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Allergic Conjunctivitis in Cattles

KEYWORDS: Allergia, conjunctivitis, cattle

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ABSTRACT *:In this study; 16 allergic conjuctivitis cases in cattles in Hatay have been evaluated. Although disease has been seen either in male or female cattles, it is 50% frequent at females compare to male cattles. It has been determined effected cattles age range is 6-60 months. It has been detected that allergic conjunctivitis show clinical symptoms between april-may and have periodic seasonal recurrence course. Epiphora and conjunctival protrusion have been detected as clinical symptoms in spring season. It was treated by antiseptical wet compress and collyr applications of the glucocorticosteroids. Allergic conjuctivitis in cattles have been reported firstly by this study.*

Introduction

Conjunctivirtis is one of the most frequently observed ophthalmic disease in human and animals. It is formed due to infectious or non infectious factors (Taşkapılı and BalıkoşluYılmaz, 2012). Allergic conjunctivitis is observed at cats frequently, at dogs rarely and it is the main cause of chronic conjunctivitis (Stanley et al., 2014). Allergic indications are the first sign of infectious bovine keratoconjunctivitis (IBK) at cattles (Walker, 2014). Food allergy causes clinical allergic conjunctivitis indications in calfs (Aroch et al., 2008). Allergic and viral conjunctivitis symptoms are serous and mucoid discharges (Özer et al., 1995; Morrow, Abbot, 1998). Bacterial conjunctivitis show yellow-green and purulent discharge (Weiss, 1994; Hara, 1996). Allergic conjunctivitis is indicated with hyperemia and congestion at blood veins, conjunctival redness and discharges with variable amount and content (Buznach et al., 2005). Clinical presentation and etiological factors is sufficient for diagnosis. Healing can be achieved by removing causes and applying treatment through etiologic factors (Taşkapılı, BalıkoşluYılmaz, 2012; Gellat, 2012; Stanley, 2014). Allergic conjunctivitis with simplistic clinical course can be resulted with amaurosis if it is not treated (Taşkapılı and BalıkoşluYılmaz, 2012;). Allergic conjunctivitis have been reported in labaratuvary animals as experimental (Kocatürk et al., 2012), in cats and dogs as clinically (Gellat, 2012; Stanley, 2014), but it has not been informed at ruminants. In this study, etiology, clinical symptoms, diagnosis and treatment of conjunctivitis in ruminants will be evaluated for the first time.

Materials and Methods

Study materials involve cattles which have tear complaints and examinated clinically from the Hatay city and surroundings, Turkey. Study cattles include eight holstein, three brown swiss, five simmental cattles which have been diagnosed as allergic conjunctivitis at the end of examinations. Patients have been put to the rutin clinical and ophthalmologic examination. Patients who have trouble in their eyes have been examined by direct and indirect techniques (şşler, 2005; Gellat 2012).

Results

Clinical findings: Examination protocol (şşler, 2005) have been used at recording and examining processes of patients. Gender distribution has been indicated as five male, 11 female. Age distribution has been grouped as nine cattles between 6-18 months, seven cattles between two-five years old. April and may are indicated as the months that disease has been determined. Six affected calfs' parent (mother) have the similar situation have been found out by the anamnesis knowledge. Another anamnesis knowledge have been taken like, tears at eyes and swelling like piece of meat continue through one month and it get better by itself and take form every year at spring, and disease is not observed in other cattles at crowed. At the end of the clinical examinations unilateral mild epiphora increase in one cattle and bilateral mild epiphora increase in other cattles have been indicated. Tear amount has been found as 28±1,2 mm by Schimer tear test (Schirmer-TranentestR, Germany). Additionally, hyperemic swelling were observed at dorsal side of palpebra tertia in 10 cases. Swelling has been observed at lateral angle of inner surface of upper palpebra at six cases. This swelling has been evaluated as allergic reaction. Swellings have been observed as conjunctival protrusion at palpebra tertia and lateral angle of eye. It has been indicated that swellings take place at conjunctiva, and there is no abnormalities at sclera, pupilla and other opthalmic structures. Inner and upper surface of palpebra nictitation have been examined by the help of forceps and no lesion has been detected except hyperemic swelling (Figure 1 and 2). It has been diagnosed as allergic conjunctivitis by considering the disease as individual, seasonal, limited with conjunctivitis, severe epiphora, getting better by itself at the end of the period, and taken under treatment.

