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Case Report

A case of electric cataract

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Introduction

Electrical insults to the human body range from death to damage to various parts of the body. It can result in a wide range of ocular injuries with resultant ocular complications.^{1–3} Of these, electrical cataract can occur after a latent period and then can progress with startling rapidity.⁴ However proper surgical management can result in good and stable visual acuity as is seen in this case. The need for awareness of the possibility of this complication and screening of all cases of electrical injuries is stressed. The majority of cases respond well to surgery, but final visual acuity will depend on the other ocular damage due to electrical current. Electric cataracts are uncommon. We report a case of cataract caused by electric current.

Case report

A 19-year-old male patient reported to eye department after 1 year of electric injury due to direct contact of high-tension wire falling on his head with the complaints of progressive diminution of vision in both eyes. On examination, there was a deep coronal scar on the scalp and on both soles. The best corrected visual acuity was 6/18 in the right eye and 6/24 in the left eye. Slit lamp examination showed anterior subcapsular cataract in both eyes. Rest of the ocular examination was within normal limits in both eyes.

Phacoemulsification with foldable hydrophobic PCIOL implantation in the capsular bag was done under peribulbar anesthesia in left eye. Intraoperatively the anterior chamber was shallow probably due to intumescence of the lens and low scleral rigidity being a young patient. The anterior capsule was very elastic and capsulorrhexis was completed with Utrattas forceps. Postoperatively the recovery was uneventful. He regained uncorrected visual acuity of 6/6, N18 in left eye. However, right eye now shows signs of progression of the anterior subcapsular cataract. Vision had come down to Perception of Light (PL) with accurate Projection of Rays (PR) over a period of 4 weeks.

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. Choroidal rupture, optic

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neuritis and retinal detachment may also be seen. Macular edema may progress to macular cysts or holes.^{1–3,5,6}

The cataract is believed to be due to coagulation of lens proteins and the osmotic changes following damage to the subcapsular epithelium usually develops 1–12 months after the electric shock.⁷ Opacities form in the capsule and in the anterior subcapsular cortex. Posterior cortex may also be affected. The progression of the cataract varies from case to case. It may remain stationary for a long time or progress slowly over a period of 6 months to become mature or hypermature cataract. Rarely may it cause phacomorphic glaucoma.⁴ Electric burns can sometimes be noticed as a sharply defined mark at the point of contact. The amount and rapidity of changes in the lens seem to bear no relation to the strength of the current.⁸ The lens in younger patients is more liable to damage than that of old age.⁹

In most cases developing cataract, the electric current has passed through the head near the eye. The present day cataract surgery of phacoemulsification followed by foldable in the bag implantation of posterior chamber intraocular lens resulted in stable and good visual acuity in this case. Thus, proper surgical management of electric cataract will result in a good visual rehabilitation if the eye has no additional damage as in this case.

Conflicts of interest

All authors have none to declare.

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