Use of Antimicrobial Stewardship Program in Operationalizing Monoclonal Antibody Therapy in SARS-CoV-2 Infection

Jessica I. Abrantes-Figueiredo, Stephanie Nalewyo, Dora Wiskirchen
Saint Francis Hospital and Medical Center

Background
Antimicrobial stewardship programs (ASP) have been an important and essential part of the response during the coronavirus disease 2019 (COVID-19) pandemic. The use of monoclonal antibodies for non-hospitalized patients infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has proven difficult to operationalize, despite being available through emergency use authorization (EUA). We aim to describe our hospital experience among patients who received monoclonal antibody therapy under current EUA with the use of an existing ASP to lead the effort.

Methods
Retrospective study of adult patients infected with SARS-CoV-2 that received monoclonal antibody therapy under EUA from December 2020 to April 2021. With the use of the EUA criteria, an algorithm was made in order to provide education and an interactive online resource to allow both patients and physicians to assess eligibility for therapy. All patients were screened and approved by the existing ASP. Consecutive patients with complete charts were reviewed from a tertiary care center. Data collected included demographics, comorbid conditions, infusion related complications, hospitalization, and death. The primary outcome of interest was preventing hospitalization for COVID-19 disease.

Results
109 patients received monoclonal antibody therapy. 11 required hospitalization immediately post-infusion and 8 required hospitalization >24 hours after infusion compared to 92 unique patients not requiring hospital admission. Of those admitted, 5 were observation status and 14 met inpatient level of admission. 1 death occurred within 30 days. 51 were male, 58 were female. The study included 55 White, 29 Black or African American, 3 Asian, 22 Unlisted, 23 Hispanic vs 86 non-Hispanic. 95 received monocloner, 14 received dual therapy. There were no immediate side effects noted by any patients related to the infusion.

Conclusions
Use of monoclonal antibody therapy under EUA for patients infected with SARS-CoV-2 led to decrease in hospitalization in this cohort. An existing ASP was used to successfully operationalize this therapy, demonstrating the benefit of ASPs beyond antimicrobials and the need for continued support by hospital leadership.

References