

Title: Hydroxychloroquine and the Risk of Sudden Cardiac Death

Authors: Madeleine G. Yemc, BS, Melissa R. Laughter, MD, PhD, Jeremy Hugh, MD, Elizabeth Wallace, MD

Conflict of Interest: The authors have no conflict of interest to declare.

Background and Objectives:

Hydroxychloroquine is an antimalarial drug that is widely utilized in dermatology to treat autoimmune disorders and connective tissue diseases. With the experimental trial and failure of hydroxychloroquine as a treatment for patients with COVID-19, many concerns have emerged regarding the medication's negative impact on cardiac function including its known ability to induce QT interval prolongation. The aim of this retrospective cohort study is to investigate whether there is a meaningful association between hydroxychloroquine and sudden cardiac death when the medication is used to treat dermatologic conditions.

Methods:

The data for this study was collected from UCHealth Department of Dermatology electronic medical records from January 1, 2000 to January 21, 2021 with assistance from Health Data Compass. The primary study population consisted of all UCHealth patients from January 1, 2000 until January 21, 2021 with a diagnosis of lichen planopilaris (LPP), granuloma annulare (GA), or frontal fibrosing alopecia (FFA) who were prescribed hydroxychloroquine by a dermatologist at a UCHealth outpatient dermatology clinic and meet the inclusion criteria. These individuals will be matched to a control population of individuals meeting the same inclusion criteria, but who were prescribed topical and/or systemic therapies excluding hydroxychloroquine by a dermatologist. We will perform a retrospective cohort analysis comparing the relative

risk of sudden cardiac death among individuals taking hydroxychloroquine to that of a matched control population of non-hydroxychloroquine user. We will stratify the relative risk according to hydroxychloroquine dosage if there is sufficient data.

Results:

We are currently in the processing of collecting our control group data with the assistance of Health Data Compass, thus data analysis has not begun, and the results of this study are still pending.

Conclusions:

The results of this study will help elucidate the relationship, if any, between hydroxychloroquine and sudden cardiac death, when used to treat dermatologic conditions. These findings may help guide future dermatology practices surrounding cardiac disease screening and/or monitoring for persons taking hydroxychloroquine.