



# LA Clinical Case Diagnosis by Field Level Methodology

-As a LA practising field Veterinarian

Learning is the continuous process



# PICA

- Chronic Abdominal Pain-Gastritis
- Nervous form of Ketosis
- CNS signs in Rabies
- Na depletion
- Fe def
- Co def
- **Phosphorous def**



# Ptyalism

- Botulism
- Tetanus
- Choke/Oesophageal obstruction
- **Rabies**



# Bruxism

- Acute Abdominal Pain
- Encephalomalacia
- Increased Cranial Pressure



# Cud Dropping

- Diseases of Oral cavity-Molar teeth
- Diseases of oesophagus
- Cardia of Reticulorumen
- Listeriosis
- Otitis



# Jowl Edema

- ▶ **Hard-Actinomycosis**
- ▶ **Soft and Edematous**
- ▶ Fluke-Amphistomes
- ▶ Anaemia /Hypoprotinemia
- ▶ HS
- ▶ HPD-Theileriosis-pseudopericarditis
- ▶ Snake bite/Insect bite
- ▶ CHF
- ▶ TRP/TP
- ▶ Abscess



# Acute Blindness

- **BACTERIAL-IBKC**
- VIRAL-IBRT/MCF
- PARASITIC-Theilezia sp/Setaria sp
- NUTRITIONAL-PEM/Hypovitaminosis A
- POISONING-Lead/Acute Bracken Fern
- **TRANSIENT BLINDNESS-HPD-**  
Theileriosis/Trps/Listeriosis/Encephalitis
- Physical injuries while grazing
- Endotoxemic Cdts-Mastitis/Metritis

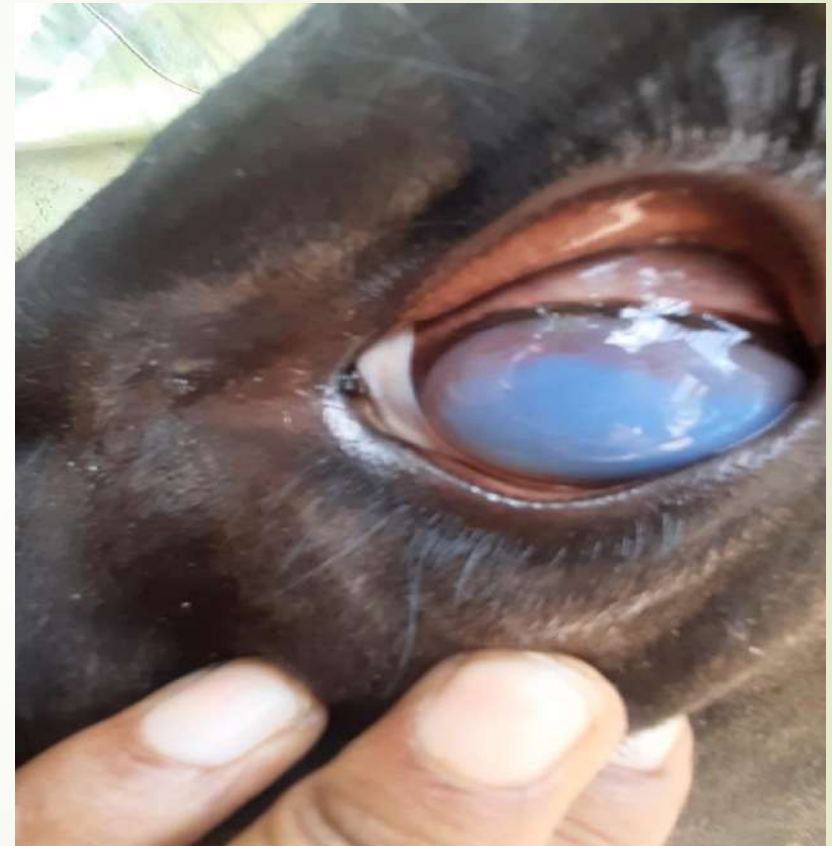




# Extra-ocular worm vs Intra-ocular worm



Thelazia Sp-eyeworm



Larval Migrants-Setaria digitata-  
CSN

# Heart Rate Vs Heart Sounds

- ▶ **Heart Rate is the Prognostic Indicator- Normal 60-80bpm (>120bpm-POOR)**
- ▶ Acute Ruminal Acidosis
- ▶ Acute Diffuse Peritonitis
- ▶ Acute Intestinal Obstruction/Intussusception
- ▶ Abomasal Torsion
- ▶ Downer Cow Syndrome
- ▶ **Typical or Characteristic Heart Sounds are**
- ▶ Load Heart Sounds- HypoMagnesimia
- ▶ Low Intensity of Heart Sounds-Hypocalcemia
- ▶ Muffled/fluid filled Heart Sounds-TRP/TP



## Type of Respiration-costoabdominal- 20-30breaths/min

- **Prominent Abdominal**

- painful conditions of the **Thorax** such as pleurisy

- **Prominent Thoracic**

- Severe **Pulmonary Diseases** such as Pulmonary edema,

- Pnuemonia,

- pulmonary emphysema.



# Motility of Rumen-2-3 per minute

## **Hypomotility**

- Hypocalcemia,
- Endotoxemia,
- Simple Indigestion
- Acute Carbohydrate Engorgement
- TRP

## **Hypermotility**

- Froathy Bloat
- Vagal Indigestion
- Johnes Disease
- Severe cases of Enteritis

# Fluid Filled Rumen

- Grain overload/Acidosis
- Atonic Rumen –Chronic diffuse peritonitis
- Abomasal impaction
- Omasal Impaction



# Dung examination-output and colour

- **Complete absence of Dung**-Acute Intussusception
- **Decreased quantity of Dung**-Paralytic ileus/Peritonitis/Diseases of Ruminant Fore Stomach and abomasum

## Colour of the dung

- **Dark Tarry colour(Melena)**-Abomasal ulcers-due to formation of Acid Hematin
- **Raspberry jam/jelly like colour**-Acute Intussusception
- **Faeces are uniformly Dark Red**-Haemorrhagic enteritis of Small Intestines

## Hematochezia-passage of Fresh blood per anus

- **Faeces having Frank blood evenly distributed**-Hemorrhages enteritis of Large Intestines-Caecum and Colon
- **Faeces having streaks or Chunks of Frank blood Unevenly distributed**-Hemorrhages enteritis of Large Intestines-Rectum

