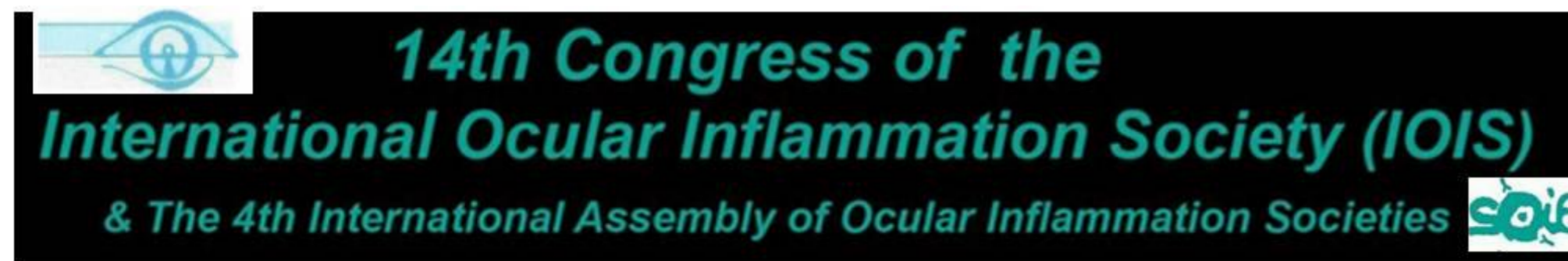


# Optical coherence tomography angiography in West Nile virus chorioretinitis and associated occlusive retinal vasculitis

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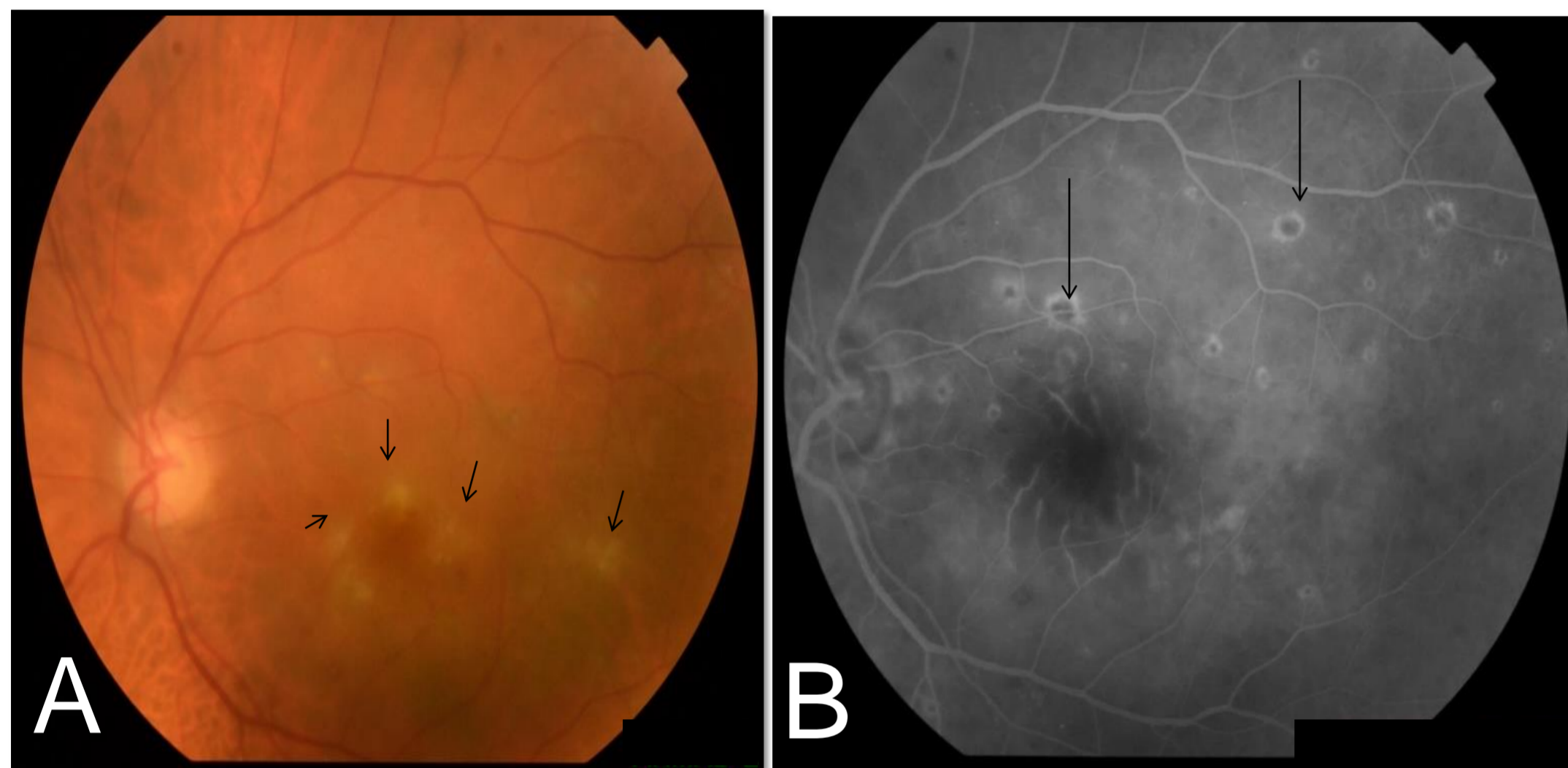
No financial interest to disclose

