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MYCOTIC KERATOCONJUNCTIVITIS IN A LAMB

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Bir kuzuda mikotik keratokonjunktivitis

Özet: *On günlük bir Akkaraman kuzuda sağ gözde yerleşim gösteren mikotik keratokonjunktivitis tesbit edildi Makroskobik olarak, korneal opasite belirgindi. Ayrıca kalvaryum kaldırıldığında sağ lobus parietalis, lobus occipitalis, cerebellum'un vermis'i üzerinde ve lateral ventriculus'ları da dolduran kan pıhtısı dikkati çekti. Mikroskobik yoklamada konjunktival ve korneal epitelyumda yoğun mantar hif ve maya formları gözlendi. Bu organizmalar lamina propria'ya da infiltre olmuştu. Lamina propria'da hiperemi, ödem ve yoğun nötrofil löykosit infiltrasyonuna rastlandı. Santral sinir sisteminde medulla oblongata ve lateral ventriculus'lar ile servikal medulla spinalis'in santral kanalı çevresinde kanamalar gözlenen diğer bulgulardandı. Bu nedenle saptanan mikotik keratokonjunktivitiste travmanın predispoze faktör olabileceği düşünüldü.*

Summary: *Mycotic keratoconjunctivitis in right eye was detected in a 10-day-old white-karaman native breed lamb. Macro scopically, corneal opacity and blood clots in the right side of the brain were observed. Microscopically, fungal elements with inflammatory reaction characterized by polymorphnuclear cells, hyperemia and edema were markedly seen in the conjunctival and corneal epithelium and, their lamina propria. Microscopical hemorrhages were also found in the central nervous system. Therefore, it was considered that introduced mycotic keratoconjunctivitis might be caused by trauma.*

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Introduction

Cases of fungal infection reported in the pre-antibiotic and steroid era very rare (1). Keratomycosis in the most domestic animals has been related to long-term topical or systemic corticosteroid therapy (2, 3). Beside to this infection can develop following trauma, especially if caused by contamination with vegetable material (1-4). Keratomycosis is more commonly observed in the horse (3,4). The prevalance of fungi in small numbers of normal equine, bovine, canine and feline conjunctival sacs is well known (4). Fungi in the conjunctiva are believed to be transitory and most likely related to seeding from the environment (2,4).

This report have two purposes; one of them, there are no published reports of the fungus being associated with keratoconjunctival lesions in lambs and, secondly the lamb's age is very young such as 10-day-old.

Materials and Methods

Material was 10-day-old white-karaman native breed lamb. Systematical necropsy was performed and collected organ samples were fixed in the 10 % neutral buffered formalin. Samples were processed by conventional methods. Sections were stained with haematoxylin and eosin and periodic acid-Schiff (PAS).

Results

At necropsy, there was a corneal opacity at the right eye. The other macroscopial finding was a blood clots on the rigth side of the parietal and occipital lobes of the brain, vermicular area of the cerebellum and lateral ventricles. Petechial hemorrhages were seen in the gray substance of the cervical part of the spinal cord.

Microscopically, there were large numbers of fungal accumulations within conjunctival and corneal epithelium (Fig. 1). They had infiltrated to the lamina propria. Lamina propria had hyperemia, patchy areas of edema, neutrophilic infiltrations and fungal organisms (Fig. 2). Fungal organisms were also seen the inner limiting membrane of the retina. Fibrin deposits were observed in areas of severe neutrophilic infiltration in the conjunctival fornice.

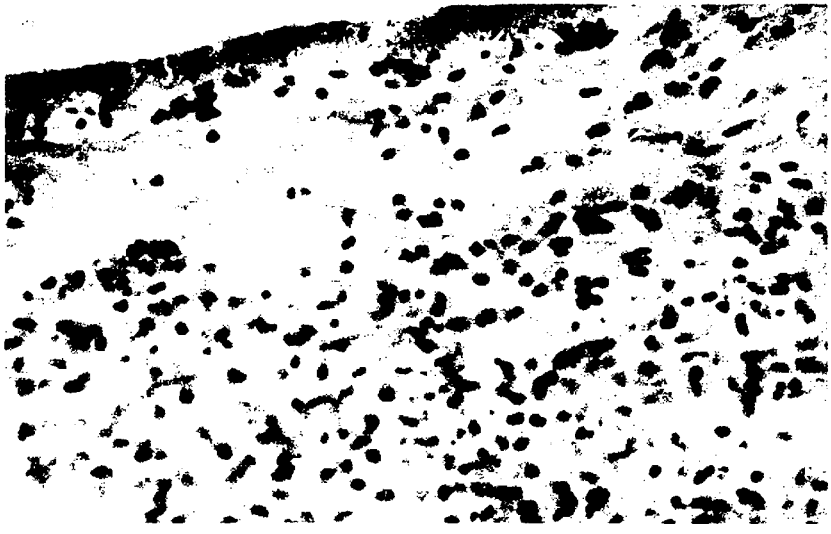

Fig.1: There are intense fungi within the epithelium, and they infiltrate to the lamina propria.

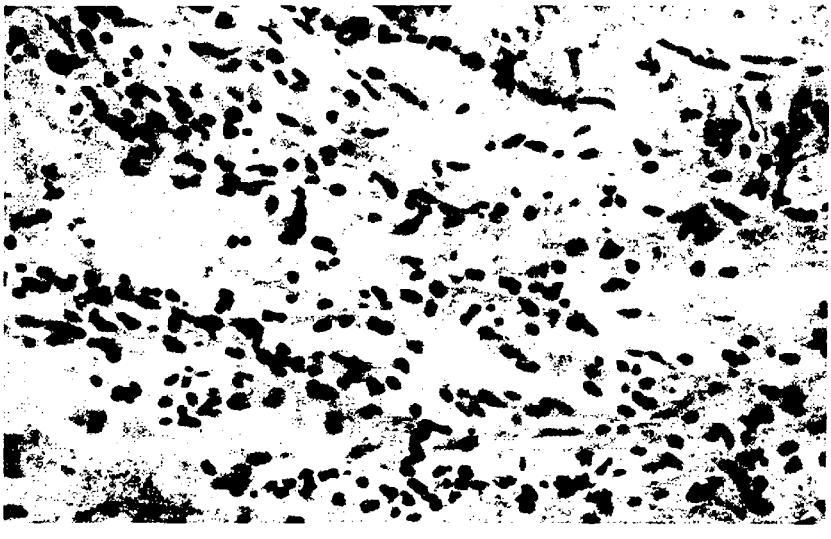

Fig.2: Lamina propria has severe neutrophilic infiltrate, patchy areas of edema and fungal organisms.

In the central nervous system, focal subependymal edema and hemorrhagical pools were detected microscopically in the habenula of the medulla oblongata and white substance, gray substance

around the lateral ventricles and the central canal of the spinal cord, respectively.

Discussion

Infection with fungi follows alterations of the host defence systems or environmental changes at particular sites in the animal body which provide the right conditions for the proliferation of the fungus. A multitude of predisposing factors have been implicated in bringing favourable conditions (2). In our case, corneal trauma plays an important role. Ocular contamination with fungi might be depend on trauma which is obvious in the central nervous system hemorrhages and blood clots in the lateral ventricles and, infection can enhance by the maintenance conditions.

Diagnosis of keratomycosis is made by fungal isolation and microscopical confirmation of the organism invading corneal tissues (5). Reported case here, fungal isolation was not performed, but microscopical detection with special staining method PAS was achieved in the corneal tissue.

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