

# Requirement for retinal screening in patients taking hydroxychloroquine and chloroquine

Imran H. Yusuf<sup>1</sup> & Andrew J. Lotery<sup>2</sup>

(1) Imran H. Yusuf MB ChB (Hons), MRes, MRCP(UK), FRCOphth; [imran.yusuf@merton.ox.ac.uk](mailto:imran.yusuf@merton.ox.ac.uk)

(2) Andrew J. Lotery MD, FRCOphth; [A.J.Lotery@soton.ac.uk](mailto:A.J.Lotery@soton.ac.uk)

Corresponding author: Andrew J. Lotery MD, FRCOphth; [A.J.Lotery@soton.ac.uk](mailto:A.J.Lotery@soton.ac.uk)

(1) The Oxford Eye Hospital, West Wing, John Radcliffe Hospital, Headley Way, Headington, Oxford, OX3 9DU, United Kingdom.

(2) Department of Ophthalmology, University of Southampton NHS Foundation Trust, Tremona Road, Southampton, Hampshire, SO16 6YD

There is no relevant financial support to declare relevant to this paper.

Imran H. Yusuf and Andrew J. Lotery are part of the Royal College of Ophthalmologists guideline development group for hydroxychloroquine retinopathy screening. There is no other conflict of interest relevant to the subject matter of this manuscript

*BJGP - Letter*

Manuscript word count (350): 350

References: 9

We read with interest the article by McGill and Ambrose on lupus in young people.<sup>1</sup> They reiterate that patients should receive retinal screening after 5 years of exposure to hydroxychloroquine.<sup>1</sup> The Royal College of Ophthalmologists has made a collaborative recommendation for systematic retinal screening in users of hydroxychloroquine and chloroquine in the United Kingdom. General practitioners and other prescribers of hydroxychloroquine, who take responsibility for drug monitoring requirements,<sup>2</sup> should be aware of the key details of the recommendations:<sup>3</sup>

- All patients expected to remain on hydroxychloroquine for more than 5 years should be referred to the hospital eye service for baseline evaluation within 12 months of starting treatment<sup>3</sup>
- Patients should be referred to the hospital eye service for annual screening after 5 years of treatment
- Patients with additional risk factors (chloroquine use, impaired renal function (eGFR<50ml/min/1.73m<sup>2</sup>), daily dose of hydroxychloroquine greater than 5mg/kg/day, and patients concurrently taking tamoxifen)<sup>4</sup> should be screened annually after 1 year of treatment
- Prescribers should note that the risk of retinal toxicity can be reduced by ensuring the daily dose of hydroxychloroquine is less than 5mg/kg/day.<sup>4</sup>

A patient information leaflet has been developed by the Macular Society and should be distributed to all patients taking hydroxychloroquine.<sup>5</sup> A referral form is included with the recommendations to assist in the timely referral of patients to the hospital eye service for baseline evaluation and screening.<sup>3</sup> The patient, general practitioner and hospital specialist (if relevant) will be notified in writing of the outcome of each screening visit.<sup>3</sup>

It is estimated that there may be up to 161,000 users of hydroxychloroquine in the United Kingdom.<sup>6</sup> The prevalence of hydroxychloroquine retinopathy is around 7.5% after 5 years of hydroxychloroquine therapy (increasing to 20-50% after 20 years).<sup>4</sup> These data suggest a large patient group at risk of toxic retinopathy who require screening. Once symptomatic, hydroxychloroquine retinopathy is advanced and results in irreversible, bilateral visual loss<sup>7</sup> which may progress despite drug cessation.<sup>8</sup> However, retinal screening (with retinal imaging

and visual field testing) is able to detect hydroxychloroquine retinopathy at a pre-symptomatic stage which is less likely to deteriorate after drug cessation.<sup>9</sup>

## References

1. McGill G, Ambrose N. The management of lupus in young people. *Br J Gen Pract* 2018;68:96-7.
2. General Medical Council (GMC): "Good practice in prescribing and managing medicine and devices". 2013.
3. Royal College of Ophthalmologists (RCOphth): Hydroxychloroquine and Chloroquine Retinopathy: Recommendations on Screening – Membership Consultation. 2018.
4. Melles RB, Marmor MF. The risk of toxic retinopathy in patients on long-term hydroxychloroquine therapy.[Erratum appears in *JAMA Ophthalmol*. 2014 Dec;132(12):1493]. *JAMA Ophthalmol* 2014;132:1453-60.
5. Macular Society: Eye screening for patients taking hydroxychloroquine (Plaquenil®). Macular Society 2018.
6. Yates M, Malaiya R, Stack J, Galloway JB. Hydroxychloroquine use: the potential impact of new ocular screening guidelines. *Eye (Lond)* 2018;32:161-2.
7. Latasiewicz M, Gourier H, Yusuf IH, Luqmani R, Sharma SM, Downes SM. Hydroxychloroquine retinopathy: an emerging problem. *Eye (Lond)* 2017;31:972-6.
8. Marmor MF, Hu J. Effect of disease stage on progression of hydroxychloroquine retinopathy. *JAMA Ophthalmol* 2014;132:1105-12.
9. Marmor MF, Kellner U, Lai TY, Melles RB, Mieler WF, American Academy of O. Recommendations on Screening for Chloroquine and Hydroxychloroquine Retinopathy (2016 Revision). *Ophthalmology* 2016;123:1386-94.