a sickle cell crisis or acute chest syndrome is not completely understood. Objective: To determine the odds of readmission for COVID-19 in patients with a sickle cell crisis or acute chest syndrome. Study Design: Matched-case control study of patients diagnosed with COVID-19 (ICD10-u071) during hospitalization from March 2020 to March 2023. Data were extracted from Vizient's clinical database. Setting or Dataset: Academic medical center. Population studied: The study group included patients admitted with COVID-19 and a sickle cell crisis or acute chest syndrome. The control group included patients admitted with COVID-19 but not a sickle cell crisis or acute chest syndrome. The control group was matched on age, gender, race, and stay in the ICU. Outcome Measures: Mortality rate, readmission rate, length of stay (LOS), and number of ICU days. Results: This matched-case control study included 66 patients in each group, and the groups were equally matched on age, gender, race, and stay in the ICU. The average age was 29.2 years, and there were 48.5% females. There were 64 (97.0%) blacks in the study group and 61 (92.4%) in the control group. Two (3.0%) patients in the study group expired compared with 4 (6.0%) patients in the control group. The average number of ICU days was less in the study group (0.2 days) compared with the control group (0.4 days), and the average LOS was less in the study group (4.5 days) compared with the control group (5.8 days). 22 patients (33.3%) in the study group were readmitted for COVID-19 > 30 days after the initial admission, compared with 11 patients (16.7%) in the control group (OR 2.5, 95%CI 1.1 to 5.4). Conclusions: Our results showed that patients with a sickle cell crisis or acute chest syndrome are 2.5 times more likely to be readmitted with COVID-19 than patients in the control group. The study group had lower mortality rates, less time in the ICU, and lower LOS than patients in the control group. Our study suggests that patients with a sickle cell crisis or acute chest syndrome are at higher risk of readmission for COVID-19. These findings also highlight the need for ongoing monitoring and follow-up care for these patients to prevent readmission and improve outcomes.