Hematochezia



Raspberry jam like



Melena



Hematochezia-  
rectum



# Blood in Urine

**Hemoglobinuria**-doesn't settle on centrifugation

- PPH
- Leptospirosis
- Bacillary Hemoglobinuria
- Poisoning-Onion/Salt/Chronic Cu intoxications
- TBD-Babesiosis/Theileriosis
- Drug Induced
- Cold Water Hemolytic Anaemia
- Blood Transfusion Reaction

**Hematuria**-settles on centrifugation

- Viral-MCF
- Poisoning-Oxalate/Braken Fern/Anticoagulant
- Infection of Bladder-Urolithiasis/cystitis





# Blood In Milk(Hemolactia)

## Infectious

- ▶ Leptospirosis



## Non-Infectious

- ▶ Trauma-Knuckling Method of Milking
- ▶ Capillary Bleeding in Heifers with Udder edema
- ▶ Hormonal-sudden withdrawal of Progesterone after calving



# Pregnant vs Recently Calved

## ➤ **Pregnant Animals-**

➤ Pregnant animals during Late gestation has more prevalence of Incidence of **PARALYTIC ILEUS** than non-pregnant animals

➤ **URINE pH** during Late term pregnancy-Prognostic indicator of Milk fever after calving

mild Acidic-safe <7

highly Alkaline-Not safe >8

## ➤ **Recently Calved Animals-**

➤ Recently calved animals has more chances of Incidence of **Forestomach disorders-** Diaphragmatic Hernia/Vagal indigestion/Abomasal displacement than pregnant animals

# CaseDiagnosis-1-Approaching a case of Nasal Bleeding in Cattle



Diagnosis?

-Epistaxis!! -**an uncommon condition in cattle**

P/E-unilateral/Bilateral?

**Test to Perform**

20min whole Blood  
Clotting Time(**20WBCT**)-To  
rule out **Snake  
Envenomation**





# Differential Diagnosis

1. **Local Trauma**
2. **Nasal obstruction-F.body/Ethmoid Carcinomas**
3. **Nasal Granuloma- S.nasale**
4. **Snake Bite-Hemotoxic- vipers**
5. **Anti-Coagulant Rodenticides**
6. Coagulopathies/Coagulation Disorders
7. Thrombocytopenia
8. Exercise Induced pulmonary Hemorrhage
9. CHF-especially in Horses
10. Metastatic Lung Abscesses/Vena caval Thrombosis

## -Local Trauma-

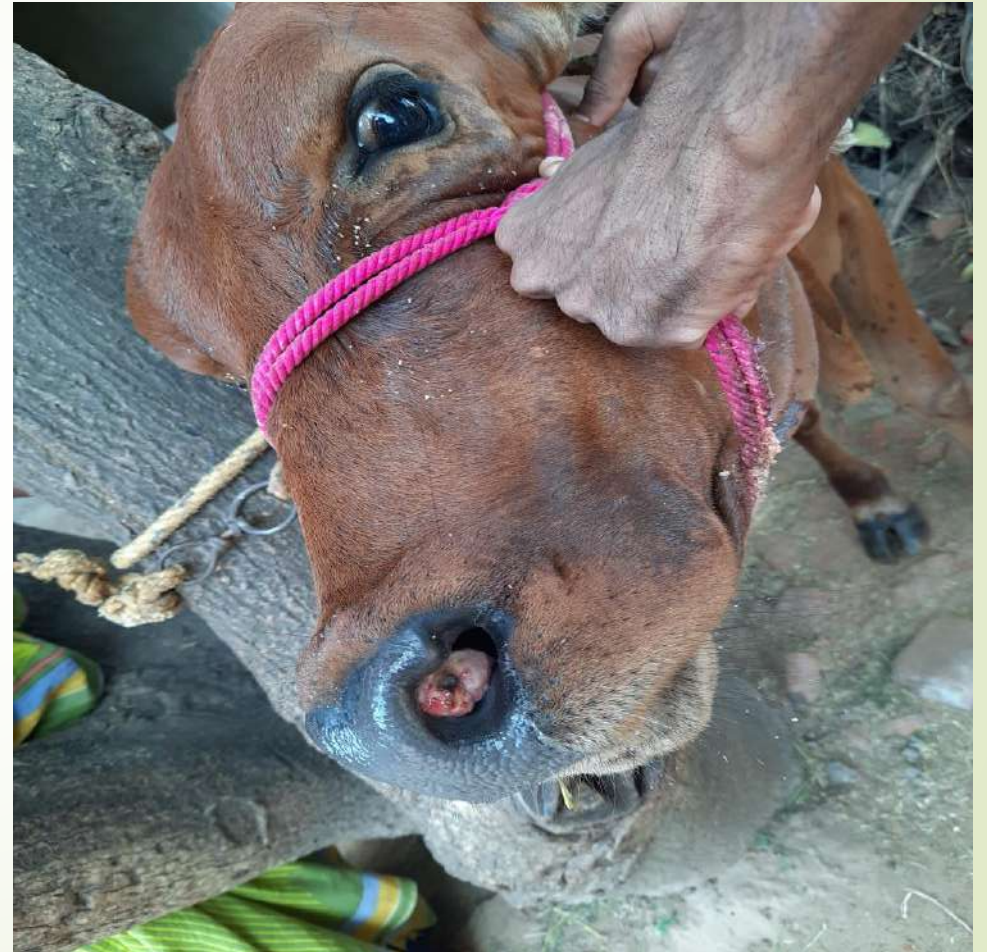
- Parenteral Hemostatic -inj Tranexamic Acid @5-10mg per Kg IV or IM
- NSAID
- CPM




After  
Recovery



# Nasal Schistosomiasis







# How to Diagnose it and Treatment options Available

## Diagnosis

- On P/E - Cauliflower- like granuloma like growth-Snoring disease
- Nasal Wash –diagnosis of boomerang shaped Eggs

## Treatment

- **Anthiomaline** (Lithium Antimony Thiomalate) is the drug of choice-given IM ,weekly Intervals for 3 weeks
- **Praziquantel** (25mg/kg) is highly effective ,2 Treatments required 3-5 wks apart

# Snake Envenomation Treatment

Treatment- if 20WBCT fails..

