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INTRODUCTION

- By January 2022, the Omicron (B.1.1.529) variant of SARS-CoV-2 accounted for most infections in the United States as well as a concomitant rise in hospital admissions.
- Scattered reports have suggested that many hospitalized patients with COVID-19 during the Omicron variant surge were incidental cases, admitted primarily for reasons other than their SARS-Cov-2 infections.
- We describe the clinical presentations of hospitalized adult patients with COVID-19 Omicron variant in a large healthcare system in South Florida

OBJECTIVES

To characterize etiology of hospitalizations for consecutive adult COVID-19-positive patients who were hospitalized during the Omicron surge, in a community-based healthcare system in South Florida.

METHODS

- A retrospective observational study of 500 adult patients (18 years or older) with COVID-19 who were admitted to the Memorial Healthcare System, Broward County, Florida between January 1–14, 2022 was performed.
- The institutional review board of Memorial Healthcare System approved the study protocol.
- Patients with a positive SARS-CoV-2 polymerase chain reaction (PCR) upon clinical admission or during clinical admission were classified into three categories:
 - Group 1: Admission due to COVID-19 pneumonia or respiratory infection.
 - Group 2: COVID-19 associated severe symptoms other than pulmonary presentation.
 - Group 3: Completely incidental.
- Study measures:
 - Number of patients in each group
 - Clinical presentations for each group, including their history of vaccination and prior SARSCoV-2 infection.
 - Risk for in-hospital mortality and intensive care unit (ICU) admission in each group.
 - Hospital length of stay (LOS) and ICU LOS.

COVID-19 Omicron Variant Hospitalizations

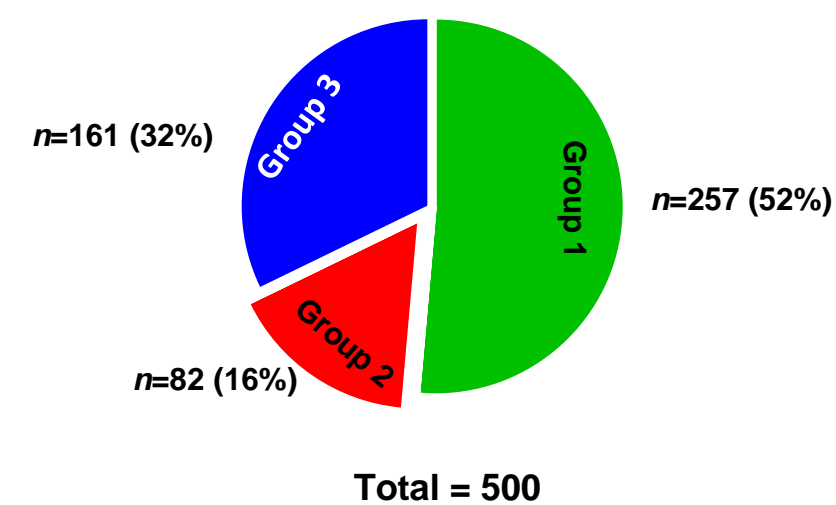


Figure 1. Number of SARS-CoV-2-positive patients who were hospitalized and treated for primary COVID-19 respiratory infection (Group 1), COVID-19 infection associated severe symptoms other than respiratory presentation (Group 2), and Incidental COVID-19 patients (Group 3).