## **Background:**

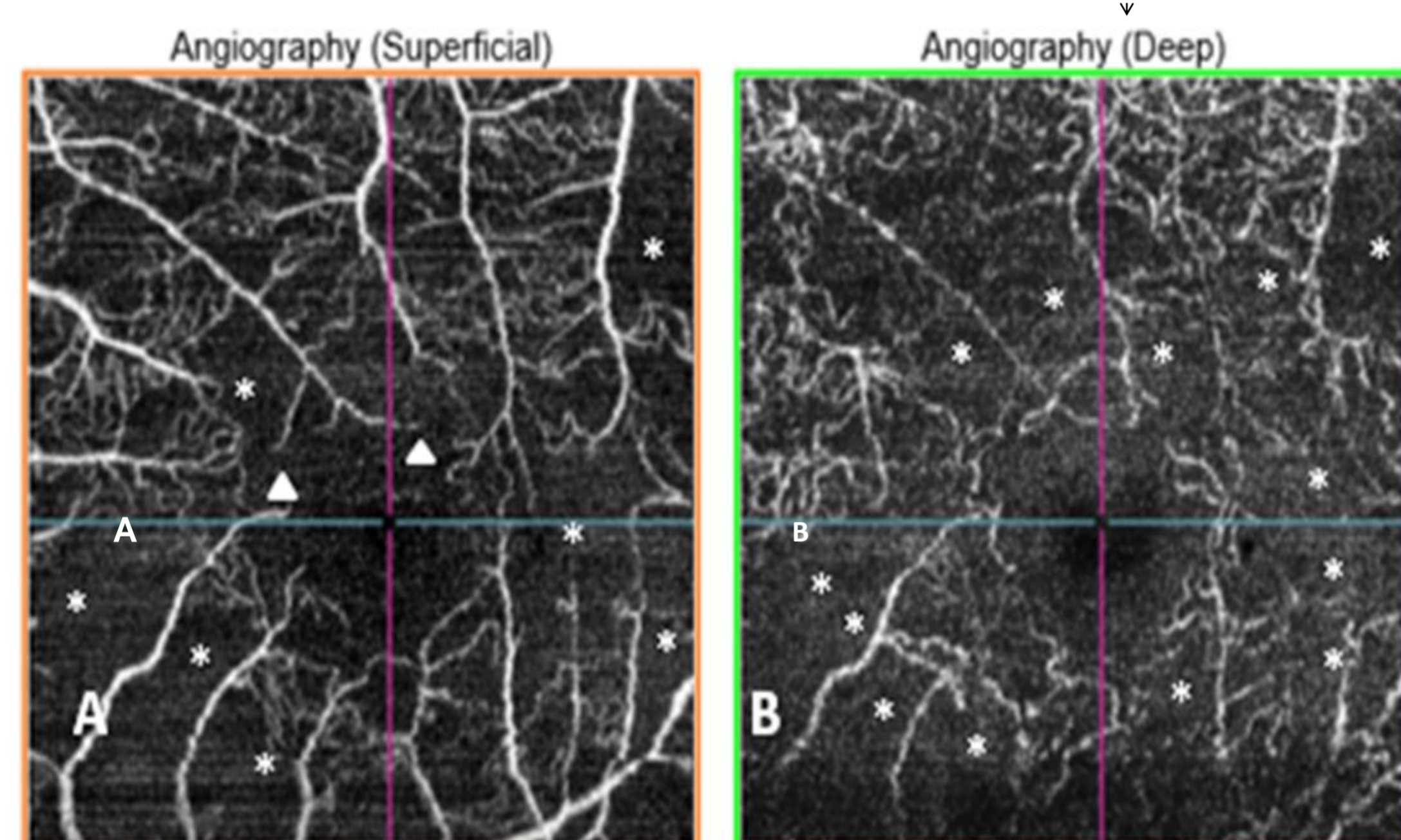
Our purpose was to report swept-source optical coherence tomography angiography (OCTA) findings in a patient with West Nile virus (WNV) chorioretinitis and associated occlusive retinal vasculitis.

