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Management of Corneal Opacity in a Goat: A Case Report

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Abstract: ***A case of 2 year old goat with the history of cloudy eyes, lacrimation and loss of vision was presented. Detailed clinical examination revealed complete corneal opacity of both the eyes. The case was successfully treated by administration of sub-conjunctival injection of a mixture of 0.5ml Ceftriaxone and 0.5ml prednisolone. Regular washing of the eyes with normal saline followed by application of topical antibiotic was advised for 1 week. On 10th day after the injection and topical application, there was complete recovery with clear and transparent cornea.***

Keywords: Management, Corneal opacity, Goat, sub-conjuctival, prednisolone

1. Introduction

The cornea is the most powerful optical refractory surface of the eye. Being a transparent structure with appropriate curvature and position in front of the globe, it provides a straight path for the light to enter the eyes to reach the retina. Corneal transparency is maintained by numerous specialized anatomic and physiologic feature of the eye. Any factor that alters these specialized features like senility, UV radiations, corneal edema, injury, vitamin A deficiency, diabetes, infectious diseases, increased intraocular pressure, genetics etc. can lead to loss of transparency [1,2]. The causes of corneal opacity includes edema, inflammatory cell infiltration, lipid or mineral deposition,fibrosis, melanosis, vascularization [4].Symptoms of corneal opacity depends on the inflammatory response due to the particular cause, which includes redness and swelling of the ocular tissues and eyelid, lacrimation, blurred vision, irritation, sensitivity to light, blepharospasms and lacrimation. Most importantly, the cornea turns milky or cloudy or "ground glass" appearance [3].If untreated, the condition can lead to permanent loss of vision and thereby the loss of the animal [1,2]. This case report aims to highlight the therapeutic management of bilateral corneal opacity in a goat.

2. Case history and Clinical Observation

A 2 years old male goat with a history of lacrimation from both the eyes and loss of vision was presented at Baksa district of Assam. Vaccination and deworming was unknown.

On clinical examination, it was found that both the cornea had a cloudy appearance with profuse lacrimation and absence of any ulcers. The animal did not have any vision. Other parameters such as temperature, pulse etc. were within the normal range. Based on the clinical signs the case was diagnosed to be bilateral corneal opacity.

3. Treatment and Discussion

The case was managed by injecting a mixture of 0.5ml antibiotic (IntacefTazo, Intas) and 0.5ml corticosteroid (Predinosolone, Vetoquinol) by sub-conjunctival route. Topical antibiotic eyedrops (Ciplox-D, Cipla)was instilled on both the eyes for 5 days after regular washing with normal saline .

The aim of the treatment was to restore the vision, clearing of the cornea and stop lacrimation.Corticosteroids limit corneal opacification by inhibitingfibroplasia, decreasing vascularization, and reducing melanosis. These steroids also control anterior uveitis that frequently accompanies corneal wounds and cause potential blinding. However, on the other hands, these steroids can facilitate wound healing by inhibiting epithelial regeneration, corneal infiltration with inflammatory cells, fibroblastic activity and endothelial regeneration. It reduces the strength of resulting wounds as it potentiates collagenase enzyme activity and enhances the risk of infection[2].

Topical steroids often are required to controlopacities, but they are contraindicated for corneal ulcers because steroids slow healing, and predispose to infection[4]. According to [5], corneal opacities can also be successfully treated by the use of autohaemotherapy as the benefits of this treatment include avoidance of use of any other drugs and associated cause and moreover the therapy stimulates the host immune system.

4. Conclusion

Corneal opacities can be successfully managed by admistration of antibiotics and steroids either by sub-conjuctival or topical application. If corneal ulcers are present alongwith corneal opacity, it should be treated with antibiotics without steroids. Only after the ulcer is healed, steroids can be applied topically to remove the cloudiness of the cornea.

Figure 1: Cloudy appearance of cornea

Figure 2: Clear and transparent cornea after 10th day post-treatment.

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