Treatment findings: One dose Mepyramine maleat has been applied to the patients by IM way as 2mg/kg live weight calculation (Histavet, VETAS-Istanbul). Also, eye antisepsis with 3% boric acid and cold-wet compress have been applied three times in a day for one week. 4-6 drops 1 mg dexametazone 21 phosphate with 3,5mg neomycine sulfate (Neokort opht. Eye drops, Vetas-Istanbul) have been apllied two times in a day following boric acid application. It has been observed that all cases have been healed at the end of the treatment (Figure 3).

Discussion

Allergic conjunctivitis in animals have been reported at mouses (Ono and Lane, 2011), at guinea pigs (13) as experimental, at cats and dogs (Gellat, 2012; Stanley et al., 2014) as cilincally. Allergic conjictivitis has not been reported at other animals and cattles. Allergic conjuctivitis has been evaluated as disease for the first time by our study.

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Reason of cronic conjuctivitis at cats and dogs is allergic conjuctivitis (Stanley et al., 2014). IBK at cattles come up with allergic indications (Walker, 2014). Food allergy may cause clinical allergic conjunctivity at calfs (Aroch et al., 2008). Many reasons like allergic factors, animal hair, polen dusts, wind, antibiotics have been reported as causes of conjunctivities (Taşkapılı and BalıkoğluYılmaz, 2012; Stanley et al., 2014). Spring winds and polen dusts which are observed frequently in the region have been accepted as reason of seasonal relapses at cases. Patients have been treated with glucocorticoid application or they got better by themselves at the end of the season. So, It has been proved that allergic conjunctivitis is not a complication of IBK, chronic conjunctivitis, dietary or other diseases.

Clinical symptoms of allergic conjinctivits are two sided, can be irreversible or seasonal. Most frequent symptom is itching; hydration mucoid discharge, mild rubor, edema at palpebrae, conjunctival edema can be observed (Taşkapılı and BalıkoşluYılmaz, 2012; Gellat, 2012). Pruritis or feeling foreign material at eye is usually due to allergic reasons (Gellat, 2012). Symptoms that we have been indicated like bilateral symptoms, epiphora, rubor adjust to the findings which were reported by researchers (Özer et al., 1995; Gellat, 2012) but there is some differences like being nonpermanent, having no pruritus have been determined. It has been reported by Aroch (2008) that exposing to the allergen for a long time period cause disease to shift into follicular form. Sweeling at lateral angle of eye and at palpebra tertia can be liken to the follicular form that has been reported by author but these non aquous swellings at our cases have been evaluated as conjuctival protrusion not as follicular form.

Allergic conjunctivities are a chronic disease characterized by frequently recurrence (David, 2002). Our cases' progression were seasonal recurrence but not frequently recurrence. Serous or mucoid discharges are allergic or viral (Morrow and Abbott, 1998); yellow-green and purulent discharge is bacterial caused allergic conjunctivity symptoms (Weiss 1994; Hara 1996). Increased amount of seröjical regular tear drops have been determined at our patients. Yellow-green or mucoid discharge have been evaluated as symptom of some other diseases or contamination rather than allergic form.

References of Schirmer tear test value at healthy calfs has been reported as 20,50 ± 2,95 (İşler et al., 2014). Tear quantitiy has been determined as 28±1,2 mm at allergic conjunctivitis patients.

Drug or non drug treatment method can be applied at treatment of allergic conjunctivitis. In non drug treatment method, avoiding from allergen, cold compress and artifical teardrop can be adequate. In drug treatment, drugs like vazoconstrictors, antihistaminics, non-steroid antiinflammatories (NSAID), corticosteroids can be applied (Özgür et al., 2005; Gellat, 2012, Stanley et al., 2014). Successful treatment has been obtained with non drug treatment by getting better by itself, early stage antiseptic tear compress and glucocorticosteroid application at our cases in late months of spring.

As a conclusion; allergic conjunctivitis is accepted as the first sign of IBK at cattles (Walker 2014) and early diagnosis ensures significant decreasing of economical damages in breeding. This study has been evaluated as an important study since it is the first literarture data performed on allergic conjunctivitis which has a strategic position between animal health and economical loss.

Figure 1: Apperance of palpebra nictitans protrusion in case 1.

Figure 2: Epiphora and conjunctival protrusion in case 4

Figure 3: Apperance of healing in case 1

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