

MILK FEVER

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(Parturient paresis, Hypocalcaemia, Calving paralysis)

Introduction

- Disease of female
- Occurs in cattle, Buffalo, sheep and goats at or within 72 hrs. of parturition, caused by hypocalcaemia and characterized by weakness, recumbency, and ultimately shock and death
- “Fever” is a misnomer
- Sometime it is associated with low level of Ca, P & Mg, it is k.a. “Milk Fever Complex”

EPIDEMIOLOGY

- Species:- Cows & Buffaloes
- Breed:- Jersey cows & Jaffarabadi buffaloes
- Age/Lactation:- 5-10 years/third and greater lactations
- Season:- Late winter & Spring
- Milk Yield:- High Yielding animals

Predisposing factors

- Cold climate
- Long distance transport
- Digestive disturbance

Calcium Homeostasis

Aetiology

➤ Excessive Loss of ca through colostrum:-

✓ Blood plasma 8.5-10.4 mg/dl

(cow suffered with milk fever = 2-6mg/dl)

✓ Colostrum 2.3g Ca/ kg

✓ Milk 1.2g Ca/kg

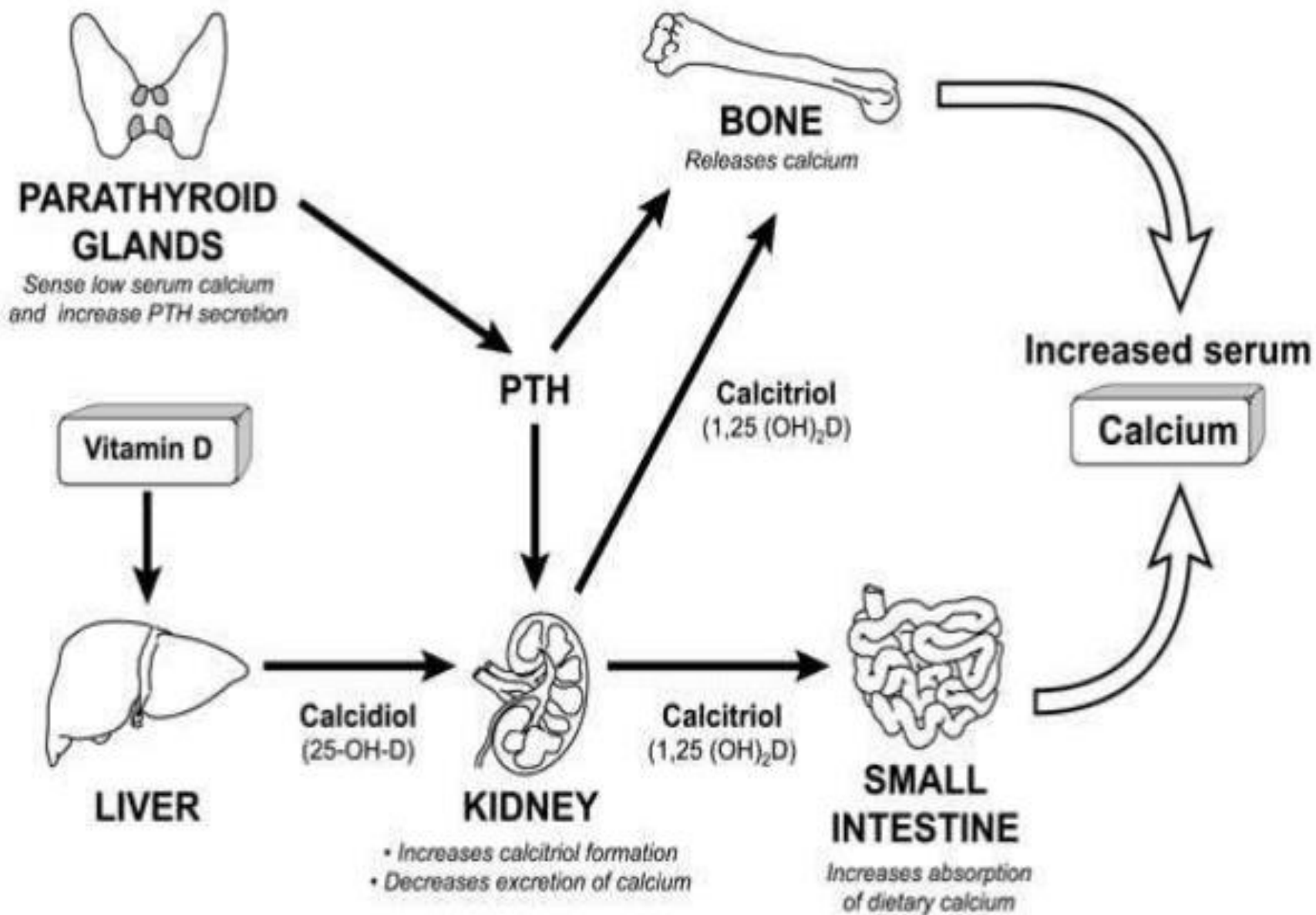
➤ Decreased absorption of ca

• Reduced feed intake results in atony of gut

• Indigestion

• Def. of vit. D:-

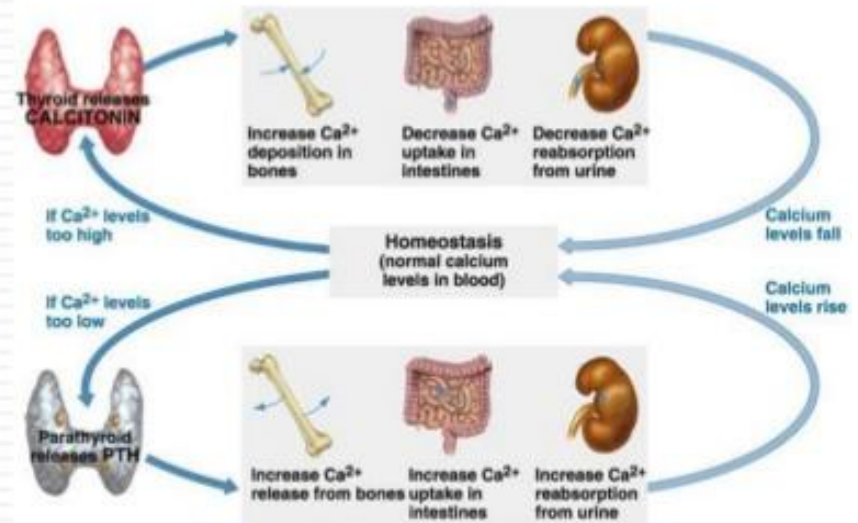
Vit.D3(cholecalciferol) is first converted to 25 hydroxy cholecalciferol by the enzymes of liver & again converted to 1,25 dihydroxy cholecalciferol by the enzymes of kidney. This help in absorption of ca ion from intestine & resorption of ca ion from bone.



Aetiology

- Improper Ca:P ratio in diet (N.L. in blood 2.3:1)
- Disease of intestine
- Slow mobilization of Ca from bone
 - Parathormone(PTH) def.
 - High calcitonin
 - Excessive ca intake(over 100-125g/cow/day) during dry period

Pathogenesis



Clinical findings

Stage I/Stage of excitement:-

- Tem. Normal
- Hypersensitiveness
- Tremor of the muscle of the hind limb
- Hind limb become rigid & thereby ataxic for which animal is prone to fall

Stage II/ sternal recumbency

- ✓ Sub normal temp.
- ✓ Cold skin & extremities
- ✓ Loss of anal reflex
- ✓ Low venous pressure(Difficult to raise the jugular vein)
