

## Milk Fever in Dairy Cows

Ankur Dwivedi<sup>1</sup> and Vivek Pratap Singh<sup>2</sup>

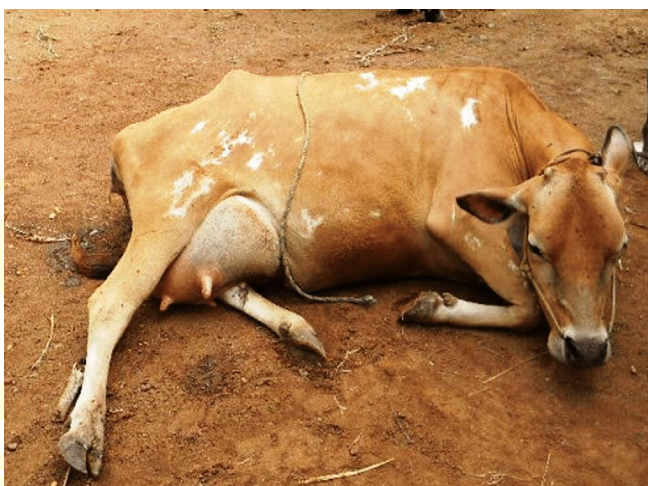
<sup>1</sup>Research scholar Animal husbandry dairying science (LPM), Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalay Chitrakoot Satna MP

<sup>2</sup>SMS Animal Science, Mahayogi Gorakhnath Krishi Vigyan Kendra, Chaukmafi, Pepeganj, Gorakhpur, UP

ARTICLE ID: 35

### Milk fever:

Milk Fever (MF) is one of the most common mineral-related metabolic conditions affecting dairy cows at parturition, a disorder that occurs immediately after or close to calving as a result of a low level of calcium in the blood (hypocalcaemia). A mild degree of hypocalcaemia develops in the majority of cows during the peripartum period and has been linked to calving problems, retained placenta, uterine prolapse, metritis, mastitis, ruminal stasis, depression of the immune system and generally reduced reproductive performance, resulting in reduction of productive life by 3.4 years and/or death if left untreated. In a small proportion of animals, hypocalcaemia becomes severe and results in paresis, recumbency and, occasionally, death. About 50% of dairy cows in their second lactation and greater have blood Ca concentrations that fall below the threshold for subclinical hypocalcaemia after calving. It is a common metabolic disorder in dairy cattle that generally affects older, high producing cows. Milk fever is an acute to per acute, afebrile, flaccid paralysis of mature dairy cows that usually occurs within 48–72 hours of calving, although sometimes it may occur in late lactation



### Symptoms

- In the beginning, it is normal for cows to start walking somewhat stiffly.
- Some cows end up throwing their legs to the side in an attempt to retain their balance.

- Eventually most cows who are suffering from milk fever will end up becoming downer cows
- They often sit quietly and are unable to rise.
- Their coat feels cold and the temperature will be lower than normal.
- The cow's rectum will commonly be full of faeces, and generally the anus will bulge.
- Some cows end up developing a fine muscle tremor, and so they can be seen to shiver, particularly over their neck and chest.
- If left untreated, the muscle paralysis will end up getting worse.
- Eventually the cow will roll over onto its side and not be able to sit back up again.
- Due to being in this position, the cow will become bloated.

### **Cause and Effect**

#### **How to prevent milk fever?**

A cow's demand for calcium increases significantly as she gets closer to calving. A large amount of calcium is required for the increased bone growth in the unborn calf and the production of colostrum. To meet this demand, the cow first takes calcium from its blood. Because this doesn't suffice, the cow has to mobilise more calcium from its diet and its bones. Most of the time, cows can't get enough available calcium, leading to (sub)clinical milk fever. In general, older cows are more susceptible to (sub)clinical milk fever than younger ones.

#### **What are the consequences of milk fever?**

While clinical milk fever can be fatal, subclinical cases can also have a serious impact as a result of lost milk production and the costs and time involved in bringing the cow back to full health. While obvious symptoms are absent, subclinical cases of milk fever can be the gateway to an increase in mastitis, retained placenta, endometritis, uterine infections and other diseases as a result of the immune system being weakened immune system. This will have an obvious detrimental effect on milk output and can incur significant time, energy and financial costs to return the cow to full health.

### **Prevention**

Management of the diet can be a valuable aid preventing milk fever. Cows should be kept on a low calcium diet while they are lactating (dry). This stimulates their calcium regulatory system to keep the blood levels normal by mobilising the body stores of calcium from the bone. When the demand for calcium increases as calving, calcium can be mobilised

much more rapidly from bone than the feed, therefore preventing milk fever. With cows at greater risk - Cows of mature age and in forward to fat condition - green feed should be restricted and plenty of hay fed for at least 1-2 weeks before calving. Neither should contain a high percentage of clover or capeweed.

### **Treatments**

The treatment should be carried out as quickly as possible. Administration of calcium borogluconate by oral route is the best approach to hypocalcemia cows that are still standing, but the intravenous (IV) calcium administration is not recommended for the treatment of cows that are still standing, since this application if not done correctly can result in dead animal by cardiac complication. For cows in stage II and III of milk fever should be treated immediately with a slow IV administration of 500 ml of a solution of calcium borogluconate 23 %. This gives 10.8 g of elemental calcium, which is more than sufficient to correct the deficit whole cow's calcium (about 4 to 6 grams) In general early intravenous calcium borogluconate is the treatment of choice for severely affected patients. The solution must be given slowly because rapid calcium infusion may result in cardiac arrest. Concurrent use of subcutaneous calcium borogluconate may prevent recurrence, by slow release of biologically available calcium from the tissues into the bloodstream. The prognosis is excellent if cows are treated early and properly. As the symptoms worsen so does the prognosis.