Commentary: Dengue hemorrhagic fever: Panophthalmitis or sterile sclerocorneal melt?

Ocular involvement in dengue hemorrhagic fever is well-known. The onset of ocular involvement[1,2] seems to coincide with the resolution of fever and the nadir of thrombocytopenia.[3] The most common eye involvement is the decrease of vision due to macular edema and hemorrhage. This case report[4] presents an unusual ocular involvement. The case presented with a clinical picture suggestive of panophthalmitis in a 22-year-old man with serologically positive dengue hemorrhagic fever. Although very rare, similar cases have been reported earlier from India[5] and Sri Lanka.[6] Anecdotal reports of similar cases have been made by several workers in India.

A similar presentation of sterile scleral and corneal melt mimicking panophthalmitis has been seen by us in a 43-year-old male. The patient, a serologically diagnosed dengue hemorrhagic fever, presented to us with the absence of perception of light, proptosis, lid edema, frozen globe, severe ecchymosis, and edematous cornea with large central defect in his left eye. This [Fig. 1a] progressed in 2 days to extrusion of crystalline lens. The magnetic resonance imaging showed orbital inflammation with muscle thickening and increased thickness of optic nerve [Fig. 1b]. The blood culture was negative. Evisceration was performed [Fig. 1c]. There was no pus and minimal bleeding during the surgery. Histopathology showed necrotic and ulcerated tissue fragments with dense inflammatory infiltrate (mainly polymorphs) [Fig. 1d].

Similar to the patient reported here, our case presented at the nadir of platelet counts, showed no growth on culture, and histopathology showed dense acute inflammatory infiltrate of tissues.

The authors postulate the scleral melt as being secondary to scleral ischemia possibly following immune-mediated vasculitis or thrombocytopenia and coagulapathy associated with dengue hemorrhagic fever. This seems the most plausible explanation for the timing and the nature of pathology observed in the authors[4] and in our case.

The case along with other reported cases and anecdotal reports is intriguing. The possible therapeutic role of systemic steroids in these cases needs to be assessed. We need a close look at the possibility of prevention of scleral and corneal melt in cases of dengue hemorrhagic fever by an early diagnosis of ocular and orbital signs at the stage of highest immune activity coinciding with low platelet counts.

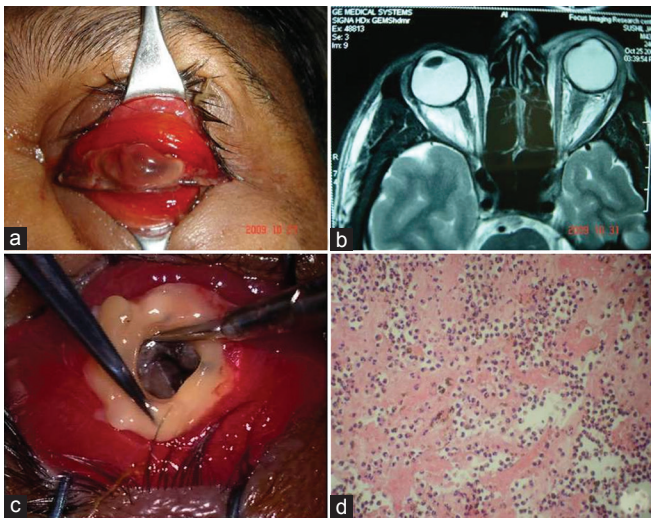

Figure 1: (a) Left eye of the patient at presentation with central full-thickness corneal defect. (b) T2-weighted magnetic resonance imaging showed orbital inflammation with thickening of recti and optic nerve with orbital fat stranding. (c) During left eye evisceration, the central perforation is clearly visible in an edematous and necrotic-looking cornea. (d) (H and E 200×) Dense acute inflammatory infiltrate (mainly polymorphs) was seen, at places forming micro abscesses

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Quick Response Code:

Website: www.ijo.in

DOI: 10.4103/ijo.IJO_1268_19

Cite this article as: Grover AK, Bageja S, Mittal ST. Commentary: Dengue hemorrhagic fever: Panophthalmitis or sterile sclerocorneal melt? Indian J Ophthalmol 2019;67:1777-8.