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Therapeutic management of stage ii milk fever along with retention of foetal membranes in a cross-bred dairy cow

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Abstract

A 6 years Jersey crossbred dairy cow weighing 250 kgs in its 4th lactation with history of parturition 24 hours ago and inability to stand up with retention of foetal membranes, diagnosed to be suffering from hypocalcaemia (milk fever) was successfully treated by infusing 450ml of 25% calcium-borogluconate solution and other supportive.

Keywords: Milk fever, jersey cow, calcium borogluconate, retention of foetal membranes

Introduction

Milk fever, also known as post- parturient hypocalcaemia or parturient paresis, which results from severe hypocalcaemia, is one of the metabolic diseases most commonly occurring in adult dairy cows within 48 hours after parturition but it may occur several weeks before or after parturition. Clinically it is characterized by hypocalcaemia^[1,2]. The clinical signs include muscle weakness, cold skin due to peripheral circulatory failure, small amplitude pulse and decreased intensity of heart sounds, lateral recumbency and drowsiness^[3]. According to^[4], lowering dietary calcium levels during dry period is very important for prevention of milk fever, as well as to balance the acid-base diet ratio; Dietary Cation-Anion Difference (DCAD). The prognosis of milk fever depends on the stage of the condition; stage 1 is less severe and the animal is able to stand but staggering. In stage 2, the cow is recumbent on sternal recumbency, while in stage 3, there is progressive muscular paralysis that may lead to coma and death if prolonged^[5]. Cows that recover from milk fever are less productive and less susceptible to other health disorders such as ketosis, mastitis, retained foetal membrane, displaced abomasum and uterine prolapses. Besides, most of untreated cows with milk fever die within a day^[6]. This report aims to highlight the successful therapeutic management of stage 2 milk fever along with manual removal of Retained foetal membranes.

Case History and Clinical Observation

An adult Jersey-cross dairy cow of 6 years age, in its 4th lactation was presented in Barpeta Road, Assam with a history of parturition 24 hours ago. The animal was in sternal recumbency with typical S-shaped curve on the neck, weakness and inappetance. There was absence of urination and defecation and foetal membranes were hanging out from the vagina even after 24 hours of parturition.

On clinical examination, the general health condition was found to be poor. The body temperature was subnormal and pulse was undetectable. Based on the history of the cow being a high milk producing animal and its deficient nutrition, it was tentatively diagnosed as a case of Stage 2 milk fever with Retention of foetal membranes.

Treatment and Discussion

The case was managed by infusing 1000 ml of 5 % Dextrose to combat its hypoglycemic condition. 450 ml of 25 % calcium borogluconate (Calborol, Novartis) was injected slowly, intravenously. Dexamethasone (Dexona, Zydus AHL) @ 5ml IM, Phosphorus preparation (Aciphos injection, Exceller) @ 10ml IM, and Antihistaminics (Anistamin injection, Intas) @5ml were injected IM. The placenta was removed manually and ecbolics (Furex, Vetsfarma) administered intra-uterine to prevent any bacterial infection. Uterine tonic (Exapar, Ayurved)

Was administered orally for next 5 days. Oral calcium preparation (Calcimust gel, Vet Mankind) was prescribed to be administered orally for 3 days.

Milk fever is an acute to peracute, afebrile, flaccid paralysis of mature dairy cows that usually occurs within 48–72 hours of calving, although sometimes it may occur in late lactation [3, 8].

Diagnosis of milk fever typically includes a history of recent calving, clinical signs of progressive ataxia, hypersensitivity and excitability to sternal recumbency, depression, dehydration and anorexia culminating in lateral recumbency, loss of consciousness, coma and even death if untreated [6]. The risk of milk fever is higher in Jerseys compared with Holsteins [3], especially those in their fourth parities and with production levels within the fourth quartile. Early treatment of the recumbent cow suffering from milk fever is essential to prevent necrosis of the tissues of the side on which the animal is lying, which is known to commence within 4 hours of recumbency [7].

Prevention of milk fever involves several strategies including feeding of calcium-deficient diets in the late dry period, feeding of calcium-rich rations 3-4 days before parturition, vitamin D supplementation, reducing the dietary cation-anion difference and magnesium supplementation in the late gestation period [7, 9].

Conclusion

To reduce the incidence of Milk fever in high producing cows, the farmers should be advised to manage the diet of the animal during the transition period and after calving. Administration of calcium gel should be practised at the time of parturition. Moreover, compounds containing anions like Hyporid (Intas) should also be administered alongwith vitamin D injection @ 10 million IU 15 days before parturition.

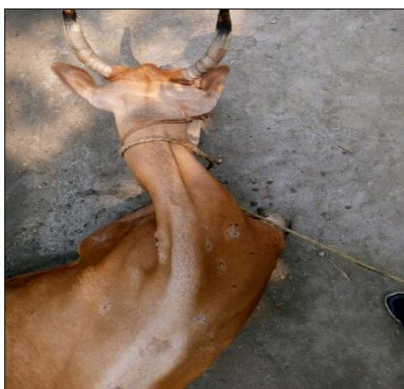


Fig 1: The animal in sternal recumbency with typical S-shaped neck posture.



Fig 2: Retention of foetal membranes which were manually removed.



Fig 3: Animal after response to Calcium therapy.

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