- 40 ml of polyvalent snake venom antiserum in 2000 ml NS-Slow IV (each antivenin package contains 10 mL of antivenin) So 4 Vials initially Needed
- Corticosteroids-**Dexamethasone** phosphate 0.5 mg/kg IV
- Fluid Therapy- 5% dextrose IV and 5 ml of Tetanus toxoid - as single dose.
- Antibiotics-Ceftiofur or Potentiated Aminopenicillins IM for 5days
- **NSAIDs and AntiHistamines are CI (except Diphenhydramine hydrochloride (10–50 mg, SC or IV, once)as it will potentiates the toxic action of the venom.**



# Anti-Coagulant Rodenticides

**Source**- Accidental Ingestion of Rat Bait/or Intentional poisoning  
(**brodifacoum-coumarine grp**)

## Treatment-

1) Oral Adm of Activated Charcoal at 1g per Kg as **Universal Antidote**

2) **Antidote- Vitamin K1 (Phytomenadione)** is used **subcutaneously** at 1-2 mg/kg.- **70Amp** Needed. (1Amp - 55rs)-Available Online

3) Vitamin K3-Synthetic Menadione-Not useful.



# Intentional Poisoning using Rat Baits



- DD** - Anthrax, Rodenticide poisoning, Snake Bite- blood doesn't clotted  
-Acute death- Anaplasmosis, clostridial diseases, Acute Leptospirosis  
-Acute Bloat, Hypomagnesimia

## Case diagnosis-2-Approaching a case of Recumbent Cow/Downer Cow Syndrome



# Important Metabolic Elements and their Diseases

Cellular composition-intracellular(Mg,K,Po4) and Extracellular

Calcium Homeostasis-PTH and Vitamin D3-Transition after calving-Milk Fever

Downer Cow-Alert/Creepers and Non Alert-INTERRELATIONS

- Hypocalcemia
- Hypocalcemia with Hypophosphatemia
- Hypophosphatemia with Hypokalemia and HypoMagnesemia
- Physical injury during Parturition-CALVING PARALYSIS



# Recumbent Cow

1. Acute Ruminant Acidosis
2. Toxemic Cds-Coliform Mastitis, Metritis
3. Peritonitis
4. EF -Hypocalcemia-Lameness
5. Recumbency due to Anaemia/Hypoproteinemia
6. Recumbency due to Debility and Dehydration
7. Recumbency during Late Term Pregnancy
8. Oestrus Induced-Hypocalcemia
9. Recumbency due to Heat Stroke or inclement weather cds.
10. Recumbency in calf

# Downer Cow Syndrome-post Calving





## CLINICAL POINTS – PHOSPHOROUS –BOVINES

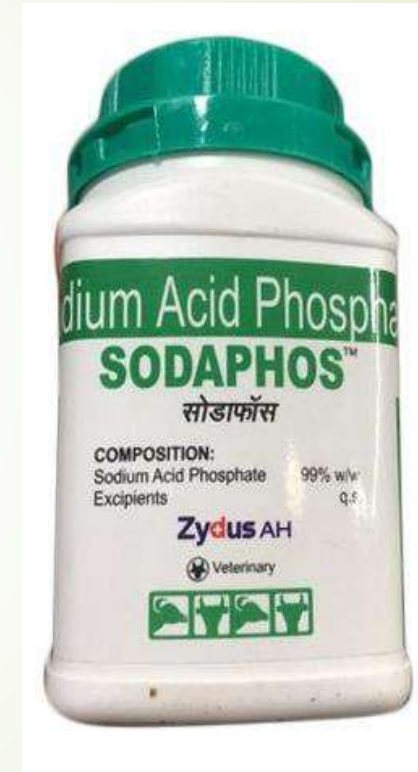
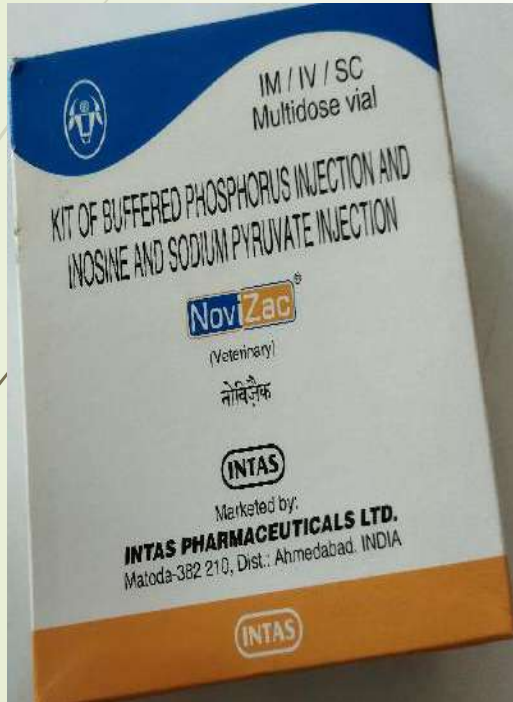
In Bovines, The Blood phosphorous level is direct indicator of Dietary intake and Bioavailability of Phosphates(Inorganic) and it is also a factor for Bovine Recumbency (Recurrence/Persistent)

- INJECTABLE/ORAL-**ONLY INORGANIC PHOSPHATES** in all cases
- It is **undesirable** to adm parentrally Sodium Acid Phosphate(SAP) along with Calcium and Magnesium salts **IV-Rapid infusion-precipitation** of Ca and Mg salts
- IV adm of **PHOSPHATES** can be done after 2hrs where the animals not able to take oral Medications
- **Rapid Infusion of Phosphates** –low bioavailability-after 2hrs-it will be excreted via Kidneys- so little parenteral usage only
- Phosphorus depletion may **ALSO occur** after oral or **parenteral carbohydrate adm** and after **parenteral insulin administration** as a result of increased cellular phosphorus uptake in combination with glucose.
- Parenteral adm of **organic phosphorus** (inj toldimphos, butaphsphan, phosphite, or hypophosphite) as **phosphite** are unsuitable for increasing plasma phosphorus.
- **PHOSPHITES- Metabolic Modifiers**-can be used in other conditions like SI and Ketosis

