**MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH**

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**COLLEGE OF VETERINARY MEDICINE**



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What is joint ill

Navel or joint ill is a disease of young calves, usually less than one week of age. It occurs as a result of infection entering via the umbilical cord at, or soon after, birth. This infection can result in a range of signs depending on where the bacteria spread to.Several joints of kids can be involved in joint-ill, a nonspecific bacterial infection. Bacteria that have been incriminated are mainly gram-positive and include staphylococci, streptococci, Corynebacteriumspp, Actinomycesspp, and Erysipelothrixrhusiopathiae, as well as gram-negative coliforms.

Environmental bacteria gain entry to the neonate's circulation, usually via the umbilical cord. Other methods of entry include contamination of breaks in the skin or via the GI or respiratory tract. Predisposing factors include lack of routine dipping of the umbilical cord; poor sanitation in the kidding pens; or does kidding in overcrowded, dirty conditions. E rhusiopathiae are soil-living bacteria that may persist on farms or in pens used by sheep or pigs. Mycoplasma infection is also a differential diagnosis (see Mycoplasmosis in Goats[1]

Epidemiology

Distribution: The disease is worldwide distributed and present in Egypt.

Animal susceptible: The disease is most common in calve of 1-2 W. of age.

Mode of transmission: The infection can be transmitted through contamination of umbilicus of calve by feces, uterine discharge from infected dams, soils and bedding of contaminated pens.

Predisposing factors: This problem mainly develops due to the poor hygiene conditions at calving and dirty umbilicus[3].

Clinical Signs

 Navel ill

If infection stays mostly confined to the navel, the primary sign is a swollen, painful navel that does not dry upAn abscess may develop from which pus (often like a thick custard) may burstThe calf may have a high temperature and reduced appetiteJoint illIf infection spreads from the navel, or navel ill is not treated, further signs will develop as bacteria spread via the bloodstream and settle in other parts of the body.

The commonest sites for bacteria to settle are the joints. This leads to swollen stiff painful (often hot) joints

Temperature will be raised while the bacteria spread but by the time the disease is noted it may be normal

Loss of appetite and depression

Usually only a few calves in a batch are infected though outbreaks can occur where hygiene is very poor

Other sites where bacteria can settle include the eyes, around the heart and the brain. Death is common in the latter cases.

In some calves infection spreads from the navel to the liver causing a liver abscess. In this case problems may not be noted until the calves are older (1 -3 months) [2]

Post Mortem Appearances.--Careful examination of the carcass after death revealsthe navel swollen and jelly-like in consistency, while the blood vessels leading from it arecorded and inflamed, often containing clotted and partially decomposed blood andsometimes pus, Intestines contain clumps of hard, pasty faeces and the peritoneum, or

inner lining of the abdomen, is often somewhat inflamed. There may be abscesses indifferent parts of the body, particularly in joints.

Sometimes the urachus is open and urine discharges from the navel in a small streamor by drops, which keeps the under part of the belly moist. This, in itself, .is not likely tocause the death of the foal, as it often subsides if left alone. It may be closed by blistersor it may be necessary to close it with sutures. This condition should not be neglected, as

navel infection might occur. Keep an antiseptic on the parts, and if it does not close in a few days

get a veterinarian to see what is necessary to do to close it[2].-

Transmission of an erysipelas infection

The Erysipelothrixrhusiopathiae bacteria can be transmitted from exposure to infected material such as contaminated faeces or following dipping, mulesing or lamb marking. Museling is the removal of skin which produces wool in areas where fly strike occurs and lamb marking includes castration, docking tails, and marking the lamb’s ears. Both of these procedures lead to open wounds and so increase the risk of transmission of the disease.

In some cases, sheep are able to carry contaminated faces on their feet and so can leave it inside the dipping baths. This therefore acts as a source of infection of erysipelas polyarthritis for unaffected animals being dipped. The bacteria enter via an open wound or, in neonatal lambs, through the umbilicus. Wounds include any abrasion of the skin, punctures, and scratches

Bought in animals can carry the infection in their faeces. Thus, they can then transmit the virus to the farm when they are introduced to a new flock of sheep. The bacteria are relatively hardy and are very resistant. This means that they are able to survive for long periods of time outside of the host and in the environment. Therefore, the risk of infection of joint ill is significantly increased by this fact[2]

Diagnosis

The diagnosis of joint or navel ill is usually based on the clinical signs.

If a swollen navel is the main sign, ensure that it is not a hernia before treating

All calves that die suddenly should be have a PM examination[2]

Treatment

Early prompt treatment is important as early treatment is much more effective .Separate the infected animals and isolate them. TLC is an essential part of treatment. Antibiotics and painkillers are effective in most mild cases. Antibiotic treatment should continue until after the signs have disappeared (which can take over a week even in mild cases)

Severe cases may not recover even with prolonged antibiotic treatment

For large navel abscesses, veterinary intervention to drain and remove the infected tissue is often necessary[2]



Prevention

Prevention is the key to this disease. Ensuring that the cow calves in a clean environment will significantly reduce the risk of joint ill (and many other diseases such as toxic mastitis and metritis). Proper planning and preparation can prevent the build-up of disease that occurs in too many calving areasApplying a disinfectant (such as iodine) to the navel can reduce the risk of bacteria entering via the navel, but it is no substitute for good hygiene. No amount of disinfectant can overcome being born in a dirty wet yard. Because of the anatomy, bulls navels tend to dry slower than heifers and they are thus at more risk of navel ill. Applying disinfectant two or three times to bulls can reduce the risk.

It is also important to ensure that if cattle are born in a nice clean environment that they aren't moved to other pens or contaminated pastures until the navel has dried completely.

Finally, like all diseases of young calves getting sufficient colostrum is essential. Ensure that all calves get a good suck in the first 6 hours of birth. If this doesn't happen ensure that they get at least 2 litres of colostrum as soon as possible. Colostrum works best if calves take it from a bucket, but if stomach tubing is the only option it's a lot better than no colostrum[2]..

Reference

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