

Successful treatment of recurrent milk fever in field

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Abstract: Recently calved 32 cross bred cows were already treated for recurrent milk fever. 94% of these cows were successfully treated with intravenous calcium 450ml and Hydroxyprogesterone 2-3gms and remaining 6% cows with second dose of Mifex 250ml.

Keywords: cows, recurrent milk fever, calcium, hydroxyprogesterone

I. Introduction

Milk fever occurs most commonly in adult cows within 48 hours after parturition and respond to single calcium therapy is usually satisfactory. As cited by Radostits et al., 1994, among the cows treated for milk fever, a portion of them experience relapsing episode of hypocalcaemia for several days requiring repeated treatment with calcium. Till date there is no therapeutic regimen for this problem. In this trail for the first time with single treatment such relapsing cases were successfully treated.

II. Material and methods

In different season and time, 32 cross bred cows ranging between 2 to 6 calvings, medium to high yielders, within 7 days of calving, said to have showed the classical milk fever with lateral recumbency and wry neck. All the cows were successfully treated locally with calcium preparation (Mifex- Novartis). Within 12 to 24 hours of treatment, the cows again gradually showed the milk fever symptoms and had classical recovery after second Mifex administration. Third episode of milk fever occurred and had same treatment done and so on., Quantitative serum mineral analysis of randomly selected 13 cows showed normal to slightly elevated levels of calcium, phosphorus and magnesium. Owing to field restrictions, qualitative calcium estimation not done.

III. Treatment

All the presented cows with classical milk fever symptoms were infused slowly with 450ml of Mifex intravenously and Hydroxyprogesterone (Duraprogen-Vet care) 3-4gms i/m. Only 2 cows required an additional dose of 250ml Mifex within next 24 hours.

IV. Discussion

In lactating cows, calcium loss is 1.2g/litre milk per day. The total calcium present in the infused 450ml of Mifex solution is 8.37gm which is sufficient only for a few hours.

Among total body calcium, 50, 41 and 9 percents contribute ionised (active form), protein bound (inactive) and unionised calcium respectively. Ionised 50% calcium is responsible for entire motor reflex. Radostits et al., 1994 [1], stated ionised and unionised compartment in total calcium may be more important than total calcium in milk fever occurrence. Hypocalcaemia occurs inspite of apparently adequate function of the parathyroid and vitamin D endocrine system. (Radostits et al., 2006 [2]).

Radostits et al., 1994, also stated that mostly endocrine system in most cows adapt within 48 hrs after calving, but 5-20% cows don't adapt and they develop milk fever. Until endocrine adaptation, hypocalcaemic symptoms continue. The hypocalcaemia or milk fever not occurs due to quantitative calcium insufficiency but insufficient serum ionised calcium. Calcium ions in Mifex solution is insufficient to maintain serum calcium ionisation for long time until physiological mechanism is activated. So recurrence is always possible. The administered depot progesterone brings back the ionisation until physiological balance is restored. It is postulated that sudden withdrawal of progesterone in recently calved cows might have reduced the serum calcium ionisation which needs further detailed study.

Some observations are, cases were recorded in Tamilnadu state, India, occurred from 2nd calving in cross bred cows, especially in aged cows, mostly during cold season and in Friesian cross cows (82%). The affected cows were well fed and extra nourished with oral calcium during last month of pregnancy.

V. Summary

Cases of recurrent milk fever were successfully treated with Mifex and Hydroxyprogesterone.

Acknowledgement

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References

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