



ISSN (E): 2277-7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.23  
TPI 2023; 12(1): 1688-1689  
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[www.thepharmajournal.com](http://www.thepharmajournal.com)

Received: 13-10-2022

Accepted: 16-11-2022

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## Successful treatment of milk fever in a buffalo: A case report

**Kulajit Kalita and Chayanika Mazumder**

### Abstract

A 7 years old buffalo was presented in sternal recumbency with head resting on flank along with history of parturition 2 days ago. Clinical examination revealed subnormal temperature (92.8° F), increased heart rate and respiratory rate, decreased intensity of heart sound, cold extremities, loss of appetite, dry muzzle and absence of defecation and urination. With these signs and symptoms, the animal was diagnosed as a milk fever and treated with calcium borogluconate (450 ml) slow intravenously. Intravenous infusion of 1000 ml 0.9% NaCl and 500 ml of Dextrose 25% along with other supportive therapy, B-complex 12 ml intramuscularly, Tonophosphan 10 ml intramuscularly. The animal recovered after the treatment, therefore the prognosis was good.

**Keywords:** Buffalo, calcium borogluconate, milk fever

### Introduction

Milk fever, also known as parturient paresis or postparturient hypocalcaemia, is an important metabolic disease that affects high-producing dairy animals with increase susceptibility during third to fifth lactation, although rare cases have been recorded at the first and second calving. Most commonly occurs within 72 hours of parturition and causes a significant decrease in milk production. Clinical episodes of milk fever can be classified into three discernible stages. In stage I, the animal able to stand but staggers due to muscle weakness. The animal show clinical signs of hyperexcitability, crushing of the teeth and tetany. In stage II, the animal is on sternal recumbency and there is lateral kink in the neck or head may resting on the flank ('S' shaped posture), they have a dry muzzle, subnormal body temperature, tachycardia along with decreased intensity of heart sound. Animal in stage III is on lateral recumbency and suffers from paralysis leading to coma and death (Radostits *et al.*, 2007; Faez Firdaus Jesse Abdulla *et al.*, 2014) [6, 1]. The Milk fever is treated by administering calcium borogluconate intravenously. If treated early and properly, affected cows have an excellent prognosis. However, the worse the symptoms, the worse the prognosis tends to be. For prevention of milk fever lowering dietary calcium levels along with balanced acid-base diet ratio and dietary cation anion difference (DCAD) during dry period is very important (DeGaris PJ and Lean IJ; 2009) [5]. The aim of this report is to present the management of stage II milk fever in a buffalo.

### Diagnosis and Treatment

A 7 years old buffalo having approximately 600 kg body weight was presented in sternal recumbency with head resting on flank (Figure 1). The buffalo had calved 2 days ago. The daily production of milk was about 8 litres and other signs such as cold extremities, loss of appetite, and absence of defecation and urination. The history showed that the animal was fed only dry roughages without any calcium-containing mineral supplements or other concentrate mixtures, normal parturition and non-retention of placenta. Clinical examination revealed that the rectal temperature was 92.8°F (Figure 2), increased heart rate and respiratory rate, decreased intensity of heart sound, pale mucus membrane and dry muzzle. According to the history, clinical symptoms and signs, the case was diagnosed as milk fever. To restore the blood calcium level the animal was treated with calcium borogluconate 450 ml slow intravenously. Intravenous infusion of 1000 ml 0.9% NaCl and 500 ml of dextrose 25% in order to correct the dehydration and to restore glucose level in blood along with other supportive therapy, B-complex 12 ml and tonophosphan 10 ml intramuscularly.

Additionally, it was suggested to the owner to feed Calup Gel 300 g orally for three days and provides 50 gm of a calcium-rich mineral mixture orally daily with feed for a month. After two days of treatment the owner informed that, the buffalo started to feed and slowly able to stand (Figure 3).



**Fig 1:** Buffalo in sternal recumbency with head resting on flank



**Fig 2:** Subnormal rectal temperature



**Fig 3:** On day second, animal stood up

### Discussion

Milk fever (parturient paresis) is an important metabolic disease of high producing dairy animals, since it causes adverse effect on the welfare and productivity. Generally, it

occurs periparturient period due to low serum calcium level (Radostits *et al.*, 2007) [6]. There are several predisposing factors have been suggested including parturition, lactation, age breed and diet (Charbonneau *et al.*, 2006; Lean *et al.* 2006) [5]. It has been shown that in the prevention of milk fever, the most approved strategies can be accomplished by feeding easy-absorbable calcium along with acidifying rations by supplementing with anionic salts during the last weeks of gestation, feeding low calcium rations during the last weeks of pregnancy and supplementing with vitamin D pre-partum (Hutjens and Aalseth, 2005; Sweety and Kumar, 2021) [4, 7]. In the current case, the buffalo was fed low-grade dry roughages for a long period of time. In addition to dry roughages being deficient in calcium, buffalo were not added any calcium-containing mineral supplements or other concentrate mixtures, resulting in hypocalcaemia. In our case, the buffalo had sternal recumbency with the neck curved toward the side, which indicates stage II milk fever. Calcium salts can be administered intravenously as an effective treatment for milk fever at stages I and II. In the present case, the buffalo was effectively treated by intravenous administration of calcium borogluconate. Within an hour of treatment, the animal showed sweating of muzzle, defecation, urination, neck turned to normal position and animal made attempts to stand up slowly. On day second, animal stood up and started feeding normally.

### Conclusion

It can be concluded that dietary deficiency as a result of formulation of poor ration is the most significant cause of milk fever in the present report. Therefore, the buffalo owner was advised to formulate proper dietary ration and provision of mineral supplements to their dairy animals.

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