

Milk Fever: Disease of High Producing Dairy Cattle

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ARTICLE ID: 32

Introduction

Milk fever (Parturient paresis) is one of the most common metabolic diseases. The disease is observed in the dairy cows with high milk production, when the body reserves on calcium, magnesium or energy cannot meet the metabolic needs. The incidence of milk fever is high during the late gestation to peak lactation. It is because of low calcium supply through feeds and hence the animal is unable to meet demand of the body's requirement for heavy drainage of calcium through milk. The disease can be prevented by the correction in diet during these crucial periods.

Causes of Milk fever

Dairy cows are at considerable risk for hypocalcemia at the onset of lactation, when the daily calcium excretion suddenly increases three times from about 10g to 30 gm per day. This disturbs the calcium homeostasis and may cause blood calcium concentrations to fall below the normal reference range of 8.5 mg/dL. Cows with milk fever have a more profound decrease in blood calcium concentration typically below 5.5 mg/dL.

Risk groups

High milk producing breeds are more susceptible because the fall in their blood calcium level is greater. Similarly, the fat cows are at a greater risk than thin cows. This is partly because their feed and calcium intake has been higher and partly because fat cows produce more milk at calving time.

Symptoms of Milk fever

The most common symptoms observed in animals are-

- The body temperature of animals become sun normal and extremities becomes cold.
- Animal shows depression and willingness to move.
- The Muzzle and nose become dry.

- The eyes become dull and expressionless and the membrane covering the eye turned red.
- The animals lie with head turned to one side; it gives the neck an S shape.
- The pulse and breathing become accelerated and very often it becomes labored and accompanied by groaning.
- Animals shows sign of bloat due to accumulation of excessive gases in the rumen as the gut becomes paralyzed.
- In case animals left untreated then the animals go to coma and death occur within few hours.

All these symptoms appear in three different stages-

- ✚ **Stage 1:** The cow may appear excited with stiffening of the muscles and trembling, reluctance to move or eat, hind limbs may become stiff and the animal may stagger.
- ✚ **Stage 2:** In this stage cow look dull, cold to touch, low body temp, heavy breathing, increased heart rate. Cow will find lying or sitting down and cannot get up, often has a kink in her neck or her head folded along her flank.



- ✚ **Stage 3:** In this stage cows are often unresponsive and almost in an unconscious state. The animal will lay on her side with legs stretched out. Due to continue sitting cows are observed with bloat and regurgitation is likely. Animal may die if left untreated.

Treatment of milk fever

Calcium borogluconate at 10-200 g is the treatment of choice. Most cows with milk fever can be treated successfully with 8-10g of calcium. For cattle, 400-800ml of a 25% solution, intravenously is the usual dose. Oral calcium supplementation for standing cows.

Prevention and control

- The milk fever can be prevented mainly by maintenance of diet before and after the calving. Cows should be kept on low calcium diet while they are on dry period. This stimulates the calcium regulatory system to mobilizing the body stores of calcium when the demand for calcium increases after calving. on the other hand, at the point of calving, and afterwards, the calcium rich food should be unrestricted. Where dietary management is inadequate, Vitamin D3 given by injection 2-8 days before calving may be useful.
- The cows of mature age and forward to fat condition should be fed plenty of hay at least 1-2 weeks before calving instead of green fodder.
- A common treatment used to prevent milk fever is the injection of calcium just before and after calving. This is quite successful because the calcium provides a reservoir to increase blood calcium just at the time it is needed for milk and colostrum.
- Cows close to calving should be kept in separate paddock to enable frequent observation and early detection of milk fever.