decreased to 300 mg for 4 years after a 3 kg weight loss (7.3 mg/kg/day to 5.4 mg/kg/day; 6.25 mg/IBW/day);cumulative dose of 1314 grams). The patient had undergone Humphrey 10-2 visual field testing with a white stimulus revealing bilateral central scotomas, which have been noted in hydroxycholoroquine toxicity<sup>3</sup> (Figures 1c and d). Upon further review, the visual fields were of low reliability. Visual acuity was 20/20 in both eyes. The patient was asymptomatic at the time of presentation. There was no history of renal insufficiency. Fundus exam was notable for mild, central mottling of the retinal pigment epithelium (RPE) bilaterally. Fundus autofluorescence (FAF) was significant for mild parafoveal hyperautofluorescence in both eyes, suggestive of early damage to the RPE (Figures 1a and b). SD-OCT showed subtle parafoveal thinning of the IS/OS junction and interdigitation layer, as well as hyperreflective, granular appearance of the RPE (Figure 2). The ELM was preserved in both eyes. A blunted parafoveal response was detected bilaterally on multifocal electroretinogram (mfERG) (Figures 1e and f). These findings were suggestive of hydroxychloroquine retinopathy, and the patient was advised to discontinue hydroxychloroquine. At 6-month follow-up, the patient's visual acuity remained 20/20 bilaterally. Visual fields were repeated and more reliably showed bilateral paracentral scotomas. SD-OCT images and multifocal ERG were unchanged.

#### Comment

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At present, no treatment exists for hydroxychloroquine retinopathy. The American Academy of Ophthalmology recently emphasized the use of objective screening tests, including SD-OCT, FAF, and mfERG, to be evaluated along with 10-2 automated fields in an effort to minimize retinal damage.4 SD-OCT is a valuable screening and diagnostic modality for the detection of anatomical changes associated with early hydroxychloroquine toxicity, however these changes can be subtle. In this case, the only anatomic changes visible are thinning of the IS/OS junction and disruption of the photoreceptor/ RPE interdigitation line with very subtle changes on the FAF. Changes to these outer retinal layers may easily be missed, therefore careful examination of high-resolution SD-OCT images is critical when screening for hydroxychloroquine toxicity.

## **Conflict of interest**

The authors declare no conflict of interest.

## References

- 1 Rodriguez-Padilla JA, Hedges 3rd, TR, Monson B, Srinivasan V, Wojtkowski M, Reichel E *et al.* High-speed ultra-high-resolution optical coherence tomography findings in hydroxychloroquine retinopathy. *Arch Ophthalmol* 2007; **125**: 775–780.
- 2 Marmor MF. Comparison of screening procedures in hydroxychloroquine toxicity. *Arch Ophthalmol* 2012; **130**: 461–469.
- 3 Mititelu M, Wong BJ, Brenner M, Bryar PJ, Jampol LM, Fawzi AA. Progression of hydroxychloroquine toxic effects

after drug therapy cessation: new evidence from multimodal imaging, JAMA Ophthalmol 2013; 131(9): 1187–1197.

4 Marmor MF, Kellner U, Lai TY, Lyons JS, Mieler WF. Revised recommendations on screening for chloroquine and hydroxychloroquine retinopathy. *Ophthalmology* 2011; **118**: 415–422.

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#### Sir,

# Comment on 'Herpes zoster ophthalmicus reduction: implementation of shingles vaccination in the UK'

The endorsement of topical steroid use in Herpes zoster uveitis in your editorial<sup>1</sup> is inappropriate and not supported by any evidence whatsoever.

It is now more than 30 years since the received wisdom<sup>2</sup> of routine topical steroid use in zoster uveitis was shown to be inferior to that of topical acyclovir (ACV) in randomised controlled trials.<sup>3</sup> High-dose oral ACV is even more effective. Announcing 'the end of the corticosteroid era', Herbort *et al*<sup>4</sup> noted 'Steroid treatment was not necessary in any of the (oral) ACV-treated patients'.

Those clinicians who adopt a policy of using high-dose oral ACV in the treatment of acute herpes zoster and eschew topical steroids soon come to realise that the 'tendency to relapse when steroid treatment is tapered...become chronic or take on a relapsing nature over many years, with tissue damage, scarring and necrosis, and potential visual impairment'<sup>1</sup> is entirely the iatrogenic consequence of topical steroid usage, and note a further benefit in amelioration of post-herpetic neuralgia particularly if high-dose oral ACV is prescribed in combination with Amitryptiline or Gadapentin.<sup>5</sup>

I share the hope that vaccination will eventually reduce the number of patients who experience the scourge that is zoster. In the meantime it is important to disseminate and implement existing knowledge on effective-evidence-based treatment and avoid making the problem worse by using topical steroids in zoster uveitis.

## **Conflict of interest**

The author declares no conflict of interest.

## References

 Potts A, Williams GJ, Olson JA, Pollock KG, Murdoch H, Cameron JC. Herpes zoster ophthalmicus reduction: implementation of shingles vaccination in the UK. *Eye (Lond)* 2014; **28**(3): 247–248.