# Inorganic phosphorous Vs Organic phosphorus

- **INORGANIC PHOSPHOROUS-as phosphates**
- **INJ NOVIZAC 50ml** (INTAS)-as Phosphate- Single dose for 450kg btwt IV
- **INJ URIMIN -** (SAPas ip8%w/v) (VIRBAC)-50ml 3 doses 12hrs interval IV
- **INJ ALPHOS-40**(SAPas ip 8%w/v)
- **Oral-Sodaphos (SAP)**-zydus-50g bid
- **Oral P-Soda** (SAP)-Hexter-50g bid
- **ORGANIC PHOSPHOROUS-phosphonic acids and phosphan form**
- **INJ TONOPHOSPHAN VET-MSD** (SS4DM2MPPA as organic p 20%)
- **INJ T-PHOS**(SS4DM2MPPA as organic p 20%)-zydus
- **INJ CATOSAL**(Butaphosphan +B12)-bayer
- **INJ INJECTIPHOS**(Butaphosphan +B12)-zydus
- **INJ SYNKOMET** (Butaphosphan +B12)- intas

# Kits for Phosphorous supplementation



## Clinical points –**Potassium chloride usage**

- **Prolonged Recumbency**—Increase in permeability of Sarcoplasmic membrane-loss of K from intracellular to Extracellular –Excretion via Kidneys—Hypokalemia (**andrew et al, 1992**)
- **Muscle weakness** –Lowers resting membrane potential –decreased Excitability of NM tissues-Downer Cow syndrome (**Radostits et al,2000**)
- **Other Cdts causing Hypokalemia**
- Over dosage of **Bicarbonate solutions in** Acute Ruminant Acidosis-Alkalosis-Renal Excretion
- **Multiple dosing of Isofluperidone** in Ketosis-Mineralocorticoid activity-Renal Excretion
- Fluid Therapy in diarrhea-Enteritis-**ABOMASAL STASIS**-Hypokalemia
- **Dosage calculations-parenteral Vs oral**
- **Oral safe**-0.4g per kg-bid ie 120g bid-severe Hypokalemia
- Injectable-**unsafe**-only after Lab investigations-cardiac arrhythmias-VF and Death.

# Available potassium kits



Lab Grade KCL  
500gms-MRP 232



200ml has only 20g-  
MRP 60rps

## ORCALYTE-DOWNER

A Vital Supplements for Downer Cow

**COMPOSITION :**

Each Packet Contains :

- Sodium Chloride : 45.0 gm (770 mmol)
- Potassium chloride : 180.0 gm (2410 mmol)  
(Total Osmolarity 3180 mOsmol/L of water and 132.5 mOsmol/ 24 L of water )

**DIRECTION FOR USE :**

Dissolve entire contents of the packet in 24.0 Litres of normal drinking water and give 2 times over a period of 24 hrs.

Unused diluted water should be discarded after 24 hours of reconstitution.

**RECOMMENDED FOR :**


Downer cow syndrome.  
Hypokalemia.

**DOSE :**

As directed by the veterinarian.

STORE IN A COOL & DRY PLACE. PROTECT FROM DIRECT SUNLIGHT  
FEED SUPPLEMENTS, NOT FOR MEDICINAL USE  
KEEP OUT OF REACH OF CHILDREN  
NOT FOR HUMAN USE, FOR VETERINARY USE ONLY.

Batch No : OOD - 01  
Mfg. Date : APR 2019  
M.R.P : 120/-  
Exp. Date : 36 months from mfg. date.



Orcalyte Downer-MRP 120

## Treatment Protocol administered in Downer Cow Syndrome

- **Inorganic Phosphorous**—Parenteral-NOVIZAC 50ml SID Or Urimin 60-70ml IV  
-Oral SAP(P Soda or Sodaphos) @ 50g bid for 5days
- **Potassium Chloride @ 0.2-0.4g per Kg bt wt-ORAL**  
**Epidural Inj** of Thiamine +Dexamethasone -Intracellular Potassium Retention(IVJ 1970 by Rao)
- **PAIN MANAGEMENT**-Tolfenamic Acid @ 2mg per kg/Flunixin @ 2mg per kg IV  
(Complications of Overdosage)
- **Anti-Histamines**-0.5mg/kg-why!?
- **Methylated Cobalamine(B12)** IM-Why!?-
- **Supportives like Vitamin Ad3E** on 3 days once-Why!?
- **Oral Magnesium Sulphate**-50g bid for atleast 5days-why!?
- Oral Rehydration-alert cow,parental Fluid Therapy in depressed Recumbent Cows
- **ASSISTED LIFTING USING SLINGS**-Most IMPORTANT in progress of the Treatment







# After Recovery



# Treatment protocol for Metabolic disorders.,

- **Never** give Calcium Oral Gel prep., in a Recumbent or Downer Cow (it is Contra-Indicated)
- **Never** Give **too much Bottles** of Calcium in unresponsive Cow
- **Never** give **Phosphorous IV** along with CBG and Mifex IV
- **Never** give **Magnesium** on day 1 itself
- Never overdose oral KCL-it will induce **HypoMagnesemic Tetany**
- **Never** give **Isofluperidone** in Recumbent Cow so as for Treating it for Ketosis
- **Never** Give **Dextrose hypertonic solutions** 25% or 50% in an Active Alert Downer Cow
- **Never** Give **Anti bloat Agents** assuming that the DC has Bloat-it's a Postural Bloat
- **Never** Give too much of Antihistamines **Phenaramine Maleate**  
Recommended Dosage(0.5mg per kg...ie..5ml-10ml)

# Downer Cow Syndrome - Rx Progress

Recently calved Cow  
with H/O Recumbency

-Diagnosis-

Rule out

- 1] Acute Ruminant Acidosis
- 2] Endotoxemia
- 3] Calving paralysis

-DIAGNOSIS-

Rx CBG → Responded → Milk Fever  
(Hypocalcemia)

NOT Responded

Hypocalcemia  
Hypophosphatemia  
← Responded

Recumbency [persistent/Recurrent]  
Rx CBG + Phosphate (oral/parenteral)

NOT Responded

Bovine Secondary Recumbency

CREEPER/Alert  
Downer

Non-Alert  
Downer

Hypophosphatemia  
Hypokalemia  
← Responded

Rx - Oral KCl

(Pressure Induced Myopathy  
pressure Induced Neuropathy)

