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Therapeutic management of corneal opacity in breeding bull: A case report

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Abstract
A Eleven year's old Jersey crossbred bull maintained at BAIF Frozen Semen Station, Urulikanchan, Pune. He was showing signs like redness, lacrimation, cloudiness, of the cornea along with opacity of right eye. On the basis of signs the case was diagnosed as corneal opacity and the bull was successfully treated with Gentamycine 0.5ml & Prednisolone 0.5 ml by subconjunctival route along with inj. Vitamin AD3, 10ml, inj. Flumixine @ 1.1mg/kg b.wt. Every day for 5 day & daily washing of eye with normal saline with topical application of antibiotic (eye drop) two times for 7 days, on 15th day of treatment there was complete recovery with clear & transparent cornea.

Keywords: Corneal opacity, breeding bull, management, gentamycine, prednisolone

Introduction
The cornea is outer clear and transparent membrane in front of the eyes. The cornea is protected by a layer of tears and by continuously replacing its superficial cells. It lacks blood vessels and so does not heal easily. Cornea having the transparent membrane through, which light enters the eye. Corneal transparency is maintained by specialized autonomic and physiological characters of eye (Gunjit Das & Pubaleem Deka). Loss of transparency of cornea may be due advancing age, atopic dermatitis, exposure to ultraviolet light, genetics, diabetes, increased intra ocular pressure, vitamin A deficiency, infection etc. are thought to be associated with this pathological condition of eyes (Ahmed N & Doley S 2016) [1]. However beside those, trauma and vitamin A deficiency are considered to be the main cause of corneal opacity in case of cattle. Opacity can be white, red or even pigmented based on the nature of etiology but most common opacity is white or cloudy in appearance (Carola R *et al*., 1990) [2]. Opacity of cornea may lead to temporary or permanent loss of vision if not treated. This case report is aim to focus the therapeutic management of corneal opacity in breeding bull.

History and Clinical Observations
A 11years old Jersey crossbred (50%) bull was at BAIF frozen semen station, CRS, Urulikanchan with the history of lacrimation, redness, cloudiness along with corneal opacity of right the eye with unknown etiology. All clinical parameters like Heartbeat, Body temp, feed intake respiration rate, pulse etc. were within the normal range.
The clinical examination revealed total blindness of the right eye. On the basis of clinical sings the case was diagnosed as unilateral corneal opacity.

Treatment
The present case was treated with mixture of 0.5 ml Gentamycin and 0.5 ml Prednisolone by sub-conjunctival route with hypodermic syringe for two doses with 7 days interval. Topical antibiotic, steroid after eye wash with normal saline for 7 days and as a supportive treatment, VitaminAD3 injection weekly interval by intramuscular route (3 doses), inj. Flumixine @ 1.1mg/kg b.wt. Every day for 5 day.

Result and Discussion
On 15th day of treatment there was complete recovery showing complete clear and transparent cornea with pink mucus membrane, absence of lacrimation & clear vision.

The purpose of treatment is to normalize the vision, reduce inflammation and lacrimation. Corticosteroids reduce corneal opacification by inhibiting fibroplasia, decreasing vascularization, and reducing melanosis. These steroids also control anterior uveitis that frequently accompanies corneal wounds and cause potential blinding (Gunjit Das & Pubaleem Deka).

Topical steroids often are required to control opacities, but they are contraindicated for corneal ulcers because steroids slow healing, and predispose to infection so that correct diagnosis is most important (Ann R. strom *et al*., 2015) [3]. If corneal ulcers are present along with corneal opacity, it should be treated with antibiotics without any steroids. Only after the ulcer is healed, steroids can be applied topically to remove the cloudiness of the cornea (Gunjit Das & Pubaleem Deka).

Corneal opacity may also be treated by Autohaemotherapy, which stimulate the immunity of animal and also reduce the cost of treatment and adverse effect of Drug (Atulym *et al*., 2011) [4].

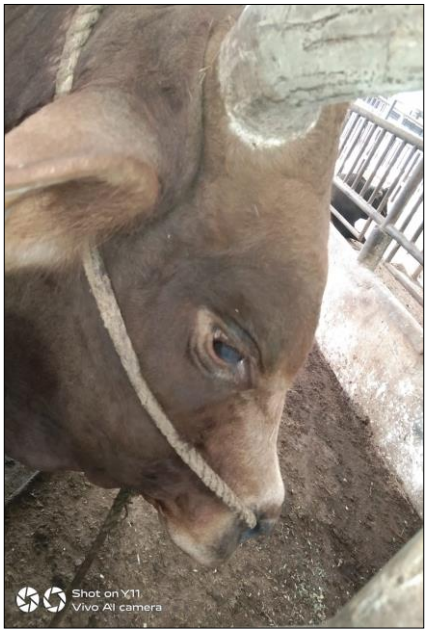

Fig 1: Cloudy appearance of Cornea

Fig 2: Clear and Transparent cornea after 15 days of treatment

Conclusion

Corneal opacities can be successfully treated by administration of antibiotics and steroids either by subconjunctival topical application. If not diagnosed earlier then it may lead to permanent loss of vision. In the present case, the bull was completely recovered with normal vision.

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