

Higher doses and longer use of hydroxychloroquine increase risk of severe eye complication

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New research presented this week at ACR Convergence, the American College of Rheumatology's annual meeting, shows that higher doses,

longer duration of use, chronic kidney disease and Asian race could all be independent risk factors for retinopathy in people using hydroxychloroquine, an antimalarial drug commonly used to treat lupus, rheumatoid arthritis and other diseases. Patients taking hydroxychloroquine who have these risk factors should be closely monitored by an ophthalmologist for signs of retinopathy.

Retinopathy is a type of ocular damage that can lead to vision loss. This new study looked at various [risk factors](#) for incident hydroxychloroquine retinopathy in a large cohort of patients identified from a U.S. health network. People included in the study took the drug for five or more years between 1997 and 2020.

"Patients and providers alike are concerned about the [risk](#) of hydroxychloroquine retinopathy, and hydroxychloroquine is a very important drug for patients with lupus and other rheumatic diseases. The pericentral retinopathy pattern has only been recognized in recent years, primarily seen in Asian patients, but also in other racial and ethnic groups. It is important to better understand each patient's personalized risk of retinopathy, so this can be weighed against the potential benefits of the medication and help guide treatment," says April M. Jorge, MD, a rheumatologist at Massachusetts General Hospital in Boston and the study's co-author.

The researchers looked at how many patients developed retinopathy based on spectral domain-optical coherence tomography (SD-OCT) [eye scans](#). Expert ophthalmologists independently reviewed all scans. Each scan was independently reviewed by at least one expert ophthalmologist. All abnormal scans and a subset of normal scans were also reviewed by a second expert ophthalmologist. They identified the dates of the earliest abnormal scans, and then, each scan was graded as mild, moderate or severe retinopathy, no retinopathy, or retinopathy not related to hydroxychloroquine, such as [disease](#) caused by macular degeneration.

They also classified whether patients had a parafoveal or pericentral pattern to their retinopathy.

Each case of hydroxychloroquine-related retinopathy was matched with up to five control cases by age, sex and the year they started using hydroxychloroquine. Researchers used pharmacy records to assess the duration of time patients had taken hydroxychloroquine, cumulative and average daily dose of the drug, dose per patient's actual body weight and ideal body weight. They also looked at potential risk factors for retinopathy, such as race and ethnicity, and [chronic kidney disease](#), which is a gradual loss of kidney function.

Out of 4,899 long-term users of the drug, 164 patients had incident hydroxychloroquine retinopathy, including 100 mild, 38 moderate and 26 severe cases. Mean age for patients starting hydroxychloroquine was 56 and over 90% were women. There were 131 patients with a parafoveal pattern of retinopathy and 33 patients with a pericentral pattern.

Retinopathy risk doubled for every additional five years that patients used hydroxychloroquine. Cumulative dose also increased the risk of retinopathy, as well as increased dose per body weight. Patients with Asian ancestry also had an overall increased risk of retinopathy, as well as eye disease in the moderate or severe grades, and with a pericentral pattern. The study also found that having chronic kidney disease was associated with a two-time higher risk of overall retinopathy and three-time higher risk of moderate or severe retinopathy.

"The study's findings can help identify people at increased risk of hydroxychloroquine-related retinopathy, and help physicians make individual treatment decisions for their patients," says Dr. Jorge. "This also emphasizes the importance of screening for [retinopathy](#) among long-term [hydroxychloroquine](#) users."

More information: April Jorge et al, Risk Factors for Hydroxychloroquine Retinopathy and Its Subtypes—Prospective Adjudication Analysis of 4,899 Incident Users [abstract]. *Arthritis Rheumatology* (2021). Available at [acrabstracts.org/abstract/risk...4899-incident-users/](https://acrabstracts.org/abstract/risk-factors-for-hydroxychloroquine-retinopathy-and-its-subtypes-prospective-adjudication-analysis-of-4899-incident-users/)

Provided by American College of Rheumatology

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