NOT Responded

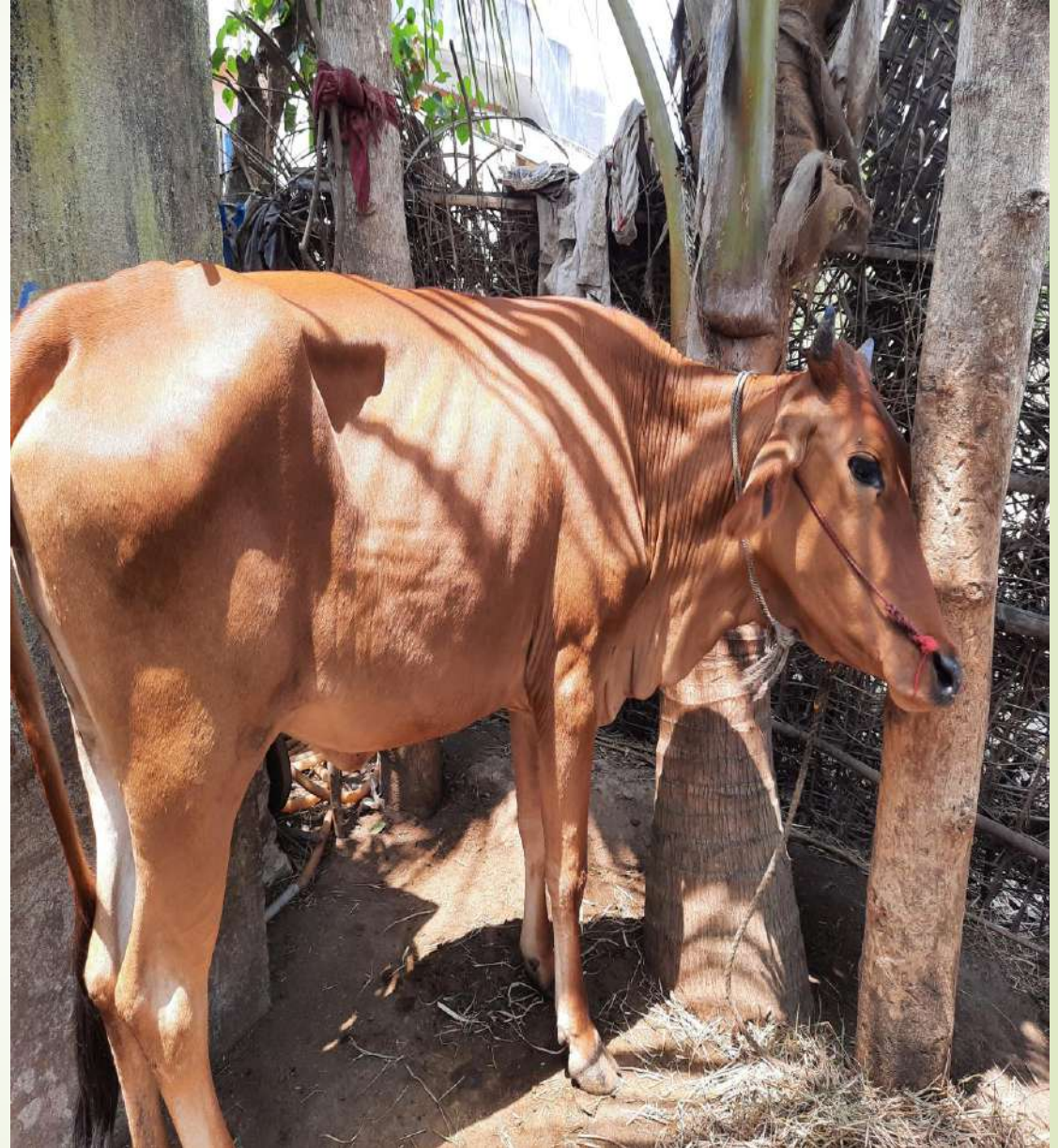
Non-Alert Downer

↓  
Assisted Lifting &  
Management

# Recumbent Cow due to Acute Ruminant Acidosis









# Acidosis induced Hypocalcemia

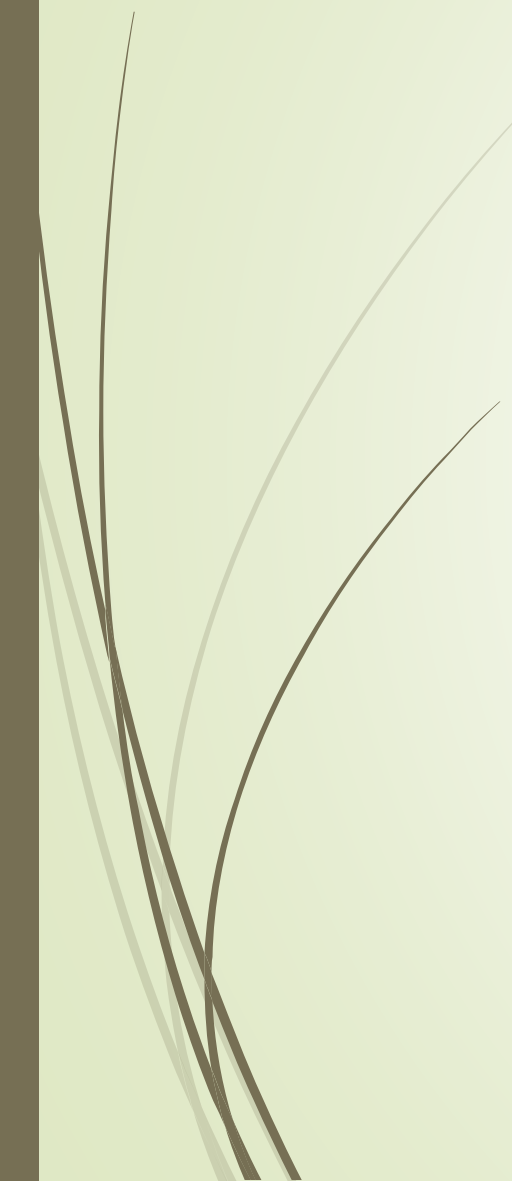








# Complications of Acidosis

- PEM
  - Hepatitis(Liver Abscessation)
  - Laminitis
  - Rumenitis
  - Secondary Hypocalcemia
  - Caudal vena cava Thrombosis
- 

