

Lightning injury of posterior segment of the eye

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Key words: Cystoid macular edema, lightning injuries of eye, lightning maculopathy, macular hole

Case Report

A 40-year-old male was struck by lightning resulting in loss of consciousness. Ten months later, he presented with complaints of metamorphopsia in the left eye. The best-corrected visual acuity was 6/6, N6 in the right eye and 6/7.5, N6 in the left eye. Anterior segment examination was normal. Fundus examination of the left eye revealed a lamellar hole at macula and a group of pigment clumps arranged in a wedge-shaped pattern in the temporal periphery of retina [Fig. 1]. Fundus fluorescein angiogram of the left eye revealed retinal pigment epithelium (RPE)

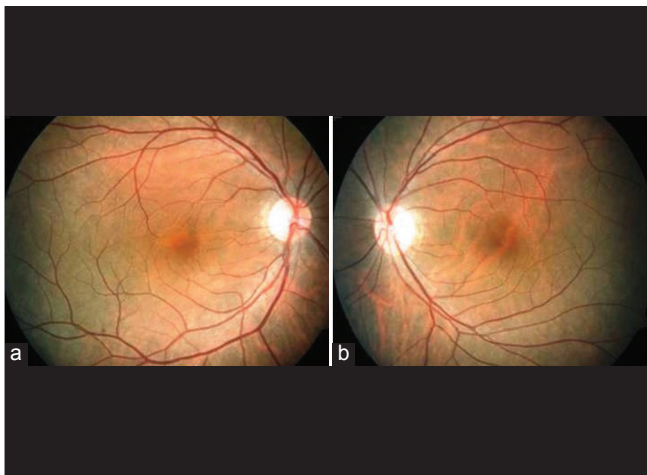


Figure 1: (a) Color fundus picture of the right eye, (b) color fundus picture of the left eye of the same patient with retinal pigment epithelial alterations at fovea after lightning injury

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window defects at fovea and blocked fluorescence in the temporal periphery due to pigments, better seen on red-free photograph [Figs. 2 and 3]. Spectral domain optical coherence tomography (SD-OCT) analysis of the left eye demonstrated a lamellar hole with intraretinal cystic spaces and a defect in the inner segment/outer segment (IS-OS) junction [Fig. 4]. Fundus examination and imaging studies in the right eye were normal.

Discussion

Lightning-induced maculopathy is caused by the heat generated at the level of RPE due to resistance by melanin.^[1] It often manifests as cystoid macular edema and macular hole.^[2,3]

SD-OCT analysis shows loss of foveal photoreceptors and IS-OS junction disruption.^[4] Peripheral pigmentary changes following lightning injury as seen in our patient have also been described in the literature.^[4] Visual prognosis in patients

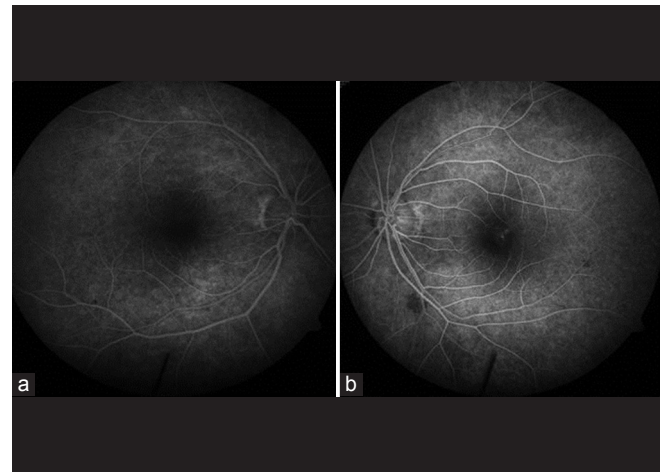


Figure 2: (a) Fundus fluorescein angiogram of the right eye, (b) fundus fluorescein angiography picture of the left eye shows retinal pigment epithelial window defects at macula following lightning injury

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Figure 3: Red-free fundus image of the left eye showing pigment clumps in temporal periphery after lightning injury

with lightning-induced ocular injury depends on the extent of irreversible retinal and macular damage. Therefore, long-term follow-up of these patients is recommended.

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Conflicts of interest

There are no conflicts of interest.

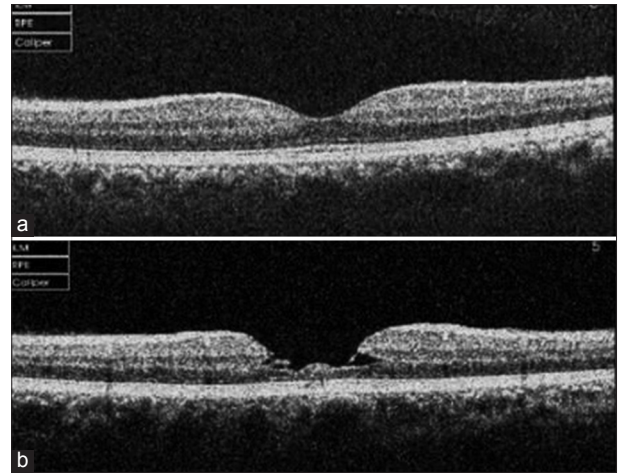


Figure 4: (a) Optical coherence tomography images of macula of the right eye, (b) optical coherence tomography image of the left eye of the same patient with a lamellar macular hole following lightning injury

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