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Clinical observations and outcomes of dengue-associated retinopathy at a tertiary eye hospital in Nepal

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Introduction

- Dengue fever is a mosquito-borne viral disease in human caused by four distinct dengue viruses causing a spectrum of ocular symptoms like mild blurring of vision, photophobia, ocular pain, redness, floaters, scotomas.
- The incidence of dengue has grown dramatically, posing significant public health challenges for millions globally, particularly in the South-East Asia and Asia-Pacific regions as identified by the World Health Organization (WHO).¹
- Due to the worldwide spread of dengue virus transmission and the steady rise in dengue outbreaks in recent years, it is essential for every ophthalmologist to be knowledgeable about the different ocular manifestations associated with dengue-related eye disease.

Objective

- To observe ocular manifestations associated with dengue fever and to identify individuals who have underlying dengue after initially exhibiting a range of ocular symptoms.

References

- Asia WHORO for SE. Comprehensive Guideline for Prevention and Control of Dengue and Dengue Haemorrhagic Fever. Revised and Expanded Edition. WHO Regional Office for South-East Asia; 2011. Accessed October 8, 2024. <https://iris.who.int/handle/10665/204894>
- Kularatne S, Gawarammana I, Kumarasiri P. EPIDEMIOLOGY, CLINICAL FEATURES, LABORATORY INVESTIGATIONS AND EARLY DIAGNOSIS OF DENGUE FEVER IN ADULTS: A DESCRIPTIVE STUDY IN SRI LANKA. SOUTHEAST ASIAN J TROP MED PUBLIC Health. 2005;36(3).
- Rijal K, Adhikari B, Ghimire B, et al. Epidemiology of dengue virus infections in Nepal, 2006-2019. Infect Dis Poverty. 2021;10. doi:10.1186/s40249-021-00837-0

Methods

- A retrospective observational case series was conducted at the Tilganga Institute of Ophthalmology
- All cases of dengue fever associated with retinal complications during the outbreak from August to October 2024, with a follow-up period of six weeks were taken.
- Ethical approval was obtained from the Tilganga Institute of Ophthalmology - Institutional Review Committee.
- Informed consent was taken from each patient before examinations.
- The patients underwent examinations such as visual acuity tests, anterior segment evaluations, and retinal examinations.

Result

- Total of 36 patients were included
- 18 (50%) were male and 18 (50%) were female.
- Age of the study patients ranged between 14-76 years of age with the mean \pm SD value of 39.0 ± 17 years.
- 97.2% of the cases, reported a decrease in vision, 25 (71.4%) experienced unilateral vision loss, while 10 (28.6%) exhibited bilateral involvement.
- 26 (72.2%) of them had systemic symptoms in the form of fever.
- Macular edema (15.71) and macular hemorrhage (15.71) along with retinal hemorrhage (11.43) were most commonly present
- Vasocclusive disease like CRVO, CRAO and BRVO were found in 10% of the patients.
- Maculopathy and foveolitis were found in 8.57% and 7.14% respectively.
- Wet age related macular degeneration (AMD), disc edema and acute macular neuroretinopathy (AMNR) were also found in few of the cases.

Conclusion

- The ocular manifestations of dengue-associated eye disease range from vague symptoms to serious, perhaps blinding ocular involvement. Due to the recent increase in dengue outbreaks and the global spread of the dengue virus, all ophthalmologists should be aware of the many ocular signs of dengue-associated eye illness.
- The results emphasize the importance for ophthalmologists to remain alert for ocular symptoms in dengue patients, ensuring early diagnosis with treatment. This will improve patient outcomes and prevent vision loss.

