Infectious bovine keratoconjunctivitis and its successful therapeutic management a case report

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Abstract
The present study describes the infectious bovine keratoconjunctivitis in a four-month-old 100 kg weighing HF cross calf having the clinical sign of anorexia, excessive production of tears and following overflow of tears onto the face. The calf was administered with oxytetracycline LA (10 mg/kg body weight) once in 3 days alternate basis for 3 weeks. Ciprofloxacin eye drops @ 10 drops thrice a day at regular basis for 3 weeks, subconjunctival dexamethasone 0.2 ml alternative day and vitamin supplements was given 5 ml intramuscularly and following this treatment the lesion was gradually subsided.

Keywords: Holstien Freisian (HF), Infectious bovine keratoconjunctivitis (IBK), (IM) Intramuscular, (SC) Subcutaneous

Introduction
Infectious bovine keratoconjunctivitis (IBK) is one of the most common diseases of cattle mostly caused by gram negative bacterium known as Moraxella bovis (Barnet et al., 1952) [3] and occasionally by Morexella bovisculi (Angelos et al., 2007) [3]. Susceptibility for pinkeye varies between breeds, even though most susceptible breeds are Herefords, Jerseys and Friesian (Wilcox, 1968, Webber and Selby, 1981, Snowden et al., 2005) [16, 14]. Other reasons are young animals (Hughes et al., 1970) [5], or ultraviolet (UV) light (sunlight) exposure, high fly population, nutritional deficiencies (Vitamin A, Copper and Selenium), animals with poor host immune system due to Infectious Bovine Rhinotracheitis (IBR) virus, harsh climate, eye irritation or injury during grazing ury to the eye (Baptista et al., 2006; Funk et al., 2009) [10, 8]. Effective control of pink eye disease can be done by use of a specific antimicrobial therapy along with proper, management approach including commercial and autogenous vaccines. The present report puts on record a case of IBK in a HF cross dairy calf and its successful therapeutic management by selective antimicrobial therapy in an organised dairy farm.

Case report
A 4 months old HF cross calf (weighing 100kg) was presented with the clinical sign of anorexia, tearing, overflow of tears onto the face, rapid blinking and squinting shade. Anamnesis revealed that herd was neither vaccinated against IBK nor against BHV-1, and annually large number of animal usually presented with the similar symptoms of clinical IBK case. Animals are maintained congested place and this is helping to flare up the disease among calfs. Animals are maintained with calf starter (mixed with ground corn grain, soy bean pellet, wheat bran, dicalcic phosphate, sodium chloride and a vitamin-mineral supplement) which are spread on the floor. On close examination of eye revealed that the eye was become cloudy or swelling and redness of the tissues suggestive of IBK (fig 1) Oxytetracycline (long acting) intramuscular injection (@ 10 mg/kg body weight) as given 10 ml intramuscularly 3 days alternatively for 3 weeks along with vitamin supplement 5 ml intramuscularly (Pepcid C®)
once in a week, topical application of ciprofloxacin eyedrop 10 drops thrice daily was given. For 10 days and sub conjunctival dexamethasone 0.2 ml given in alternate day. Gradually the lesion subsided and the calf returned to normal condition. (fig 2)

Result and discussion
Systemic antimicrobial therapy has been recommended as to target M bovis located within lacrimal glands and nasal passages. Drugs administered systemically may enter the eye via the tear film or through the perilimbal or intraocular circulation. Generally, lipophilic drugs achieve higher intracorneal and intraocular concentrations and are more effective at penetrating the blood: tear barrier than hydrophilic drugs (Slatter et al 1982.) [11, 12] Elimination of M bovis in calves with IBK has been demonstrated following parenteral treatment with oxytetracycline (Smith et al 1985 and Starke et al, 2007) [13, 15].

Topical administration of antimicrobial formulations has been recommended as a potentially cost-effective and less labour intensive method for treatment of IBK. (George et al 1990) [7]. Topical ointments can achieve an increased ‘contact’ time due to increased viscosity and sustained release of drug from small droplets that settle into the inferior cul-de-sac after application. as it is a gram negative organism the selective antimicrobial therapy was ciprofloxacin.

Subconjunctival administration of antimicrobials (Kibar et al 2006) [9] aims to reduce treatment costs and total dosages of drug while achieving higher ocular drug concentrations (George et al 1990) [7]. Subconjunctival injections probably lead to some direct diffusion across the sclera and choroid; alternatively, the drug may gradually leak from the injection site, entering the tear film and eventually the eye via the cornea as if it were applied topically (Slatter et al 1982) [11, 12].

Reference