# Acute Ruminant Acidosis-clinical points

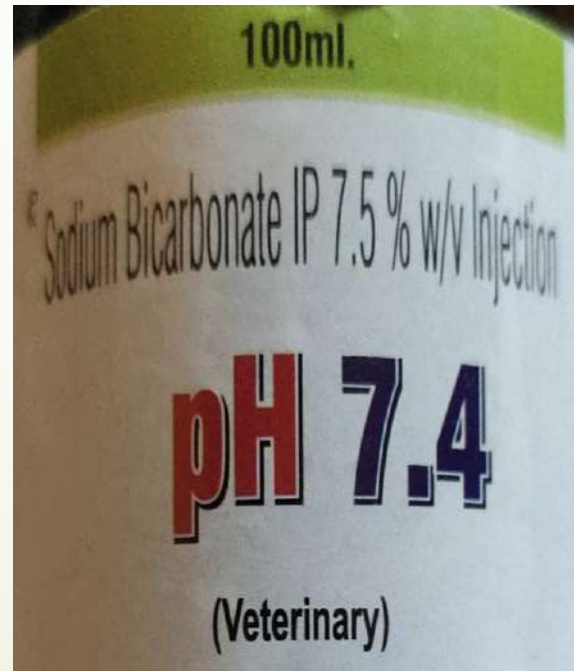
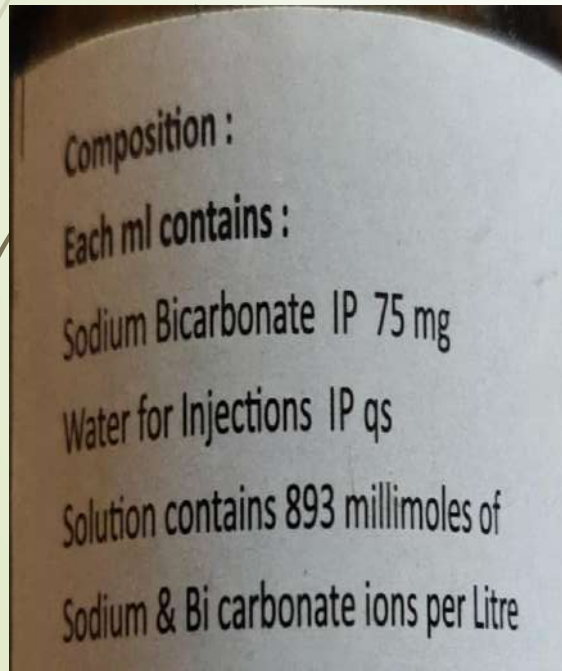
- Early the Treatment –Faster the recovery---**HR is prognostic Indicator**
- **Adm Of oral Antacids**-Sod Bicarbonate @ 1g per kg bt wt-5litres of water(one quarter of initial doses can be given every 6 hrs)
- **Primary Treatment**---Sodium Bicarbonate IV in NS–dose Calculation
- If IV Sodium Bicarbonates are used,,it is undesirable to adm oral Antacids
- Ab targeting Gram positive S.bovis esp..**Procaine Penicillin G**, OTC or ST
- NSAIDs -Flunixin for Endotoxemia and Antihistamines and Thiamine @ 10mg per Kg q24hrs for 3days
- Fluid Therapy for Rehydration-RL and NS---Strictly No DEXTROSE
- Acidosis induced Hypocalcemia-Atonic Rumen-CBG SC/IV

## Dose of Sodium Bicarbonate –Mild/Modeate/Severe

### ➤ Method 1

**$0.3 \times \text{Base deficit} \times \text{body weight} = \text{meq of NaHCO}_3$**

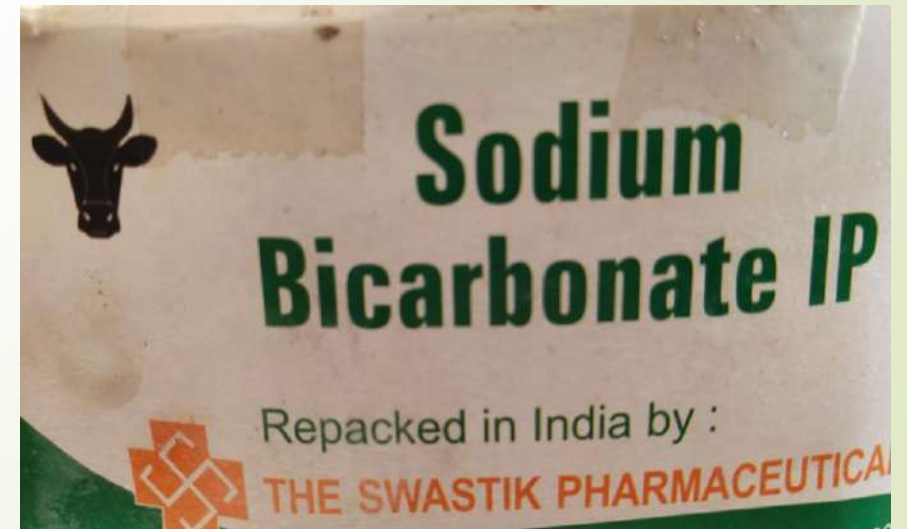
Each ml has 0.9meq of NaHCO<sub>3</sub> or each ml has 75mg



### ➤ Method 2

### ➤ Thumb Rule

➤ For 500kg cow, Adm 125g of Sodium Bicarbonate in 10litres of isotonic solution Iv for every 2% dehydration-10-20mins



# Available oral Antacids

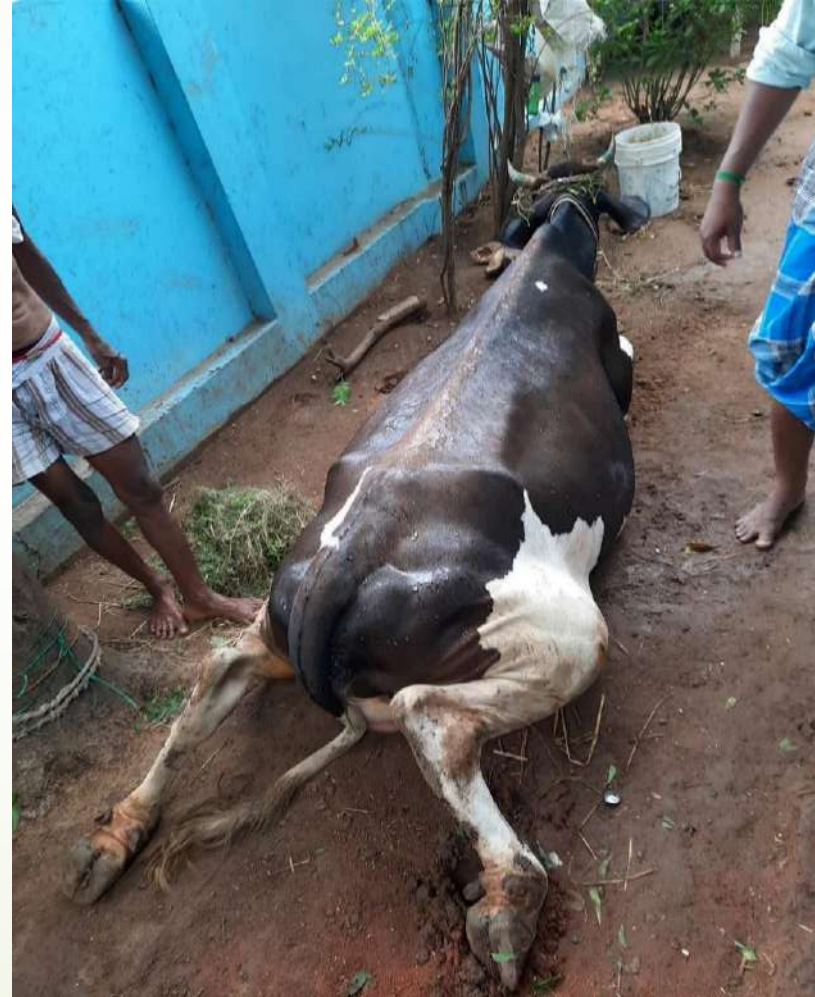
## 1-Powder Catabuff (Hester)-205MRP

## 2-Bolus Floratone Forte (Concept Pharma)-105MRP

Each bolus contains :	
Methionine	160 mg.
Cobalt Sulphate	3.52 mg.
Copper Sulphate	1.76 mg.
Sodium Phosphate (Dibasic Dihydrate)	400 mg.
Sodium Bi-carbonate	2640 mg.
Magnesium Trisilicate	4000 mg.
Gentian Powder	880 mg.
Ginger Powder	176 mg.
Vitamin B1	580 mg.
Nicotinamide	660 mg.
Live Yeast	2800 mg.
Dextrose	2000 mg.
Keep in a cool dark place.	
® Registered Trade Mark	



# Downer due to Toxemic Cds- Mastitis /Metritis



# Clinical Points –Coliform Mastitis or Metritis

- **Aggressive Fluid Therapy**-to dissolve EndoToxins
- Inj Oxytocin IV –to strip of infected Milk and faster involution of uterus
- Antibiotics-3<sup>rd</sup> or 4<sup>th</sup> Gen Cephalosporins with/without Enro LA-coliform Mastitis
- Ceftiofur sodium -Metritis
- NSAIDs-Flunixin /Ketoprofen
- Vitamin AD3E and Vitamin C (5-10mg per kg)on alternative days
- Bol Serratiopeptidase-Anti edematic ,analgesics,Fibrinolytic and Caesinolytic properties-2bolus bid
- Tab Tissue Aid-proteolytic property- 3 tab bid for 3-5 days



# Recumbency due to Dehydration and Debility



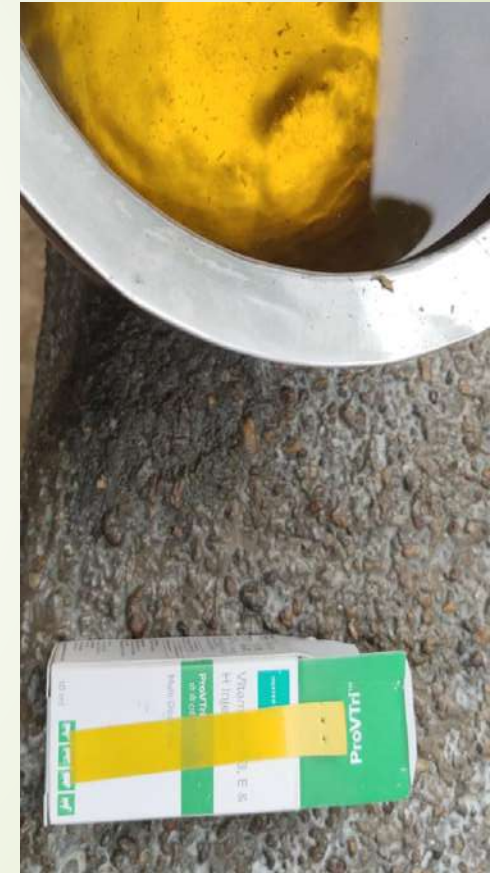
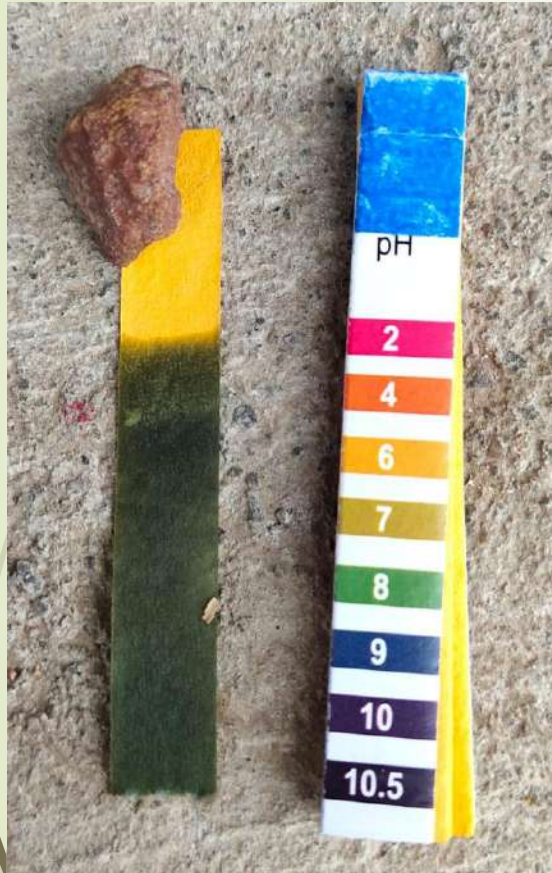




