

Successful Management of Hypercalcaemia in Multi-Treated Milk Fever Cows

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Abstract: *The experiment was conducted in 15 recently calved cows which received multiple treatments for milk fever. Clinical examination and laboratory serum estimation revealed hypercalcaemia. Oral antacid was administered. 99% recovery rate observed from 3 to 9 hrs of treatment.*

Keywords: Cows, milk fever, hypercalcaemia, antacid

1. Introduction

Milk fever cows which received multiple calcium therapy in field often end up in serum hypercalcaemia with unusual clinical signs. Fatality is the usual sequel and there is no existing drug regimen.

2. Literature Survey

The New Harvard Guide to Women's Health quoted that women should make sure that certain medications like antacids, if they are taking, are not interfering with intestinal calcium absorption. With this background, cows ailing from hypercalcaemia were experimented with oral antacid, and discussed in detail.

3. Case history and observation

Many recently calved cows, 3 to 6 calvings, said to have had symptoms of recumbency, wry neck, cessation of voiding dung and urine, cold extremities, suggestive of milk fever. The cows were treated locally by para-veterinarians with more than two bottles (each 450 ml) of calcium preparations. The cows responded initially, after infusion of more calcium they became recumbent again. Such fifteen cows presented were taken for study. Clinical examination revealed recumbency, semi-comatosed, bradycardia (32-36/min), pupillary dilatation, 37-38°C. Serum calcium was found to be between 10 and 15mg/dl.

4. Treatment

The cows were orally administered with Mg(OH)₂, simethicone, sodium carboxymethyl cellulose, Al(OH)₃ 400 to 1000 ml (Digene gel- Abbott India Ltd). All the cows recovered gradually, stood up, passed urine and dung and started feeding between 3 and 9 hrs.

5. Discussion

Milk fever cows when given more intravenous calcium leads to increased serum calcium level. This affects the serum calcium, phosphorus and magnesium ratio. In turn this causes various metabolic disorders. Such as, calcium ions (Ca²⁺) in excess inhibit heart causing bradycardia, shock and death. In rumen various acids are physiologically produced. Calcium is best absorbed in acidic environment. Calcium absorption is interfered by, alkaline base of the antacid (Sandra Fucci Smith, 2010) and aluminium hydroxide which coats the GI tract (Alan Nathan, 2012). Thus administration of antacid prevents further GI calcium absorption (Jack Challem, 2003), at least for 4-6 hours. Increased serum calcium level becomes normal by concurrent calcium mobilisation to storage, renal excretion and inhibited GI calcium absorption.

6. Future Scope

Present days, indiscriminate parental calcium therapy is carried over, for conditions like hypogalactia, milk fever, hypomineralism, etc., in excess most of the times, irrespective of the condition treated. Hence there is every chance of hypercalcaemia in cows. From this trail is observed, oral antacids help against hypercalcaemia and so this can be applied feasibly, in field, to hypercalcaemia developed cases.

Reference

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Author Profile



U. Umadevi did M.Sc., M.Phil., Ph.D. She has published 17 research articles in National and International Journals. Awards received : BharathShikshaRatan, IlayaBharathaSirpi. She is selected for Indira Gandhi Sadbhawana Award, Indo-Nepal Gold star award, Global Pacific Star award, Mother Teresa Sadbhawana award, Patents filed : Six. She has attended and presented papers in several national and International conferences. She is Co-Inventor (among two) of a chemical named "POTENTIATOR".



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