Reviewer's report

Title: Retinal Changes in Visceral Leishmaniasis by Retinal Photography

Version: 2 Date: 29 June 2014

Reviewer: Nicholas Beare

Reviewer's report:

This is a novel and well-conducted study of retinal abnormalities in VL. It describes fundus abnormalities in VL apparently for the first time. There is a major contradiction in the results and confusion surrounding changes in the nerve fibre layer. (see below)

Major Compulsory Revisions

1. Pg 7 line 19 states “Vessel widths were lower for retinal venules 2 optic disc diameters from the optic disc in VL than in healthy controls... There were no differences in the widths of venules 1 or >2 optic diameters from the disc or in arterioles” and yet in Table 2, 4 of the subjects had thickened retinal veins, venules and/or arterioles. I presume the former is VAMPIRE measurements and the latter is subjective assessment. How do the authors account for this discrepancy?

Page 8 Line 7 also contains this contradiction with Pg 7 line 19.

2. Table 2. I am not sure what “Exaggerated response” of the nerve fibre layer means or what a “mild” NFL is. Are these changes in the appearance of the NFL on colour fundus images? I suggest the changes are described. I wonder whether what is being alluded to here is swelling of the nerve fibres in the maculo-papular bundle, but then page 8 line 12 discusses thinning.

3. Table 2 and Discussion. Raised intra-cranial pressure is a possible cause of the thickened retinal vessels and NFL swelling so could account for some of these abnormalities and should be discussed.

4. Page 8 lines 9-12. This is confused. I am not sure how a small vessel vasculopathy could cause an exaggerated NFL response, but then what this ‘response’ is is unclear. Thinning of the NFL suggests atrophy and is a chronic change seen in glaucoma and ON. This is notoriously difficult to detect on colour images.

5. Page 8 line 13/14. Perivasular whitening, superficial retinal haemorrhages and CWS are possible features of retinal vasculitis, which is very interesting but a pattern which does fit other known diseases which cause retinal vasculitis.

6. The authors took fundus photos. Why are none being included to illustrate the abnormalities, particularly the uncertain ones: perivascular whitening and NFL changes.

Minor Essential Revisions

7. Pg5 Methods. Patients had ophthalmoscopy and fundus photographs. Did
ophthalmoscopy contribute to the identification of the abnormalities in Table 2; or were these findings purely on examination of fundus images?

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests