Implementation and De-Implementation of Hydroxychloroquine Among Coronavirus Disease 2019 (COVID-19) Patients at a Large University-Affiliated Hospital System

S. Karanth1, S. Gantela2, K. Gopal1, B. Patel1; 1Pulmonary & Critical Care Medicine, Internal Medicine, University of Texas Health Science Center at Houston McGovern Medical School, Houston, TX, United States; 2University of Texas Health Science Center at Houston School of Biomedical Informatics, Houston, TX, United States.

Corresponding author’s email: siddharth.karanth@uth.tmc.edu

Introduction: There has been a rush to find a cure for Coronavirus disease 2019 (COVID-19) since the early days of the pandemic. Drugs such as Hydroxychloroquine used to treat malaria, and autoimmune disorders received a lot of media attention and an emergency use authorization by FDA early on, which was withdrawn in June 2020. The aim of this study was to assess the trends of medication use among COVID-19 patients. Methods: The study was conducted at a large university-affiliated hospital system. The study collected data from electronic medical records on all COVID-19 patients from March-November 2020. Data was also collected on medication usage for all patients in 2019. The association of death/hospice with each medication usage among inpatient COVID-19 patients was assessed using unadjusted logistic regression analyses. Results: Among all COVID-19 inpatient admissions, up to 50% of all hospitalized patients received Hydroxychloroquine and 7% overall during the study period. Hydroxychloroquine was not associated with death/hospice in inpatient COVID-19 patients. The use of Hydroxychloroquine was higher in the initial months of the pandemic coinciding with initial recommendations and increased news media coverage. On March 20, the Food and Drug Administration (FDA) gave Hydroxychloroquine an emergency use authorization (EUA). In March, Hydroxychloroquine was given to 50% of COVID-19 patients. As more evidence was published, the use of Hydroxychloroquine declined in April, and by April 24, the FDA issued a warning against the use of Hydroxychloroquine. Utilization had dropped to 32% of hospitalized patients. By June 15, the FDA had rescinded the EUA given to Hydroxychloroquine with utilization less than 2% by June 1 in hospitalized patients. Conclusion: In the time of rapid nontraditional communication of disease therapies, Hydroxychloroquine utilization in COVID-19 may have demonstrated most rapid implementation and de-implementation of any intervention in modern medicine.