INFECTIOUS BOVINE KERATOCONJUNCTIVITIS IN A BUFFALO CALF

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ABSTRACT

A male, 3 years old nondescript buffalo calf was presented with the complaint of epiphora, blepherospasm, pigmentation and impaired vision of the affected left eye. Clinical findings was similar as history with inflammatory signs on cornea and conjunctiva. Microscopic examination confirmed that the animal was affected with *Staphylococcus areus*. Based on history, clinical findings and microscopic examination the condition was diagnosed as *Staphylococcus areus* infected keratoconjunctivitis. For perfect treatment, antibiotic sensitivity test was performed and Gentamicin found more effective against infection. The animal was treated topically with combination of Gentamicin and Dexamethasone eye drop 4 drop on affected eye. Parentrally, Inj. Oxytetracycline 10 mg/kg body weight and combination of Vitamin A, D, E as a supportive drug given intramuscularly. Animal was completely recovered on ninth day of follow up period.

Keywords: *Bubalus bubalis*, buffaloes, infectious keratoconjunctivitis, cornea, conjunctiva, buffalo calf

INTRODUCTION

Affections of the eye constitute an important part of small and companion animal practice. It is a very sensitive organ, the function of which may be affected even with mild insult to its homeostasis, due to direct injury or due to other local or systemic diseases (Scountzou, 2003). There is a great deal of interest in hereditary eye disease and its prevention by veterinarians and breeders because inherited eye disorders are much more common in the dog than any of the other domestic species (Slatter, 1990). Cornea and lens conditions are the most important, since diseases of these structures directly affect vision (Gelatt and Mackay, 1998). Prevalence study of ocular diseases help to limit diagnostic possibilities and treatment options (Andrade *et al*., 2005). Ocular problems in domestic animals are more common because of the lack of awareness among the farmers and clinicians, the ocular problems in domestic animals are not easy to diagnose with the naked eyes (Tamilmahan *et al.*, 2013). The ocular problems lead to loss of performance and economies of farm animals. Inflammation of cornea and conjunctiva caused by microorganism infection leads to development of Infectious keratoconjunctivitis. It is a highly contagious ocular infection affecting

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domestic and wild ruminants. The condition is caused by various bacteria and is characterized by epiphora, conjunctival inflammation, pigmental areas on the cornea, photophobia, blepherospasm and corneal ulcerations (Thakur *et al.*, 1996; Busch and Belton, 1988; Mishra *et al.*, 1995; Rajesh *et al*., 2009). The present report describes the clinical case of Infectious keratoconjunctivitis in a buffalo calf and their successful therapeutic management.

MATERIALS AND METHODS

History

A 3 years old male crossbred buffalo calf was observed during the visit at farm with the history of impairment of vision, excessive tear flow, continuous blinking of affected left eye and rubbing of affected eye on hard surface.

Clinical examination

Ocular examination after proper restraint of animal showed epiphora, blepherospasm, pigmentation of cornea (Figure 1), redness of conjunctiva, impaired vision and rubbing of affected eye on hard surface due to irritation. Further anamnesis about previous medication found that the treatment was done by paravet without any fruitful results. The owner unable to said about the treatment protocol.

According to the response of the previous treatment and condition of the patient, it was decided to go for bacteriological examination and antibiotic sensitivity test to know the suitable antibiotic for this condition and also reduce the cost of treatment.

MICROBIOLOGICAL EXAMINATION

Sample collection

After restraining of the animal the sample was taken from the cornea and conjunctiva regions with the sterile microbiological swab as impression smear. The collected samples were sent for the bacteriological examination and antibiotic sensitivity test. Collected smear was stained with Gram staining.

Antibiotic sensitivity test (ABST)

Antibiotic sensitivity test (ABST) performed with the help of antibiotic discs using Erythromycin, Gentamicin, Chloramphenicol, Kanamycin, Streptomycin and Tetracycline.

RESULTS AND DISCUSSION

On microscopically examination and morphological findings showed Gram positive bacteria which confirmed as *Staphylococcus areus.* The maximum zone of inhibition indicated by the Gentamicin followed by Tetracycline as the result of antibiotic sensitivity test (ABST) and this finding provided guidelines for the further treatment of the affected animal. According to examination and antibiotic sensitivity test, it was decided to treat the animal by the help of combination of antibiotics along with supportive therapy. The treatment was initiated by cutting of eyelashes to reduce the irritation. Affected eye flushed with of the 4% Boric acid. Topically instillation of eye drop Gentacort-D (0.3%/0.1%, Laborate Pharmaceutical India Ltd.) 4 drop in affected eye and parentally Inj Oxytetracycline 10 mg/kg body weight given to combat the infection. Inj. Intavita (Intas Pharmaceutical Ltd.) 10 ml intramuscularly

Figure 1. Showing the typical pigmentation of cornea.

was given for 5 days to stimulate faster healing and regeneration of the tissues. Owner was also advised to continue the eye drops for 4 more days. Animal showed uneventful recovery on ninth post treatment days.

Similar finding were also observed by many researchers in different species like Rajesh *et al*. (2009) in buffalo, Busch and Belton (1988) in goats, Fahmy *et al.* (2003) in camels and Mishra *et al.* (1995) in cattle. In present case, bacteriological examination showed that the *Staphylococcus areus* was causative agent for the eye and cause this condition of kerato conjunctivitis. Egwu *et al.* (1989); Akerstedt and Hofshagem (2004) observed that the *Staphylococcus* sp. cause ovine infectious keratitis whereas Scham and Mohammed (1995) stated that the infectious keratoconjunctivitis in calves caused by *Staphylococcus* sp. and *E. coli* organisms. Sometime there was no positive response due to lack of knowledge about case, improper history and diagnostic facility. Like in this case, the bacteriological test and antibiotic sensitivity test can be used as a very useful tool for the diagnosis as well as perfect treatment. As antibiotic sensitivity test facilitate the perfect antibiotic against the specific organism so, we can prevent the health status of animal and control the cost of treatment. Long term negligency cause degenerative changes of the tissue and for the regeneration, supportive treatment was required. Similarly in present study vitamin A, D, E combination used as a supportive therapy with tremendous result. Finally, it was concluded that the antibiotic sensitivity test and supportive therapy was a boon for in this type of cases.

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