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Purpose

To describe a multimodal evaluation of a case of dengue associated maculopathy.

Methods

Case report.

Results

A 56-year-old white female complained of decreased visual acuity in both eyes for 60 days, which started 20 days after hospitalization for dengue fever. She was tested positive for dengue (ELISA) and negative for other infectious diseases.



Figure 1: Wide field color OD: microhemorrhages and cotton-wool spots.

Best correct visual acuity (BCVA) was 20/80 in right eye (OD) and 20/200 in left eye (OS). Anterior biomicroscopy was unremarkable. Fundus examination showed microhemorrhage and cotton wool spots on the posterior pole. No sign of vasculitis was observed (figure 1 and 2).

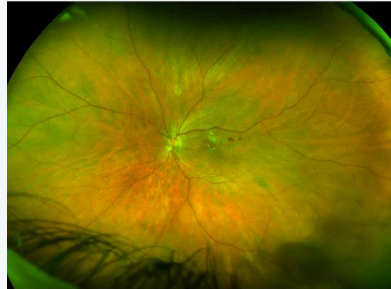


Figure 2: Wide field color OS: microhemorrhages and cotton-wool spots.

Optical coherence tomography (OCT) showed hyperreflective bands in the inner retina, hyporeflective cysts and disruption of the ellipsoid zone in both eyes (OU) – figure 3.

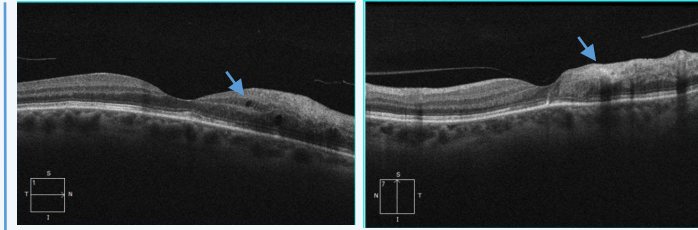


Figure 3: OCT OD (right) and OS (left): hyperreflective bands in the inner retina, hyporeflective cysts and disruption of the ellipsoid zone.

OCT angiography showed reduced vascular density in the superficial and deep vascular plexus (figure 4 and 5).

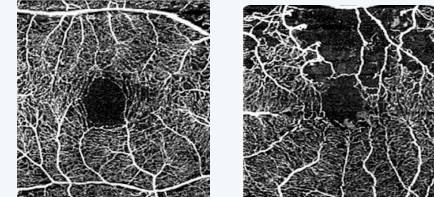


Figure 4: OCTa reduced vascular density in the superficial vascular plexus OD (right) and OS (left).

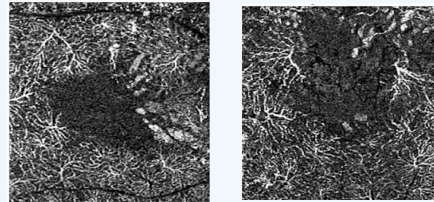


Figure 5: OCTa reduced vascular density in the deep vascular plexus OD (right) and OS (left).

DENGUE-ASSOCIATED MACULOPATHY: A MULTIMODAL ANALYSIS

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Microperimetry evaluation showed an overall reduction in perimetric sensitivity in the macula (figure 6).

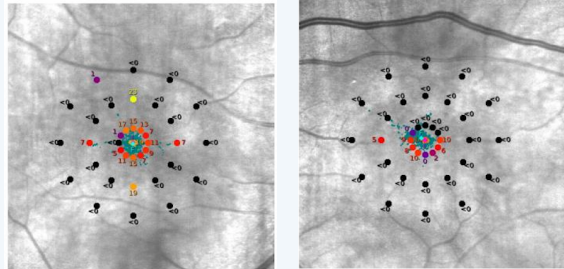


Figure 6: Microperimetry OD (right) and OS (left): reduction in perimetric sensitivity in the macula.

Fluorescein angiography (FA) showed hypofluorescence probably due to ischemia in the macula in early phases and leakage in the late phases (figure 7).

Due to the late presentation and the ischemic changes in the retina, evidenced by the multimodal analysis, the medical approach was to monitor the patient. The follow-up time was 6 months.

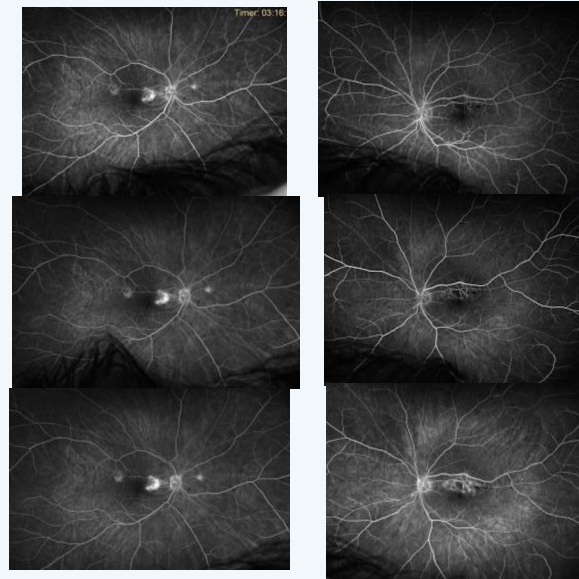


Figure 7: Fluorescein angiography: hypofluorescence in early phases and leakage in late phases. OD (right) and OS (left).

Discussion

Dengue fever is an endemic disease in tropical countries. The ocular manifestations are sub-conjunctival hemorrhages, retinitis, arteritis with exudation, and vascular sheathing over posterior pole.

Secondary dengue infection may manifest as retinitis with signs of microvascular occlusions in the retina.

Most case reports have shown that in the acute episode of dengue maculopathy (especially when vasculitis or macular edema is present) patients could be treated with oral prednisone or endovenous methylprednisolone pulsetherapy. In cases of late diagnosis, the prognosis may be poor due to ischemic changes in the retina.

We present a less frequent presentation of the Dengue Fever case where the multimodal analysis helped to a better understanding of the fundus findings. Due to the long period before seeking medical attention, microperimetry and OCT-A explained about BCVA and prognosis.

References:

- 1- Bacsal KE, Chee SP, Cheng CL, Flores JV. Dengue-associated maculopathy. Arch Ophthalmol. 2007 Apr;125(4):501-10.
- 2- Ng AW, Teoh SC. Dengue eye disease. Surv Ophthalmol. 2015 Mar-Apr;60(2):106-14.