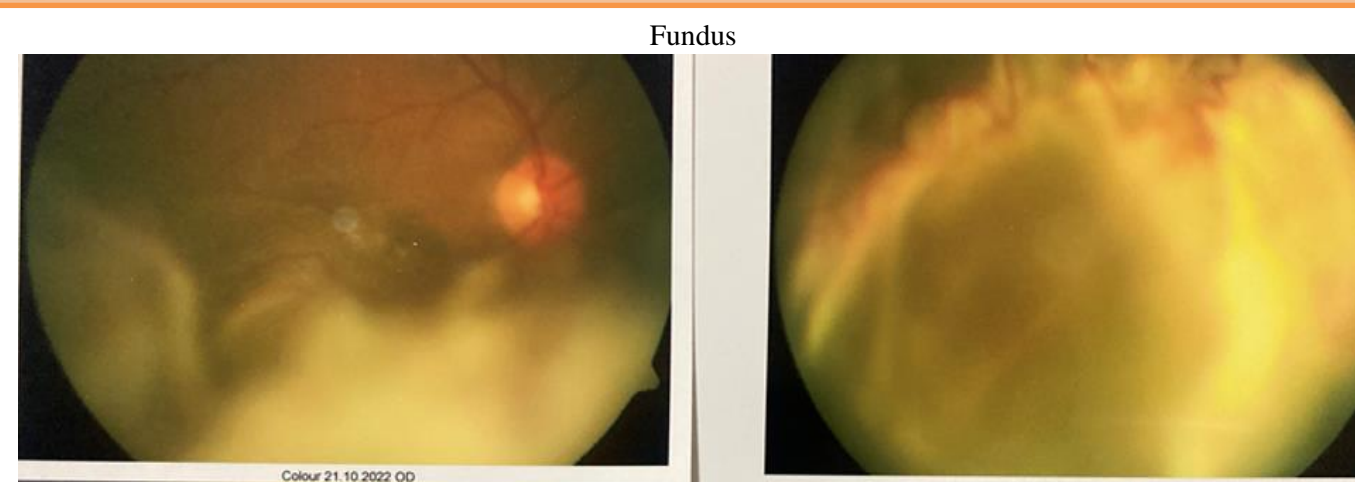


Figure 1: Fundus photo of RE of a 54 years male

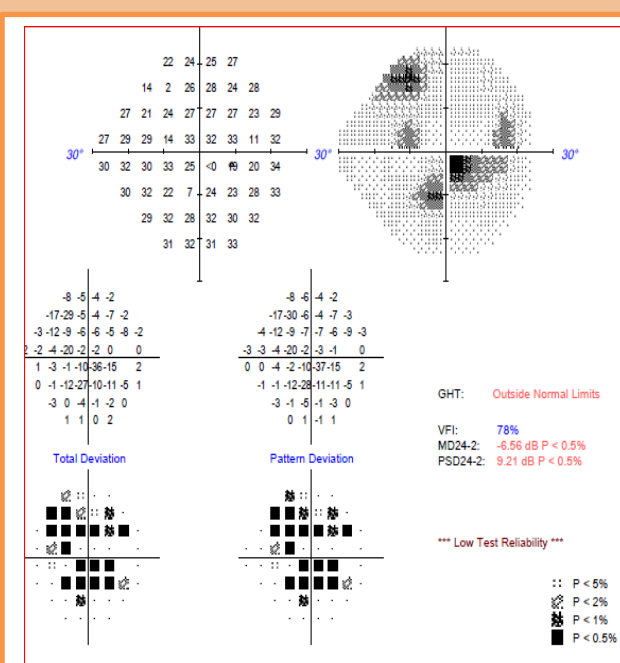


Figure 2: HVF showing central scotoma in 24

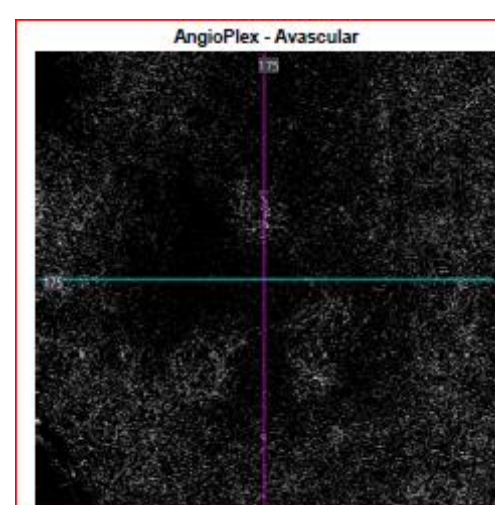


Figure 3: OCT-A of RE of 24/M showing increased FAZ

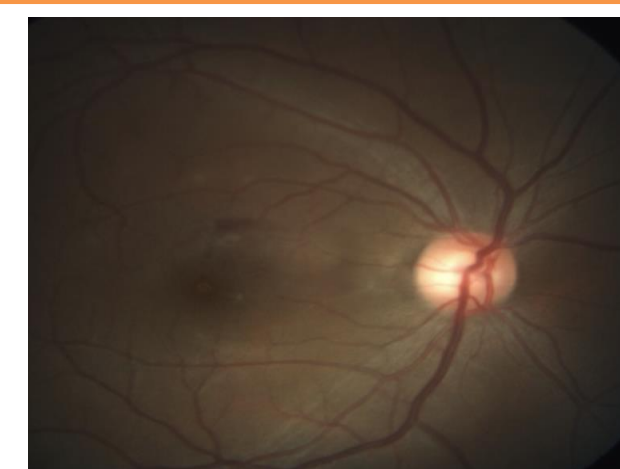


Figure 4: Macular hemorrhage

