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Medical Management of Milk Fever in a Crossbred Cow

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ABSTRACT

Background: The livestock sector contributes nearly 17.1% of the value of output at current prices in Agriculture, Fishery and Forestry sector. The overall contribution of Livestock Sector in total GDP was nearly 5.1% during 2019-20. Dairying in India is witnessing transformation from traditional production system to either semi-commercial or commercial production system, which requires high producing dairy animals. Losses associated with milk fever are due to deaths, reduction in the productive lifespan of affected cow and reduction in milk production following each milk fever episode, as well as costs of prevention and treatment. It has been reported that about one in 20 affected cows, dies due to milk fever. Further, milk fever can contribute to dystocia, uterine prolapse, retained fetal membranes, metritis, abomasal displacement and mastitis leading to serious economic loss.

Methods: A Jersey crossbred cow on its sixth parity was presented with the history indicated that the animal had calved 45 days ago and was semi-intensively managed. The daily production of milk was abou 15 liters. Physical examination revealed the temperature and pulse rate were within the normal range, but there was increased in respiratory rate and a dehydration status of 5%. The dairy cow was diagnosed with milk fever and treatment was done by slowly infusing 400 ml of Calcium borogluconate into the jugular vein over a period of 10-20 minutes. Intravenous infusion of 1000 ml 0.9% NaCl and 2000 ml of 25% glucose were instituted in order to restore blood glucose level and to correct the dehydration.

Result: The animal recovered after the treatment, thus the prognosis was good and supportive therapy was continued for three days and animal had an uneventful recovery.

Key words: Calcium, Crossbred cow, Deficiency, Milk fever.

INTRODUCTION

Milk fever is caused due to low calcium level in blood, there is actually no fever. May also cause dystocia and uterine prolapse. It occurs usually within 72 hours of calving. Initial stage is excitability with fine tremors over flank and loins, ear twitching and head bobbing. Complete milking during the first 48 hours of calving may precipitate milk fever in some cases. The animal is unable to stand up and in later stages become recumbent, first with its neck turned to one side and then laterally. Eye reflex is also lost. In last stage the animal becomes unconscious with sub-normal temperature. Hypocalcaemia also exists in sub-clinical form with greater risk of the animals developing fever, metritis and ketosis. More losses are thought to occur from this form (NDDB, 2016).

MATERIALS AND METHODS

A Jersey crossbred cow on its sixth parity was presented with the history indicated that the animal had calved 45 days ago and was semi-intensively managed with a complaint of prolonged sternal recumbency, weakness and inappetance (Fig 1). On examination, rectal temperature was 102°F and all other vital parameters were within normal physiological range. The animal had calved 2 months ago and is managed semi intensively on grass, paddy straw and ground nut oil cake. Physical examination showed the vital parameters were within the normal range. However, upon auscultation of the heart, there was a decreased intensity of the heart sound. The cow was on sternal recumbency and the cow immediately recovered after the drug administration (Fig 2), hence the prognosis was good.

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RESULTS AND DISCUSSION

Dietary deficiencies as a result of poor ration formulation is the most probable cause of milk fever in this case. Therefore, farmers should be enlightened about proper ration formulations and provision of mineral supplements to their dairy cows. The incidence of milk fever reported in both the Jersey and Holstein herds during this study (7.98%) was within the 5 - 10% range reported by Houe *et al*. (2000) and later by Roche and Berry (2006).In many studies, several predisposing factors have been suggested [Charbonneau *et al*., (2006) and Lean *et al*., (2006)]. In many countries, high priority has been given in detail to prevent milk fever. In addition, it has been proposed that a specific control program is relevant when the incidence of milk fever increases above 10% among high-risk cows [Hutjens and

Fig 1: Cow on sternal recumbency.

Fig 2: Immediate recovery after completion of the treatment.

Aalseth (2005)]. Oral drenching around calving with a supplement of easily absorbed calcium comes first, followed by feeding of acidifying rations by anionic salt supplementation during the last weeks of pregnancy [Hutjens and Aalseth (2005)]. Feeding low calcium rations during the last weeks of pregnancy and pre-partum administration of vitamin D were also among the most recommended measures. In our case, we encountered a stage two milk fever, which was typified by sternal recumbency and curving of the neck to the side. Stage one and two milk fever can be effectively treated by intravenous administration of calcium salts. However, stage 3 milk fever is quite difficult to manage especially when muscle paralysis has ensured (Hutjens and Aalseth 2005).

CONCLUSION

Do not feed calcium supplements in excess during late pregnancy. Chances of milk fever in prone animals is reduced greatly if given 3-4 doses of oral calcium 12-24 hours before calving to 48 hours post calving, with each dose providing 40-50 g of calcium. Anionic salts like ammonium chloride and magnesium sulphate or ammonium sulphate (50-100 g each/day) may be fed during last 3 weeks before calving. Contact veterinarian immediately if symptoms are seen, animals respond to therapy instantly. If left untreated, the animal will succumb. Some animals may relapse within 24-48 hours and require further treatment. An animal should ideally have a urine pH between 6.5-7 near the time of calving. Higher indicates increased risk of milk fever.

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