RETINA INTERNATIONAL

Seeking A Cure For
Retinitis Pigmentosa, Macular Degeneration,
Usher Syndrome and Allied Retinal Dystrophies

Advice from Retina International Scientific and Medical Advisory Board on the use of Chloroquine

Chloroquine is an antimalarial drug that was approved by the FDA in 1934. Since then it has been found to be beneficial in the treatment of auto immune diseases such as lupus and rheumatoid arthritis (1).

The standard doses of chloroquine used for the treatment of malaria and other systemic diseases have few side effects. However, toxicity is encountered only when high doses are injected very rapidly into the bloodstream (parenterally) or taken as tablets (orally) in regular doses over many years. The most serious complications of chloroquine are retinopathy, cardiomyopathy, neuromyopathy and myopathy (1).

High dose and long duration (years) of use are the most significant risk factors affecting the eyes (2). The two typical adverse effects in the eyes are keratopathy (corneal disease derived from the appearance of calcium on the central cornea) and retinopathy. The retinopathy encountered with the prolonged use of chloroquine analogues is a much more serious clinical problem and can lead to irreversible damage to the retina and loss of vision (1). Patients with underlying retinal disease may be at higher risk for chloroquine toxicity (2).

At an early stage, chloroquine-induced retinal disease may often be asymptomatic but can be detected by sensitivity losses in the visual field or by changes in Optical coherence tomography (OCT). Later in the disease, patients may develop a ‘bull’s eye’ maculopathy, characterized by a ring of retinal pigment epithelium (RPE) in the macular area closer to the fovea. Rarely seen end-stage chloroquine toxicity leads to widespread RPE and retinal atrophy, with a loss of central, peripheral and night vision. (1,2)

Chloroquine toxicity is of serious ophthalmologic concern because it is not treatable, also there have been cases of progression of visual loss in patients even years after cessation of treatment by chloroquine or hydroxychloroquine (3,5) therefore it is important to be careful with its use. Especially patients with low weight (less than 50 kg) and renal disease should receive only doses adjusted to their weight (6), maximally 6.5 mg chloroquine-phosphate/kg body weight (2).

Although it has been suggested that chloroquine can change the acidity at the surface of the cell, thereby preventing viruses such as COVID-19 from infecting it (4) there is no consensus about whether chloroquine and other antimalarial drugs are safe and effective for treating COVID-19, as it is still very early in the testing process.

It is still unclear how chloroquine or any antimalarial drug would work against COVID-19.

The Scientific and Medical Advisory Board of Retina International recommends that those affected by an underlying retinal dystrophy do not self-medicate with chloroquine and strongly advises patients to follow the advice of their healthcare provider prior to any use of chloroquine.

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(NOTE: Below is a link to a letter published by the FDA authorizing the emergency use of Chloroquine for COVID-19) https://www.fda.gov/media/136534/download. However, the EMA are limiting their COVID-19 use to clinical trials only.)

References

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