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UNIT. HEALTH MANAGEMENT

Sub-topic 3: Milk Fever / Parturient paresis / Hypocalcaemia /

Calving paralysis

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Introduction

Milk fever is metabolic disease of adult females occurring most commonly about the time of parturition and characterized by hypocalcaemia, severe muscular weakness, recumbency, circulatory collapse and ultimately reduction of consciousness. Temperature is generally subnormal. There is muscle weakness and flaccidity of muscle. Tremor is found in the eye and muzzle. Milk fever is disease that affects dairy cattle but can also occur in sheep and goat. High yielding dairy cows are mainly susceptible to the disease especially during their 3rd or 4th pregnancy or parturition. Generally this condition happens in winter and spring season.

Etiology:

The principle cause is hypocalcaemia (low calcium level in blood) which may be due to-

- i. Excessive loss of calcium because of secretion of colostrum and milk.
- ii. Decreased absorption of calcium from the intestine at the time of parturition. This may be due to-
 - + Reduced feed intake at the time of parturition
 - + Ruminal atony / indigestion
 - + Improper ratio of calcium and phosphorus in the ration.
 - + Vit D deficiency
- iii. Slow mobilization of calcium from bones-
 - + Increased calcium level in the blood
 - + Deficiency of parathormone
 - + More calcium intake during dry period depresses the activity of parathormone

Clinical Signs:

The sign can be divided into three stages—

- i. **1st stage or stage of excitement:**
 - + This stage is reflected with the appearance of hyper-excitement and tetany.
 - + Muscle tremor appears in hind limbs.
 - + Ataxia (there is loss of coordinating movement)
 - + Protrusion of tongue, crushing of teeth like symptom may also appear.
 - + Some time animal may fall in the ground.

ii. **2nd stage or stage of sternal recumbency:**

- + In this stage animal is not able to stand and rest on sternum with head turned towards shoulder or flank ('S' shape posture).
- + There is loss of consciousness and drowsiness condition may appear.
- + Skin and extremities feels cold.
- + Muzzle becomes dry.
- + Muscle membrane of eye turn dry with dilated pupil. Eyes are unable to blink.
- + There is relaxation of the anus and loss of anal reflex.
- + Heart sound becomes soft but heart rate goes high.
- + There is loss rumen movement leading to constipation.
- + During respiration grunting sound may appear due to muscle weakness.
- + Skeletal muscle becomes flaccid with decreased pain sensation.

iii. **3rd Stage or Stage of lateral recumbency:**

- + Animal unable to stand or sit and remains in lying down condition.
- + Temperature becomes more depressed.
- + Extremely cold skin and extremities.
- + Pulse cannot be appreciated and heart sound is not audible.
- + Bloat condition may appear.
- + There is no or very less urination because of paresis of muscle.

Treatment:

Every attempt is made to treat affected cow as soon as possible after clinical sign appears. Treatment is to be done during 1st stage of disease before cow is recumbent.

- Parental injection of calcium salt is the standard treatment.
- Calcium borogluconate 25% @ 400 – 800 ml I/V. (Calcium is cardiotoxic so care should be taken before administration of this drug to avoid adverse side effect like **warm the bottle** near the body temperature, **administered slowly** and avoid over dosing)
- Inj Avil @ 10 ml I/M

Prevention and Control:

- Feeding of low calcium diet during last 1-2 weeks of pregnancy.
- Incomplete milking after calving.

- Calcium may be given just after calving is a good practice.
- Inj. Vit D3 (Arachitol) @ 10 million units I/M, one week before calving.
- Protect animal from cold weather.
- Give roughages to stimulate rumen function.
- Give proper exercise to pregnant animal to maintain good digestive system and also stimulate bone metabolism.

Reference:

1. Bikane AU, Handbook for Veterinary clinicians (Third edition). Krishna publications.
2. Chakrabarti A, Text Book of Clinical Veterinary medicine (Third edition). Kalyani Publishers.