Clinical Characteristics and Outcomes Stratified by Group

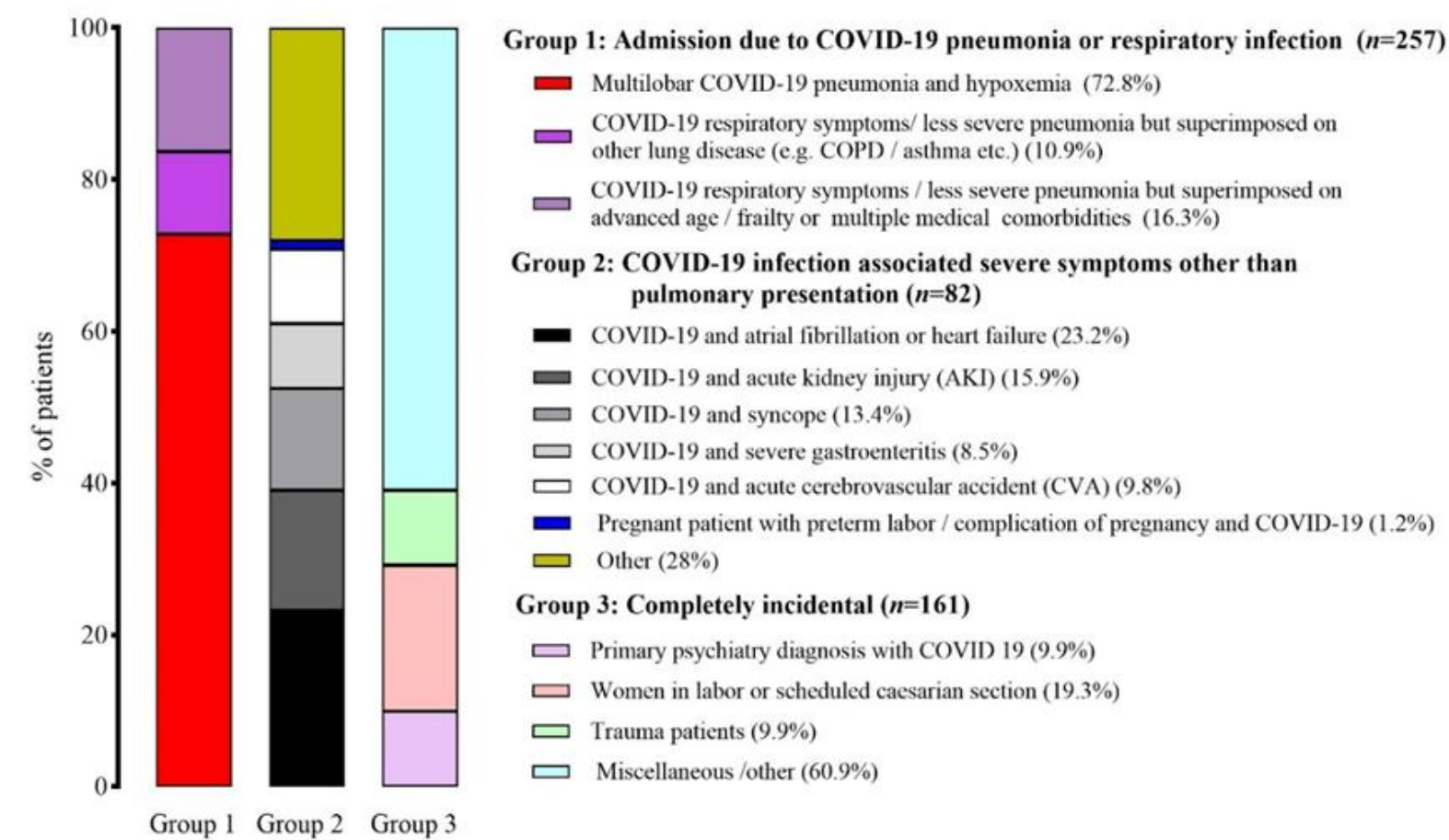


Figure 2. Clinical presentations of SARS-CoV-2-positive adult patients hospitalized during the Omicron variant surge, January 01-14, 2022.