## **Case report:**

- A 65-year-old diabetic man with a history of fever of unknown origin two weeks earlier complained of sudden decreased vision in the left eye (LE)
- Best corrected visual acuity was 20/50 in the right eye (RE) and 20/200 in the LE. Slit-lamp examination showed fine keratic precipitates, 1+ cells in the anterior chamber, and 1+ vitreous cells bilaterally.



**Figure 1:** Fundus photograph of the left eye shows patchy areas of ischemic retinal whitening with arteriolar narrowing and sheathing (arrows) (A). Mid-phase fluorescein angiogram of the left eye shows inactive multifocal chorioretinitis with a target-like appearance (arrows) and marked disruption of the perifoveal capillary arcade with enlarged and irregular foveal avascular zone and diffuse staining and leakage of perifoveal arterioles and venules (B).



**Figure 2:** OCT angiograms of the left eye show extensive well-delineated hypointense greyish areas of retinal capillary hypoperfusion (asterisks) and perifoveal capillary arcade disruption (arrowheads) in the superficial capillary plexus (A) and larger greyish areas of capillary hypoperfusion (asterisks), capillary rarefaction, and diffuse capillary network attenuation and disorganization in the deep capillary plexus, with a significant degree of projection artifact from the superficial vascular plexus (B).

## **Comments:**

- Occlusive, retinal vasculitis may occur in the setting of acute WNV chorioretinitis .
- Optical coherence tomography angiography (OCTA) is a new non-invasive imaging modality that has already shown to be clinically useful in evaluating foveal microvascular changes in a wide variety of retinal vascular diseases.
- The inherent advantages of OCT A appear to be the ability to optically dissect and visualize with a high resolution the flow in various layers of the retina.
- This case report illustrates macular vascular changes associated with West Nile virus chorioretinitis. Such changes may explain the mechanism of visual loss in such disease.

## **Conclusions:**

- OCTA may be a valuable tool for assessing non-invasively occlusive retinal vasculitis associated with WNV infection.
- It allows an accurate detection and precise delineation of areas of retinal capillary hypoperfusion in both the superficial and deep capillary plexuses.