

Eye Diseases in Sheep

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Periorbital eczema

Periorbital eczema is a common skin condition in the UK often resulting when sheep have too little space allowance at feed troughs and trauma to skin allows entry of *Staphylococcus aureus* causing severe local infection. Affected sheep have markedly swollen eyelids which block vision in that eye. Ewes with both eyes affected are blind. Healing lesions have sharply-demarcated hair loss extending to 2 to 3 cms around their eyes.

Treatment

Surprisingly, a single intramuscular injection of procaine penicillin affects a rapid response within 24 hours. Ewes with impaired vision in both eyes should be housed to ensure adequate feeding and prevent death by misadventure.

Management/Prevention/Control measures

Periorbital eczema can be prevented by appropriate space requirements at the troughs (450 mm per sheep). An alternative regimen involves feeding the grain ration as cobs on a clean area of pasture using a "snacker".

Infectious Keratoconjunctivitis (IKC, contagious ophthalmia, "pink eye")

Infectious keratoconjunctivitis is often associated with adverse weather of high winds and driving snow during the winter months giving rise to the colloquial term 'snow blindness'. Large numbers of sheep can be affected during these weather conditions. Competition at feed troughs and hay racks also increases the rate of spread of this infection.



Fig 1: Infectious keratoconjunctivitis is often associated with adverse weather of high winds and driving snow.



Fig 2: Competition and trauma at feed troughs and hay racks may increase the rate of spread.

The condition can affect one or both eyes. Most cases are selected for treatment on the basis of tear-staining of the face. On closer examination of the affected eye(s) there is marked conjunctivitis. There is forced closure of the eyelids when sheep are exposed to bright sunlight. More advanced cases show keratitis, and possibly corneal ulceration.



Fig 3: Very early stages of IKC affecting the sheep's right eye.



Fig 4: Forced closure of the eyelids and tear-staining of the face.



Fig 5: On closer examination of the affected eyes there is marked conjunctivitis.



Fig 6: Marked conjunctivitis - the eye looks red instead of its normal white colour.



Fig 7: The discharge from the eye has become purulent matting the eyelashes.

In severe cases, ulceration may progress to rupture of the anterior chamber but this is uncommon. Sheep may die from misadventure if the condition causes temporary blindness. During late pregnancy, twin lamb disease may result in multigravid ewes as a consequence of blindness and inability to find sufficient food.



Fig 8: Rupture of the anterior chamber of the right eye.

Treatment

Affected sheep should be housed with ready access to food and water. A single intramuscular injection of long-acting oxytetracycline is economically justifiable and very effective in sheep. Topical antibiotic therapy cannot always be accomplished every day for 3-4 days under farm conditions. Immunity following infection is poor, and lesions may recur.



Fig 9: This heavily-pregnant ewe has been penned with other affected sheep to reduce competition at feeding times.

Management/Prevention/Control measures

Provision of shelter from storms is good husbandry practice on hill/mountain pastures. Adequate trough space and feeding concentrates on the ground may limit spread of infection throughout the group. Outbreaks of infectious keratoconjunctivitis may occur after the introduction of purchased stock therefore, whenever possible, all new stock should be managed separately as one group away from the main flock.

Anterior uveitis (ovine iritis)

Anterior uveitis, also referred to as ovine iritis, probably follows conjunctival infection with *Listeria monocytogenes*, is occasionally seen in sheep of all ages being fed on big bale silage.

The initial presenting signs are excessive lachrymation, forced closure of the eyelids, and photophobia affecting one or both eyes. Within two to three days, the surface of the eye develops a bluish-white opacity. Regression of ocular lesions takes some weeks without treatment.



Fig 10: Early Uveitis



Fig 11: The surface (cornea) of the eye has become blue and opaque rendering the sheep temporarily blind in this eye.

Treatment

There is a marked response to a combined subconjunctival injection of oxytetracycline and dexamethasone administered by the veterinary practitioner.



Fig 12: Iritis is usually associated with feeding big-bale silage.

Management/Prevention/Control measures

It proves difficult to feed big-bale silage in another way to sheep. Attention to detail when baling and wrapping silage, and ensuring appropriate fermentation conditions, should limit contamination with *L. monocytogenes*. However, exposure to air for many days before the large bale is eventually eaten provides an ideal environment for *L. monocytogenes* multiplication.

Entropion

Entropion (in-turned eyelid) is a common hereditary problem of many sheep breeds and their cross-bred progeny.

Inversion of the lower eyelid is either present at birth or appears soon afterwards. The ocular discharge quickly becomes purulent. Direct contact between the eyelashes and cornea causes a severe keratitis with ulceration in more advanced cases with consequent blindness. The condition frequently affects both eyes.



Fig 13: Entropion

Treatment

In simple cases the lower eyelid is everted by rolling down the skin immediately below the lower eyelid. Topical antibiotic is then applied to the cornea to control potential secondary bacterial infection. In addition, this oily presentation lubricates movement of the lower eyelid thereby reducing the likelihood of inversion.

If eyelid inversion recurs after rolling out the lower eyelid, subcutaneous injection of 0.5 mls of antibiotic, often procaine penicillin, is injected into the lower eyelid. The lamb is securely held by an assistant and a 21 gauge 15 mm needle introduced through the skin of the lower eyelid parallel to, and approximately 1 cm below, the lower eyelid. This volume of antibiotic effectively everts the lower eyelids and forms a depot to control possible secondary bacterial infection.

Thin metal clips which are placed at a right angle to the eyelids, and closed using fine pliers (Eales clips), can also be used to evert the lower eyelid. These clips have the advantage that they can be inserted quickly by one person.

Excision of an elliptical strip of skin and drawing the cut edges together with sutures can be used to evert the lower eyelid but is rarely necessary.

Management/Prevention/Control measures

Entropion is managed by regular inspection of all newborn lambs to ensure that the lower eyelids are normally everted.

The genetic component of entropion should be carefully investigated and when the condition can be attributed to certain ram(s), they should be culled but in reality this never happens

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