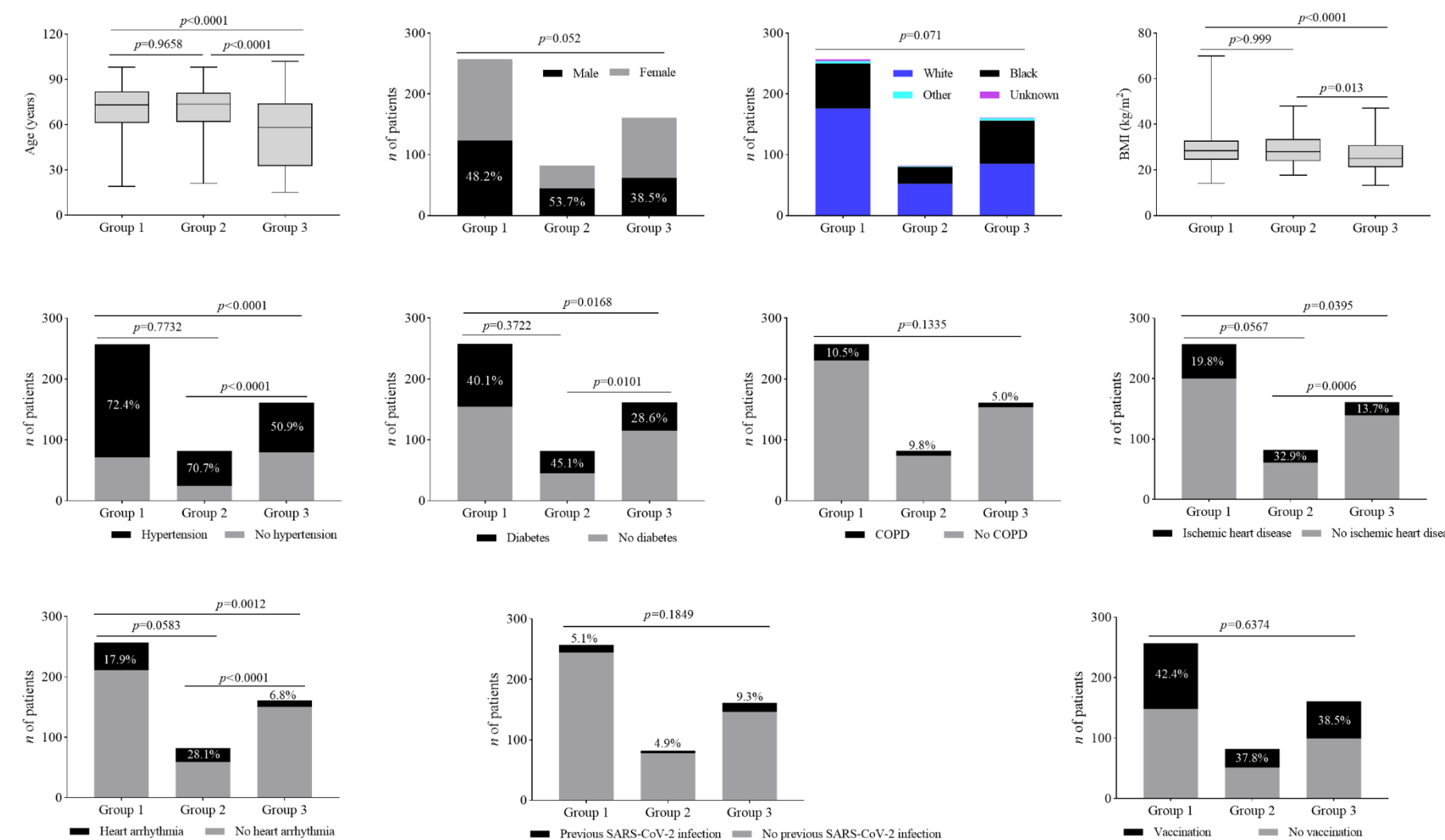


Figure 3. Demographics and coexisting comorbidities of hospitalized SARS-CoV-2-positive adult patients stratified by group. The median age of patients was 73 (IQR, 61-82), 74 (IQR, 62-81), and 58 (IQR, 32-74) years for Group 1, Group 2, and Group 3, respectively. Patients with primary COVID-19 (Group 1) or extrapulmonary manifestations of COVID-19 (Group 2) were older and had more comorbidities than the incidental COVID-19 cases (Group 3). No differences in history of previous SARSCoV-2 infection and vaccination status were noted among the three groups of patients.