- 2 Marsh RJ, Cooper M. Acyclovir and steroids in herpes zoster keratouveitis. Br J Ophthalmol 1984; 68(12): 904-905.
- McGill J, Chapman C. A comparison of topical acyclovir 3 with steroids in the treatment of herpes zoster keratouveitis. Br J Ophthalmol 1983; 67(11): 746-750.
- 4 Herbort CP, Buechi ER, Piguet B, Zografos L, Fitting P. High-dose oral acyclovir in acute herpes zoster ophthalmicus: the end of the corticosteroid era. Curr Eye Res 1991; 10(Suppl): 171-175.
- Dworkin RH, Schmader KE. Treatment and prevention of postherpetic neuralgia. Clin Infect Dis 2003; 36(7): 877-882.

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#### Sir, Response to Dr Clearkin

We thank Dr Clearkin for his comments<sup>1</sup> on our recent editorial with regard to the implementation of shingles vaccine in UK.<sup>2</sup> Our intention was to comment on the potential benefits of vaccination rather than provide an overview of evidence-based practice for the management of zoster-associated anterior uveitis.

However, we mention in the paper the use of topical steroids in the treatment of zoster-associated anterior uveitis, a practice that is recommended in the current Oxford Handbook of Ophthalmology.<sup>3</sup>

This is a contentious area and differences of opinion remain in the use of topical steroids in the treatment of zoster-related anterior uveitis. It is sadly not as clear cut as Clearkin's comments would suggest. The papers cited from Marsh and Cooper<sup>4</sup> and McGill and Chapman<sup>5</sup> refer to studies evaluating topical acyclovir *vs* topical steroid in the treatment of zoster keratouveitis and not just zoster-related anterior uveitis. Although they show a statistical benefit of topical antiviral over topical steroid in the management of keratitis, the data for those with anterior uveitis did not show a statistical benefit. The authors themselves agree that there remains a role for topical steroids in patients who do not respond adequately to topical acyclovir.4,5

As Clearkin mentions, Herbort *et al*<sup>6</sup> show that the use of oral acyclovir in the treatment of early zoster is beneficial, has extensive external evidence to support, and has been generally adopted as best practice by all. Many other authors<sup>7–9</sup> however continue to advocate the use of topical steroids in the treatment of zoster-related anterior uveitis. We therefore feel this area will remain open for discussion until more robust data, specific for zoster-associated anterior uveitis, are available.

We would however agree about Clearkin's comments on the potential benefits of the use of gabapentin for pain control in post-herpetic neuralgia.<sup>1</sup>

# References

- 1 Clearkin L. Comment on 'Herpes zoster ophthalmicus reduction: implementation of shingles vaccination in the UK'. Eye 2014; 28(12): 1522-1523.
- 2 Potts A, Williams GJ, Olson JA, Pollock KG, Murdoch H, Cameron JC. Herpes zoster ophthalmicus reduction: implementation of shingles vaccination in the UK. Eye (Lond) 2014; 28(3): 247-248.
- Oxford Handbook of Ophthalmology. Oxford University Press 2009, Print ISBN-13 9780199552641. 10.1093/med/ 9780199552641 001 0001
- Marsh RJ, Cooper M. Acyclovir and steroids in herpes zoster keratouveitis. Br J Ophthalmol 1984; 68(12): 904-905.
- 5 McGill J, Chapman C. A comparison of topical acyclovir with steroids in the treatment of herpes zoster keratouveitis. Br J Ophthalmol 1983; 67(11): 746-750.
- Herbort CP, Buechi ER, Piguet B, Zografos L, Fitting P. 6 High-dose oral acyclovir in acute herpes zoster ophthalmicus: the end of the corticosteroid era. Curr Eye Res 1991; 10(Suppl): 171-175.
- Van der Lelij A, Ooijman FM, Kijlstra A, Rothova A. 7 Anterior uveitis with sectoral iris atrophy in the absence of keratitis. A distinct clinical entity among herpetic eye diseases. Ophthalmology 2000; 107: 1164–1170.
- 8 Cunningham Jr, ET. Diagnosing and treating herpetic anterior uveitis. Ophthalmology 2000; 107(12): 2129-2130.
- Miserocchi E, Nadia K, Waheed NK, Dios E, Christen W, Jesus Merayo J et al. Visual outcome in herpes simplex virus and varicella zoster virus uveitis: a clinical evaluation and comparison. Ophthalmology 2002; 109(8): 1532-1537.
- 10 Dworkin RH, Schmader KE. Treatment and prevention of postherpetic neuralgia. Clin Infect Dis 2003; 36(7): 877-882.

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# Sir, Vitreoretinal surgery for inadvertent intralenticular Ozurdex implant

We read with interest the recent report by Chhabra *et al.*<sup>1</sup> We would like to share a similar rare case that required early vitreoretinal intervention. In our case, a 62-year-old with left branch retinal vein occlusion and macular oedema underwent an Ozurdex injection in another eye unit. The implant was inadvertently injected into the crystalline lens, and the patient presented 2 weeks later