

# Hydroxychloroquine not linked to longer heart rhythm intervals in RA or lupus patients

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New research presented at ACR Convergence, the American College of Rheumatology's annual meeting, discovers that use of hydroxychloroquine, a generic drug, does not cause any significant differences in QTc length or prolonged QTc, key measures of heart rate, in people with rheumatoid arthritis (RA) or systemic lupus erythematosus (SLE) (ABSTRACT #0431).

Rheumatoid arthritis is the most common type of autoimmune arthritis. It is caused when the immune system (the body's defense system) is not working properly. RA causes pain and swelling in the wrist and small joints of the hand and feet. SLE is a chronic disease that causes systemic inflammation which affects multiple organs.

Hydroxychloroquine is a cornerstone treatment for SLE, and patients with RA may also take the drug either alone or in combination with other treatments. However, there are concerns about its possible heart-related side effects: the prolongation of QTc, or the time span the heart takes to contract and relax, and the development

of arrhythmia (irregular heartbeats). This new study assessed QTc lengths in patients with RA and SLE and its association with [hydroxychloroquine](#) use.

"Hydroxychloroquine remains the foundation of disease-modifying antirheumatic drug therapy in rheumatic disease patients. Given recent concerns surrounding hydroxychloroquine's use in COVID-19 patients and subsequent arrhythmic events, we wanted to examine the associations between its use and the QTc length on electrocardiograms in a large, asymptomatic cohort of RA and SLE patients," says study co-author Elizabeth Park, MD, Rheumatology Fellow at Columbia University Irving Medical Center.

The study analyzed data on 681 RA and SLE patients without clinical cardiovascular disease, including two prospective RA cohorts of 307 patients and a retrospective SLE cohort of 374 patients, that included electrocardiogram (EKG) results. The researchers explored the association between QTc length and hydroxychloroquine use by these patients, and they adjusted the data for disease-specific characteristics and cardiovascular disease (CVD) risk factors. Of the whole study group (RA and SLE), 54% used hydroxychloroquine and 44% had QTc lengths of more than 440 milliseconds. They found that the adjusted QTc length among hydroxychloroquine users was comparable to those who did not use the drug.

Their results also showed that hydroxychloroquine use did not significantly predict prolonged QTc for either the whole cohort or the RA and SLE patient cohorts. However, nine out of 11 of the SLE patients who did have a prolonged QTc were taking hydroxychloroquine. Yet these observations were too small to detect statistically significant differences between the hydroxychloroquine

groups.

Prolonged QTc, or more than 500 milliseconds, was not associated with arrhythmias or deaths among these patients. The study also did not find any significant interactions between hydroxychloroquine and other QTc-prolonging medications in the patients. Hydroxychloroquine use combined with other QTc-prolonging medications resulted in a comparable QTc interval to hydroxychloroquine alone. In the SLE group, hydroxychloroquine combined with anti-psychotic drugs did result in longer QTc compared to using hydroxychloroquine alone, however.

"Overall, the use of hydroxychloroquine did not predict QTc length, even while adjusting for critical confounding factors, namely the use of other QTc-prolonging medications," says Dr. Park. "Our findings reinforce the fact that hydroxychloroquine remains a safe, effective long-term disease-modifying drug for our rheumatic disease patients. It's important to remember that COVID-19 patients who received hydroxychloroquine were likely critically ill. Therefore, the effect of COVID-19 itself on the heart and subsequent arrhythmia must be considered. They also likely concurrently received azithromycin, another QTc-prolonging medication. Our next steps are to stratify data by length and cumulative dose of hydroxychloroquine therapy and analyze the associations with QTc length."

**More information:** ABSTRACT #0431:  
Hydroxychloroquine Use Was Not Associated with QTc Length in a Large Cohort of SLE and RA Patients

Provided by American College of Rheumatology  
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