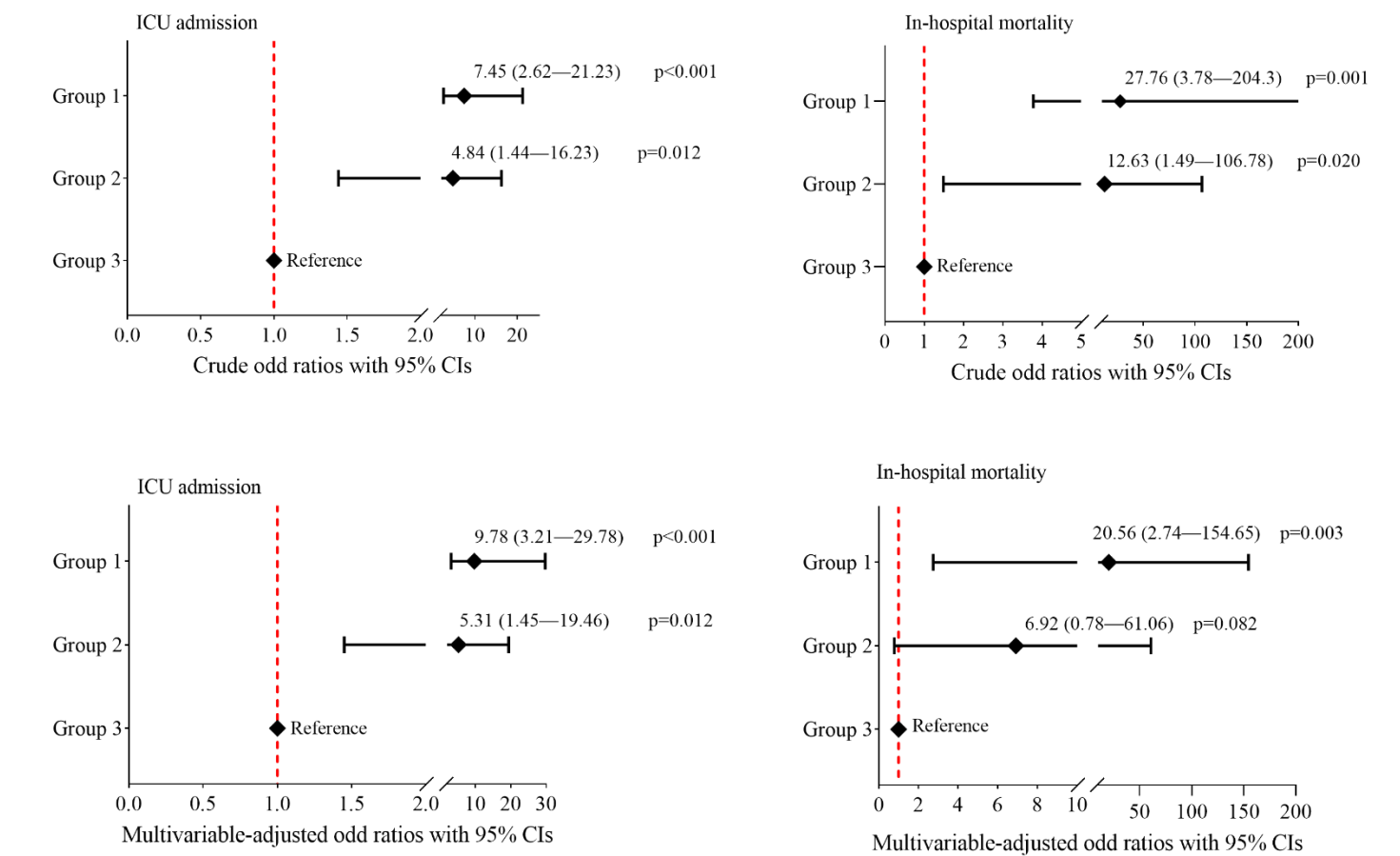


Figure 4. Differences in risk of death and ICU admission by group. Crude (upper) and multivariable-adjusted (lower) odds ratios (ORs) with 95% confidence intervals (CIs) for ICU admission and in-hospital mortality were generated from logistic regression models. The variables included in the multivariable models were age, gender, history of hypertension, diabetes, chronic obstructive pulmonary disease, chronic kidney disease, coronary artery disease, malignancy, transplantation, HIV, vaccination status, and previous SARS-CoV-2 infection.

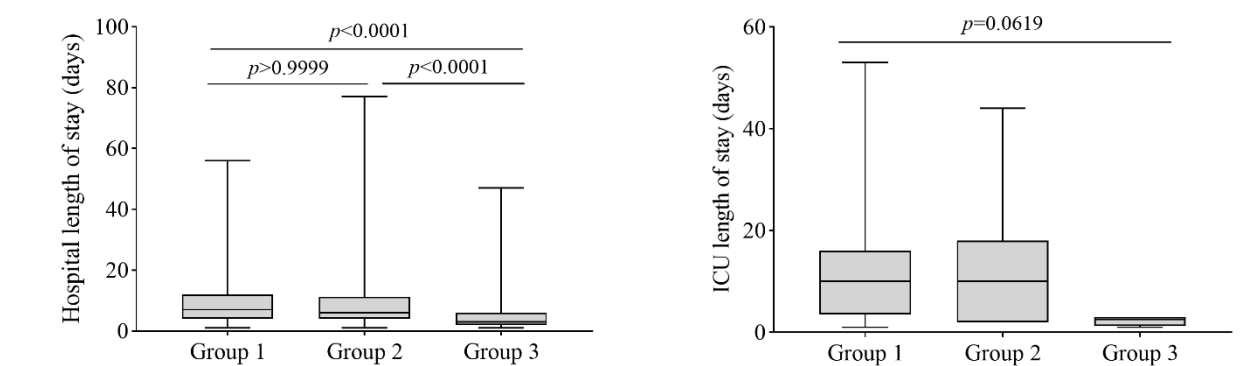


Figure 5. Hospital length of stay (left) and ICU length of stay (right) stratified by group. The median of hospital length of stay in Group 3 was shorter than Group 1 (3 days vs 7 days, $p<0.0001$) and Group 2 (3 days vs 6 days; $p<0.0001$), whereas no differences in ICU length of stay were observed among the three groups ($p=0.0619$).

CONCLUSIONS

- In a consecutive group of 500 COVID-19 positive patients, admitted to a community healthcare system in South Florida, the diagnosis of COVID-19 was completely incidental in 32% of patients (i.e. these patients were hospitalized primarily for reasons other than their COVID-19 infections.)
- Patients with incidental COVID-19 hospitalizations were younger and had less comorbidities than patients with primary COVID-19 hospitalizations or those with extrapulmonary manifestations of COVID-19.
- Patients with primary pulmonary COVID-19 or with extrapulmonary manifestations of COVID-19 had increased risk for ICU admission and in-hospital mortality compared with the incidental COVID-19 hospitalizations.