



COVID-19

research update

April 29, 2020

Protective immunity

An [article on immunology and COVID-19](#) (The Lancet, April 27) states that most of the available COVID-19 serology data derive from people who have been hospitalized with severe infection. In this group, around 90% develop antibodies within the first 2 weeks of symptomatic infection. However, a key question concerns antibodies in non-hospitalized individuals who either have milder disease or no symptoms. Anecdotal results from community samples have found that less than 10% of those tested developed specific antibodies. In the absence of larger seroprevalence datasets, it seems likely that natural exposure during this pandemic might, in the short to medium term, not deliver the required level of herd immunity and there will be a substantial need for mass vaccination programs.

Racial and ethnic disparities in COVID-19 patients

A [study analyzing the variation in COVID-19 hospitalizations and deaths across the New York City boroughs](#) (JAMA, April 29) found that there was wide variation in both testing and hospitalizations among the geographic areas of the city. The number of COVID-19 tests performed per 100,000 population was highest in Staten Island (5,603), followed by the Bronx (4,599), Brooklyn (2,970), Manhattan (2,844) and Queens (3,800). The number of patients with COVID-19 who were hospitalized per 100,000 population was highest in the Bronx (634) and lowest in Manhattan (331). The number of deaths related to COVID-19 per 100,000 population was also highest in the Bronx (224) and lowest in Manhattan (122). The Bronx, which has the highest proportion of racial/ethnic minorities, the most persons living in poverty and the lowest levels of educational attainment had higher rates of hospitalization and death related to COVID-19 than the other 4 boroughs.

A [study of the demographic characteristics, underlying medical conditions and clinical outcomes of hospitalized COVID-19 patients](#) (CDC MMWR, April 29) found the proportion of hospitalized patients who were black was higher than expected based on overall hospital admissions. Black patients were not more likely than were nonblack patients to receive invasive mechanical ventilation or to die during hospitalization. Among the 305 hospitalized patients studied, the median duration of hospitalization was 8.5 days and duration increased with age. ICU admission occurred among 119 (39.0%) patients and increased significantly with age group. Among 281 (92.1%) patients who were no longer hospitalized at the time of data abstraction, 48 (17.1%) died. The authors found that given the overrepresentation of black patients within this

hospitalized cohort, it is important for public health officials to ensure that prevention activities prioritize communities and racial/ethnic groups most affected by COVID-19. Community mitigation recommendations (e.g., social distancing) should be widely instituted, not only to protect older adults and those with underlying medical conditions, but also to prevent the spread of SARS-CoV-2 among persons in the general population who might not consider themselves to be at risk for severe illness.

Delayed care during the pandemic

A [study of stroke cases in COVID-19 patients younger than 50 years old](#) (NEJM, April 28) found that social distancing, isolation and reluctance to present to the hospital may contribute to poor health outcomes. The study of five cases of large-vessel stroke in patients in New York City found that two patients delayed calling an ambulance because they were concerned about going to a hospital during the pandemic.

A [study investigating the rate of hospital admissions for acute coronary syndrome during the early days of the COVID-19 outbreak](#) (NEJM, April 28) found a significant decrease in ACS-related hospitalization rates. Data suggest a significant increase in mortality during this period that was not fully explained by COVID-19 cases alone. This raises the question of whether some patients have died from ACS without seeking medical attention during the COVID-19 pandemic.