

## Dr. Durcan, *et al* reply

To the Editor:

We welcome the call for continued dialogue between rheumatology and our colleagues in ophthalmology regarding the dosing of hydroxychloroquine (HCQ), our most important systemic lupus erythematosus (SLE) medication, and agree that this is an issue of critical clinical importance, in particular given the new screening tests, optical coherence tomography, and electroretinography that are now available. To ensure our results are interpreted correctly, there are a number of issues we would like to clarify from the correspondence of Weinlander, *et al*<sup>1</sup>.

First, to evaluate whether weight-based dosing, capped at 400 mg per day, was appropriate, we did assess the other possible variables used to calculate medication doses. The results of these analyses are shown in Table 1 of our study<sup>2</sup> and will help to answer many of the issues raised by Weinlander, *et al*.

When stratified according to the body mass index (BMI; kg/m<sup>2</sup>) and height (as suggested in some ophthalmology literature), there were no differences seen in HCQ blood levels. Because this is an issue of significant controversy and clinical importance, we then calculated the ideal body weight for these patients. Ideal body weight was calculated as 45.5 kg + 2.3 kg per 2.5 cm over 152 cm for women and 50 kg + 2.3 kg per 2.5 cm over 152 cm for men. We evaluated whether stratification according to ideal, rather than actual, body weight made any difference to the proportion of patients who had subtherapeutic, therapeutic, or high levels and found no differences.

Taking the existing evidence for increasing toxicity in those with renal impairment into account, our cohort are dosed at 200 mg per day in those with chronic kidney disease and 200 mg 3 times per week for those receiving dialysis<sup>3</sup>.

Second, we did not specifically correlate body weight with HCQ blood levels. However, we did demonstrate similar proportions of patients with subtherapeutic, therapeutic, and suprathreshold blood levels seen across all BMI categories. We consider the above information crucially important in our decision to endorse weight-based dosing, with a maximum daily dose of 400 mg.

We look forward to longitudinal data to guide us on further risk factors for retinal toxicity and formally establishing whether HCQ blood levels will identify at-risk individuals. This is an issue of critical importance in SLE because HCQ therapy associates with a myriad of benefits in a serious, potentially fatal condition<sup>4,5</sup>.

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