University of Mosul
Lecture No.:
College of Veterinary Medicine
Date:
Unit of Scientific Affairs
Website:

Lecture title: FOOT ROT

Lecturer Affiliation: Department of pathology and poultry diseases

Summary:

- is a contagious infection of the feet characterized by inflammation of the skin-horn junction, under-running of the horn, ulceration and necrosis of the sensitive laminae of the foot and severe lameness.
- **Etiology**
- Foot rot in goats and sheep is caused by a large Gram-negative rod-shaped bacterium, **Bacteroides nodosus** which is commonly associated with **Fusobacterium necrophorum**
- **Pathogenesis**
- B. nodosus produces a growth factor and extracellular proteolytic enzymes which facilitates its penetration, establishment and growth in the host tissues. The proliferation of the bacteria causes severe tissue destruction leading to interdigital dermatitis and suppuration.

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BLACK QUARTER (BLACKLEG)

Blackquarter (Blackleg)

Blackquarter is an acute infectious disease of ruminants which is characterized by inflammation of muscles, severe toxemias and high mortality. The disease is caused by Clostridium chauvoei which is a Gram-positive, spore-forming and rod-shaped bacterium. It can affect cattle and sheep; cattle 6 to 18 months old are most commonly affected.

Pathogenesis

Ingested Cl. chauvoei spores pass through the intestinal wall and are carried through the lymphatic channels and blood circulation to muscles and other tissues .When the muscles are bruised or necrotised the latent spores germinate and elaborate alpha, beta, gamma and delta toxins. The alpha toxin is a necrotising and lethal histotoxin which causes necrotising myositis and absorption of the toxin by muscles lead to toxaemia and death. The beta toxin destroys the nuclei of muscle cells. Exotoxins and other metabolites produced by the multiplying bacteria may cause lesions in the myocardium. Bacteraemia has also been found to develop terminally.

Clinical features

Affected animals exhibit stiff gait and hot painful swelling of the affected muscles. The muscles become oedematous and spongy. There may be crepitation but this not as marked as in cattle.

Serous or blood-stained fluid may ooze from the affected areas. Fever, lameness, severe depression are common features. The skin over the affected area becomes dark or black and, in later stages the swellings become cold and painless. A crackling sensation may be noted, when the skin over the affected area is pressed; this is due to gas formation in the tissue. Extensive local lesions can occur at the portal of entry.

Pathological features

The carcass rapidly putrefies and bloats. Sometimes, blood stained fluid may ooze from the nostrils and nose. There is excess fluid in body cavities which contain air bubbles, fibrin or blood. A blood-tinged or yellowish subcutaneous oedema fluid which may contain gas is a common feature. The incised affected muscles are dark-red or black with a characteristic rancid odour. Regional lymph nodes may be oedematous and haemorrhagic. Lesions tend to be deeper in sheep than in goats. The liver may decompose and produce gas.

Will the animals recover?

Very few affected animals survive. Death usually occurs within 48 hours of symptoms being noted. Animals are often found dead.

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