



Case Report

Management of Corneal Oedema in Giant Squirrel

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ABSTRACT

A Giant squirrel was presented at Animal Rescue and Rehabilitation Centre Katraj, Pune with a complaint of corneal opacity. Clinical examination, corneal opacity, redness, pain, lacrimation and photophobia was seen, the animal was treated with Ciprofloxacin eye drop and Prednisolone eye drop four times in a day but no improvement was shown by animal, further were shifted with Tobramycin eye drop and prednisolone eye drop. Animal showed improvement on 3rd day of treatment and completely recovered on 8th day with disappearance of all clinical signs.

Key words: Corneal opacity, Giant squirrel, Treatment

INTRODUCTION

Indian Giant squirrel is a large tree squirrel species of genus *Ratufa* native to India. It is a diurnal, arboreal and herbivorous squirrel found in south Asia (Datta and Goyal, 1996). It is also called as *Shekaru* in marathi and is a state animal of Maharashtra state.

Cornea is the transparent convex anterior portion of the outer layer of eyeball, which covers the iris and pupil. It forms anterior one sixth of outer layer and continues with sclera. Cornea is formed by five layers i.e. layer of stratified epithelium, anterior elastic lamina, substantial proper, posterior elastic lamina and layer of endothelial cells (Sembulingam and Sembulingam, 2013).

The endothelium of the cornea acts continually to pump excess water across and into the aqueous humour, and preventing corneal the associated translucency of the cornea seen when there is endothelial damage or dysfunction which may lead to corneal oedema and then ulceration (David, 2014).

Morales conducted study on microbiological and clinical aspects of corneal ulcers in dogs found Gram positive and Gram negative organism live *Pseudomonas*, *Staphylococcus*, *Streptococcus*, *Corynebacterium* sp, *Pseudomonas aeruginosa*, etc, (Morales *et al.*, 2009) this study may help in suspecting organism for non-traumatic corneal oedema in other species also.

History and treatment

A Giant squirrel was presented at Animal Rescue and Rehabilitation Centre Katraj, Pune with complaint of

partial blindness. Clinical examination revealed that animal was having, corneal opacity, redness, pain, lacrimation and photophobia, ocular pain in left eye (Fig. 1, 2).

Animal was kept under observation and treatment was initiated with Ciprofloxacin eye drop and Prednisolone eye drop four times in a day. After Four days of treatment animal doesn't showed any improvement. Further, antibiotic eye drop was shifted to Tobramycin eye drop and applied along with prednisolone eye drop. A Tobramycin eye drop was applied three times a day and prednisolone two times a day.

RESULTS AND DISCUSSION

Improvement was observed on third day (Fig 3, 4) therefore, treatment was continued for further seven days. Animal was completely recovered on 8th day of above treatment (Fig 5, 6). Further, animal was kept under observation for 15 days with proper feeding and multivitamin supplementation.

Corneal opacification is relatively common in rodents. Some workers consider them heritable (Rubin, 1986) while others suggest the lesions are sequelae to excess ammonia in the cage bedding which causes irritation in eyes and scratching injuries (Van Winkle and Balk, 1986). In the present case corneal opacity and was observed in giant squirrel. During the observation animal showed scratching symptoms therefore, present corneal opacification might be due to irritation to eyes.

The present case was treated with local steroidal anti-inflammatory eye drop (Prednisolone eye drop) to reduce



Fig. 1: Cornea opacity with redness and pain



Fig. 2: lacrimation and photophobia

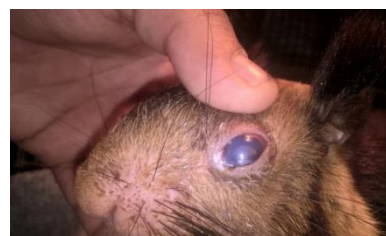


Fig. 3: improvement after third day of treatment

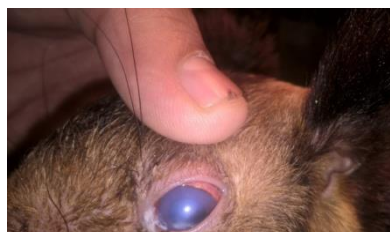


Fig. 4: Improvement after third day of treatment



Fig. 5: Improvement after eight days of treatment



Fig. 6: Improvement after eight days of treatment

the local inflammatory reaction. Prednisolone is a glucocorticoid having anti-inflammatory, immuno-suppressive and anti-fibrotic effects (Ramsey 2008)

In the present case animal was treated with local application of ciprofloxacin eye drop to reduce the secondary bacterial infection but after three days of treatment animal doesn't showed any improvement antibiotic was shifted to tobramycin eye drop. Tobramycin belongs to class aminoglycoside antibiotics that inhibits the growth of bacteria by inhibiting protein synthesis, it is highly water soluble and poorly lipid soluble. (Plumlee, 2004).

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