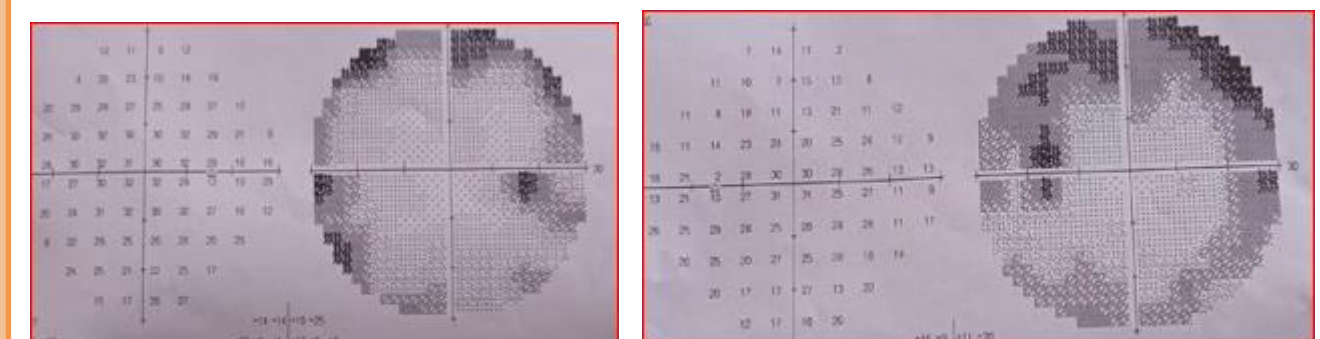


Figure 6: HVF of a 26/M showing peripheral constriction in BE

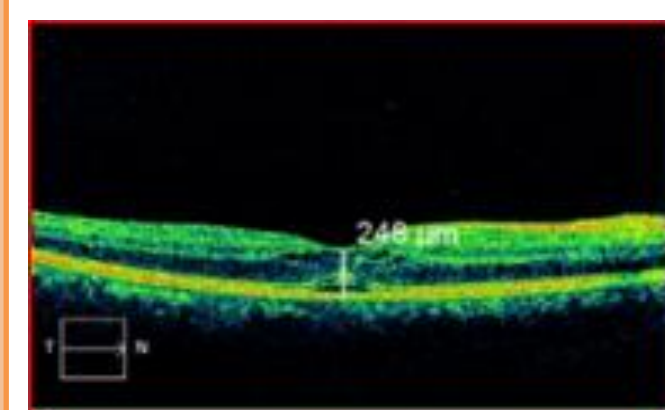


Figure 5: RE macular OCT showing sub-retinal fluid and PED

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Informed consent taken from all the patients.

Conflict of interest: Nil
Financial disclosure: Nil