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Degnala Disease in Bovines: A Clinical Review

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Introduction

It is a chronic disease of worldwide importance with different regional names. Selenium in small amount is considered essential for animal health but its excessive amount in feeds and fodder like paddy straw and berssem becomes toxic. Selenium toxicity in domestic animals can be acute or chronic. Chronic selenosis is also known as Degnala disease in India and Pakistan. Degnala disease which causes necrosis and gangrene of the dependent parts in cattle and buffalo is known to exist in some cases around Muridke, a place close to Nala Deg in west Punjab - a monsoon rain water stream were recorded. Moldy hay and roughages that contain mycotoxins lead to necrosis and gangrene extremities including tails. It is a disease of high economic importance due to losses of production and lives of animals in untreated cases.

Causative agents:

There are many different views about etiologies of the disease. The causal agent of this disease is a fungus *Fusarium equiseti* which is found in mouldy paddy straw. This fungus produces mycotoxin which causes the disease. It Paddy straw also contains high levels of oxalic acid, which is believed to be contributory factor in the production of this disease. Disease mostly occurred in buffalo than cattle.

Symptoms

Affected animals exhibit lesions on the tip of tail, ears, extremities of legs, teats, muffle, falling of hairs and hardness of skin. Tail becomes hard and puff of hairs of the tip of the tail falls down. Tip of the ears dried and curled inwards which lastly fall down. Hooves at the junction of skin inflamed, swollen with pus inside ending in shedding off of hooves leaving raw muscles and visible bones and pastern joints. In animals having severe involvement of feet, complete separation of



hooves was observed. Such animals are anorectic, weak and emaciated prefer lying down in recumbency and unable to stand up causing development of bed sores followed by death. Morbidity rate has been 6% and mortality 1.61%. In untreated cases there is high percentage of deaths.

Prevention and control

- Withdrawal of wet, mouldy paddy straw and substitution of fresh dried uncontaminated paddy straw helped in preventing the gangrenous syndrome in cattle and buffaloes.
- The paddy straw should be stacked at high ground where there is little possibility of stagnation of water and sufficiently dried before stacking.
- Treatment of straw: Fungi infested straws are marked by dark specks, fungi can be removed by 4% sodium hydroxide (NaOH). The solution is sprinkled on the straws for two weeks
- Feeding of paddy straw should be restricted during winter if possible, and mineral mixer 30-40 gram should be fed regularly as feed supplement.
- Symptomatic treatment given in combination with other drugs.
- Antihistaminic drug, inj. meloxicam, inj. Oxytetracycline and vitamin-A given for 3-4 days. Acetylarsan 23.6 % sol. 10 ml s/c on alternate days for 5 days acts as a skin tonic and restorative. The oral and potential use of 2-5% Arsenic sulfate (also known as Degnala liquor) is also effective against Degnala disease.
- Regular dressing of wounds with antiseptic cream.
- Surgical intervention: On the dorsal surface of tail V or U- shaped skin incision 1-2 cm distal to the joint space at the proposed amputation site was made. The skin in ventral surface was also incised. With the help of scalpel blade, attachments between the skin and vertebrae were transected. The blood vessels lateral and ventral to the vertebral body cranial to amputation site were ligated. The tail was amputated cranial enough to the skin lesion to provide a tension-free closure.

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