



## A Rare Case of Bilateral Total Cataract Secondary to High Voltage Electric Shock

*Dr. Mahfooz Alam<sup>a\*</sup>, Dr. Ahmad Abdullah<sup>b</sup>*

<sup>a</sup> Senior Resident, F.H.M.C., Etmadpur, Agra, Uttar Pradesh, India

<sup>b</sup> Assistant Professor, Institute of ophthalmology, AMU, Aligarh, Uttar Pradesh, India

### ABSTRACT

Electric shock can cause various types of injuries to the human body. Though uncommon, it can also cause various ocular injuries, that may lead to different complications. Lenticular opacity is one of the most common complications of electric shock injury. Electric cataract can occur after a latent period and then progress rapidly. Direct coagulation of lens proteins and ciliary muscle contraction is the two most common mechanism through which cataracts starts to develop. The clinical outcome of electrical injury is influenced by multiple factors including voltage, tissue sensitivity, type of current, length of contact, place and area of contact, and route travelled in the body. Here we are presenting a case of total cataract and posterior subcapsular cataract in a 20year old male patient who presented with complaints of gradual painless progressive diminution of vision both eyes following survival of extensive high voltage electric shock burn. The best corrected visual acuity was 6/60 in le and 6/9 in re. Diagnosis of total cataract in the left eye and posterior subcapsular cataract in the right eye was made on slit lamp bio microscopy. Rest other ocular examinations were within normal limit. The b scan and oct was also normal. On general examination extensive burn scars were present over left side of scalp, neck, chest, upper and lower limb. There were no systemic abnormalities. The patient was planned for phacoemulsification with posterior capsular intra ocular lens implantation and underwent an uneventful surgery. On post operative day one examination eye was quiet and clean, the visual acuity recorded was unaided 6/6. The patient was followed for 6 months without having any visual complaints.

Keywords: Cataract, Electric shock, Phacoemulsification

### Introduction

Electric shock can cause various types of injuries to the human body. Though uncommon, it can also cause various ocular injuries, that may lead to different complications. Lenticular opacity is one of the most common complication of electric shock injury. Electric cataract can occur after a latent period and then progress rapidly (1-3). During an electric shock, the current flows through the body between two contact points, cataract usually develop when one of the end is head. Direct coagulation of lens proteins and ciliary muscle contraction is the two most common mechanism through which cataracts starts to develop. The clinical outcome of electrical injury is influenced by multiple factors including voltage, tissue sensitivity, type of current, length of contact, place and area of contact, and route traveled in the body. High voltage electric burns can cause different ocular injuries like conjunctival hyperemia, corneal opacities, uveitis, miosis, spasm of accommodation, cataract, retinal edema, papilledema, chorio-retinal necrosis/atrophy, retinal detachment and optic atrophy. (3-5)

### Case Report:

An 18 year old male presented to eye OPD with complaints of insidious onset painless and progressive diminution of vision both eyes following an electric shock injury around 14 months back. The best corrected visual acuity in the right eye was 6/9 and in the left eye it was 6/36. on the slit lamp examination he was having total cataract in the left eye and posterior subcapsular cataract in the right eye seen. Rest other ocular examination was within normal limit. B scan and oct was done to rule out any posterior segment pathology which was normal. Apart from injury to the eye patient was having extensive burn scars were present over scalp, neck, chest, upper limb and lower limb. Systemic examination was within normal limit.

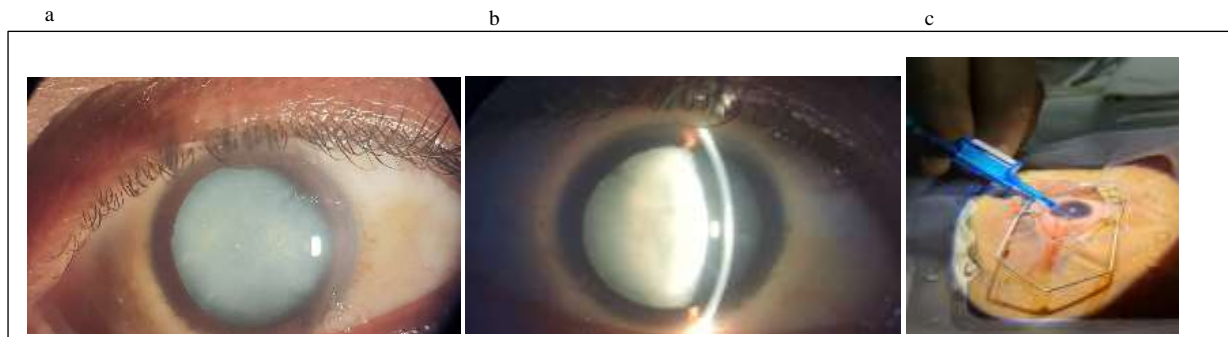
### Result:

On the basis of clinical examination and supportive investigations patient was diagnosed as a case of total cataract in left eye and posterior subcapsular cataract in right eye and so he was planned for phacoemulsification with PCIOL implantation in the left eye. The surgery was done successfully and was uneventful. The post operative day 1 vision was 6/6 with plain glasses. No visual complaints developed over the period of three months follow up.

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**Conclusion:**

Cataract development following electric shock is not uncommon but isolated involvement of lenticular opacity sparing all other ocular structures despite involving the severe extensive burn over other parts of the body is rare entity. Early diagnosis and proper treatment has very good prognosis. Poor compliance and negligence may lead to various complications and poor visual outcomes.



**Fig. 1 - (a) diffuse light view total cataract; (b) slit view showing radial spokes; (c)IOL implantation using implanter**

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