- ✓ Suspended defecation & urination





Stage III/ lateral recumbency

- ✓ Markedly sub normal temp.
- ✓ Extremely cold skin & extremities
- ✓ Bloat
- ✓ Difficult/Impossible to raise the jugular vein
- ✓ Suspended defecation & urination



Clinical Pathology

- Ca level= 5.5 – 6.5mg/100ml
(N.L. = 8.5 – 11.5mg/100ml)
- Mg level= 0.8 – 1.2mg/100ml
(N.L. = 1.8 – 3.2mg/100ml)
- P level= 2.3 – 2.8mg/100ml
(N.L. = 3.5 – 6.0mg/100ml)

Diagnosis

- History of parturition
- High milk yield
- Typical clinical signs viz. sternal or lateral recumbency with subnormal body temperature
- Clinical pathology viz. Low serum Ca level
- Clinical response to calcium therapy

Treatment

- Calcium borogluconate (25%) @ 400-800 ml or 1 gm/45 kg body weight slow IV
(Av. 450ml bottle contain 8-11g Ca)
- When hypocalcaemia are associated with hypomagnesaemia & hypophosphatemia then use Mifex 200-450 ml slow IV
- Antihistaminic like Avil 10 ml IM in L.A.
- Ca, Vit.D3 & Vit.B12 inj (Caldee-12 inj.) 10-15 ml IM in

Unusal reaction to Ca therapy can be treated with:-

- Atropine sulphate can be used to overcome cardiac arrhythmia
- Magnesium sulphate 10% solution @100-400ml IV to antagonize cardio-excitatory effects of calcium

Prevention & Control

- Feeding of low Ca diet(8 g/day/450 kg b.wt.) during last 2 week of gestation
- Incomplete milking after calving
- Protect from cold stress & transportation stress
- Use of dietary straw to stimulate rumen function
- Oral Ca supplement, one at calving and a second dose the next day
- A single dose of Vit D3 @ 10 million unit i.e. 1 million units/ 45 kg body weight IM one week before calving has been reported to be effective
- calcium-binding agents such as zeolite, zinc oxide e.t.c

A 3D-style rectangular sign with a dark orange face and a lighter orange border. The sign is tilted slightly to the right and has a subtle drop shadow. The text "THANKS YOU!" is written in a white, bold, sans-serif font, centered on the sign.

THANKS
YOU !