Bilateral Electric Cataract in a 24 Year Old Man: A Case Report

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Introduction: Electrical insults to the human body can result in death or damage to various parts of the human body.[1] High voltage electrical insults can result in several ocular injuries with associated ocular complications.[2-3] It can cause scar formation over the anterior lens capsule and may disturb lens nutrition and metabolism, leading to formation of electric cataracts with resultant significant visual abnormalities.[4] Electric cataracts can progress rapidly but usually occur within a latent period.[5] Globally, electric cataract are not very common. We present a case of bilateral cataract caused high voltage electric current.

Case Report: A 24- year-old male presented with painless progressive diminution of vision in both eyes of two years duration. This followed a high voltage electrical insult he sustained while working on high tension electric transmission cables that left him unconscious for five days. He also sustained full thickness electric burns on the skin covering the left temporo-parieto-occipital bone and the left lower limb. There was no associated history of other causes of cataract such as ocular trauma, ocular disease such as uveitis or systemic disease such as diabetes mellitus.

General physical examination showed no other abnormality except for the scars from the electric burn situated on the left scalp and left lower limb. On ocular examination, the best corrected visual acuity (BCVA) in both eyes was counting fingers at two meters. Slit lamp biomicroscope examination revealed characteristic bilateral anterior subcapsular lens opacities in both eyes. Pupillary reactions to light in both eyes were normal. The fundus in both eye could not be viewed due to obstruction by the cataract. Intraocular pressures (IOP) were 14.5 mmHg in right eye and 15.0 mm Hg in left eye. A diagnosis of bilateral electric cataract was made based on the history of high voltage electric insult, electric shock wounds, no previous history of ocular trauma or systemic disease and characteristic appearance of the lens opacities. Small incision cataract surgery with posterior chamber intraocular lens implantation (+20.5 diopters) was done in the right eye. The left is yet to be done owing to cost. First day postoperatively, the visual acuity was 6/36. Four weeks later, it improved to 6/9. However, BCVA was to 6/5.

Fig. 1: Picture of electric cataract in the left eye

Fig. 2: Electric burn scar on the scalp

Fig. 3: Electric burn scar on left lower limb

Discussion: High voltage electric burns can cause various ocular injuries and may manifest in the form of conjunctival hyperemia, corneal opacities, uveitis, miosis, spasm of accommodation, cataract, retinal edema, papilledema, chorio-retinal necrosis/atrophy, retinal detachment and optic atrophy.1 Choroidal rupture, optic neuritis and retinal detachment may also be seen in addition to macular edema which may progress to macular cysts or holes.2,6 Most cases of electric cataracts respond well to cataract surgery, however the final visual outcome which is usually excellent ultimately depends on presence or absence of any other ocular injury caused by the high voltage electric shock.4 There is need for increased awareness for screening of all individuals with electric shock insults for possible ocular complications of which electric cataract is one.

References

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