

Hydroxychloroquine retinopathy: screening needed to prevent blindness

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TO THE EDITOR: I note the letter in the 7 June issue of the Journal by Ojaimi and colleagues, in which they express their concerns about the lack of uniform screening guidelines for patients on hydroxychloroquine therapy.¹ The most obvious problem was the apparent failure of the treating rheumatologist to ensure that the patient was adequately followed up for ocular side effects associated with this treatment.

The potential for these side effects has been documented for many years and, while more pertinent in earlier times when chloroquine was used more frequently, isolated case reports about retinal toxicity related to hydroxychloroquine continue to be presented in the medical literature. All patients need to be warned that there is a risk to their eyesight before they start treatment.

The pertinent questions are, however, what is the risk and what is the cost of screening? One study found a single case of retinal toxicity in a series of over 1200 patients being treated long-term with hydroxychloroquine.² Using this information and the data quoted by Ojaimi and colleagues on hydroxychloroquine use,¹ there would currently be about 20 000 patients in Australia using hydroxychloroquine, and 17 potential patients with toxicity in the whole nation.

Screening guidelines vary, with most recommending a baseline screen and then, depending on the presence or absence of "high risk factors" (dosage > 6.5 mg/kg/day, treatment for > 5 years, renal or hepatic impairment, concomitant eye disease, age > 60 years), testing 2 years after the baseline test and then annually,³ or 5 years after the baseline test and then annually.^{4,5} The cost of screening the 20 000 Australian patients being treated with hydroxychloroquine according to these guidelines and assuming a standard initial specialist consultation (Medicare Benefits Schedule item 104) and field test (Medicare Benefits Schedule item 11222) was performed would be between \$20 174 000 and \$28 820 000 over a 10-year period.

One really has to ask, can we afford it? The patient described by Ojaimi and colleagues¹ falls clearly into the high-risk group in terms of her daily dose and duration of treatment. The slit lamp findings of vortex keratopathy also indicate she had a

high risk of retinal toxicity. Rather than screening all patients on hydroxychloroquine therapy, doctors prescribing the medication should be more aware of the potential consequences, and monitor the dosage carefully so that patients in the high-risk group can be referred for screening.

Multifocal electroretinography and fundus autofluorescence could potentially be used for screening, but these modalities are not available routinely and their utility in screening is yet to be established. Until then, patients at high risk of hydroxychloroquine retinopathy should be referred to an ophthalmologist for examination. The minimum examination would include measurement of visual acuity, slit lamp biomicroscopy, dilated fundus examination and automated perimetry, looking specifically for changes in the central 10 degrees of visual field.

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1 Ojaimi E, Guymer RH, Wong TY, Harper CA. Hydroxychloroquine retinopathy: screening needed to prevent blindness. *Med J Aust* 2010; 192: 668-669.

2 Levy GD, Munz SJ, Paschal J, et al. Incidence of hydroxychloroquine retinopathy in 1207 patients in a large multicenter outpatient practice. *Arthritis Rheum* 1997; 40: 1482-1486.

3 Elder M, Rahman A, McLay J. Paracentral field loss in patients taking hydroxychloroquine. *Arch Ophthalmol* 2006; 124: 1729-1733.

4 Royal College of Ophthalmologists. Hydroxychloroquine and ocular toxicity. Recommendations on screening. October 2009. London: RCO, 2009. <http://www.rcophth.ac.uk/documents.asp?section=39§ionTitle=Publications&searchterm=Hydroxychloroquine&x=1&y=5&let=O> (accessed Nov 2010).

5 Marmor MF, Carr RE, Easterbrook M, et al. Recommendations on screening for chloroquine and hydroxychloroquine retinopathy: a report by the American Academy of Ophthalmology. *Ophthalmology* 2002; 109: 1377-1382. □