

PLAQUENIL (hydroxychloroquine) and the Eye

Various medications can affect the eyes and their function. Most drugs can be taken without damaging or changing the eyes in any way. However, a few systemic medications can cause damage to the eyes with subsequent vision changes.

Plaquenil (hydroxychloroquine) is an anti-malarial medication used to effectively treat rheumatoid arthritis and autoimmune conditions such as systemic lupus erythematosus and Sjögren's Syndrome. Plaquenil is a drug that is stored in high concentrations throughout the body and is very slowly eliminated from the body. It is attracted to the retinal pigmented epithelium in the back of the eye (the retina).

Although rare, Plaquenil can cause significant toxicity to the eye with prolonged use. Also, Plaquenil may have various systemic side effects that are not related to the eyes. These too are rare and include nerve weakness, hallucinations, psoriasis and changes in hair color. The eye complications are the most serious and worrisome.

Ocular toxicity from hydroxychloroquine may be seen in two distinct areas of the eye: the cornea and the macula. The cornea may become affected (relatively commonly) by an innocuous vortex keratopathy and is characterized by whorl-like corneal epithelial deposits. These changes bear no relationship to dosage and are usually reversible on cessation of hydroxychloroquine.

The macular changes are potentially serious and are related to dosage and length of time taking hydroxychloroquine. Blurred vision and defective color vision may be found early. Advanced retinopathy is characterized by marked reduction of visual acuity and a "bull's eye" macular lesion which is absent in early involvement. Visual field changes may also occur. These are serious, permanent changes in vision. To monitor one's vision, home Amsler grid testing may be advised.

The daily safe maximum dose for eye toxicity can be computed from one's height and weight using this calculator. It should be noted that macular toxicity is related to the total cumulative dose rather than the daily dose. People taking 400 mg of hydroxychloroquine or less per day generally have a negligible risk of macular toxicity, whereas the risk begins to go up when a person takes the medication over 5 years or has a cumulative dose of more than 1000 grams.

Regular eye examinations, even in the absence of visual symptoms, are recommended every 6 months. Also, specific testing such as optical coherence tomography (OCT) of the macula, digital retinal photographs and visual fields are performed at least once a year. At the earliest sign or symptom of possible vision change, the drug should be stopped. Continued vigilance and regular eye exams are critical and the only sure way to avoid potential problems with this medication.