- Treatment opted
- Antibiotics-Gut Acting-  
Potentiated ST
- Antihistamines
- Metronidazole IV
- Multiple Electrolyte  
solutions-IV
- Oral Electrolyte powders-  
Electrobest /Intalyte
- Other protocols same as  
DC



# Recumbency during Late Term Pregnancy



- **Differential From other Obstetrical cdt..**
- **The urine pH** of near-term prepartum cow is good indicator for prevention of MF.
- By testing urine pH with pH paper,if it is **acidic(6.8-7) it is safe..**if it is alkaline(>8),it is **unsafe..**
- supplement with **Ammonium chloride** or **Magnesium Sulphate 25g** initially and increasing Upto-100 gms daily for last 10days. ( Inducing mild Acidosis enhances Calcium Mobilization and Ionization)  
(Ref-Vet Medicine Otto M.Radostits et all. 9th Edi)
- Treating with **DCAD PREPARATIONS POWDERS-**  
INTABOLYTE/HYPORID/METABOLITE
- Pain Management using NSAIDs

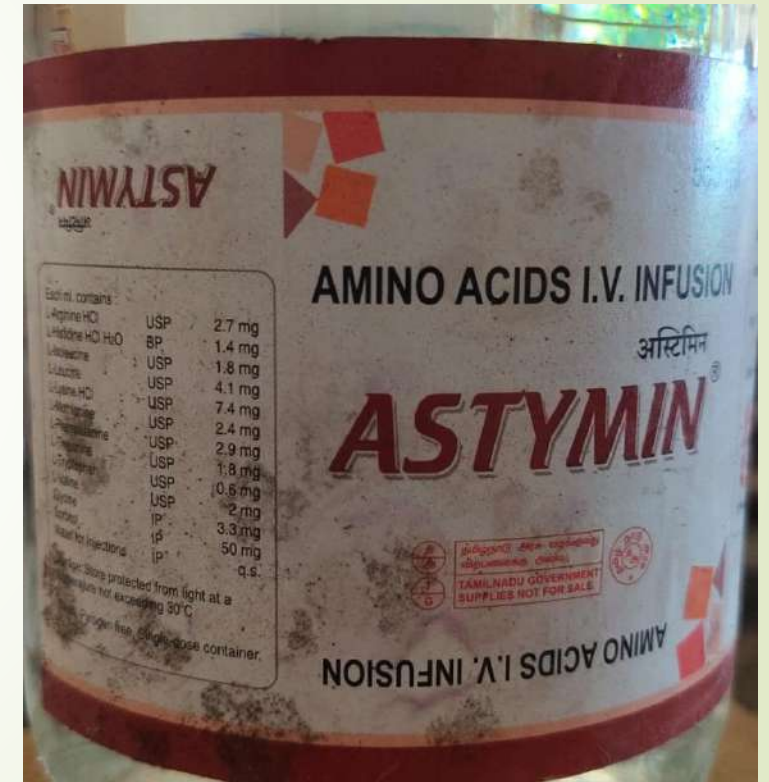


# Recumbency due to Anaemia and Hypoproteinaemia



# Clinical points –Anaemia and Hypoproteinemia

- Diagnosing the Primary etiology-HPD commonest
- Oral Liver Tonics
- Oral Hematunics-Fe,Cu,Co,B12
- Oral phosphorous and Mineral mixtures containing Cu,Co,and Zn
- Blood Transfusion in severe cases
- Amino Acid Suspensions-Expensive



# Blood Transfusion





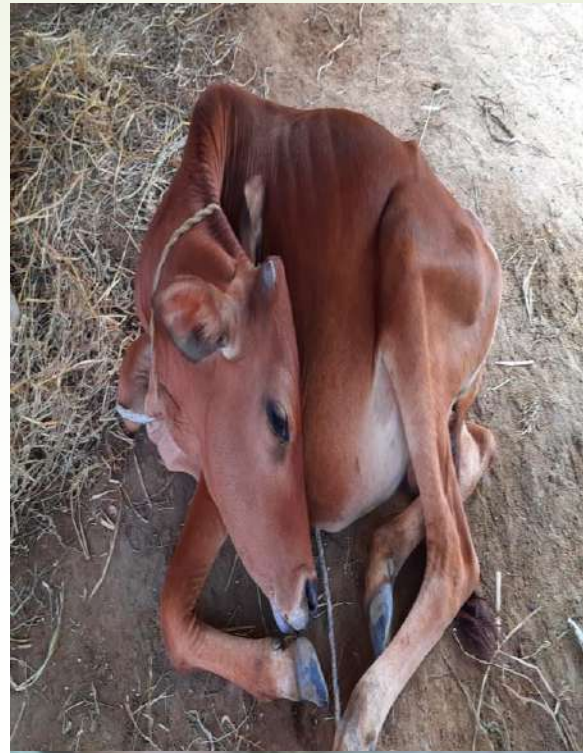


# Clinical points-Blood Transfusion

- Indicated for Animals whose **PCV** < 10-15%(Normal-24-46%) or **Hb**- <3g/dl(Normal-8-15g/dl)
- Simple Method using **2litre Uro Bag**
- Check Donor and Recipient Compatability using **Slide Agglutination Test.**
- Collect the Blood From Donor in 2litre Uro Bag filled with Anti Coagulant – **Sodium Citrate-3.8%** ..per time 2-4 litres can be collected(**10-15ml per Kg of Donor**)
- **Dose of Sodium Citrate 3.8%** is 100ml for 900ml Blood ..so **2litres -200ml** is needed
- **Emergency Drugs**-Adrenaline 1:1000(1mg/ml)-5ml
- IV Needle 16/18G or Blood Collection Needle(microchip needle)
- Adverse Reaction-is due to Hemolysin and Not due to Agglutinin.

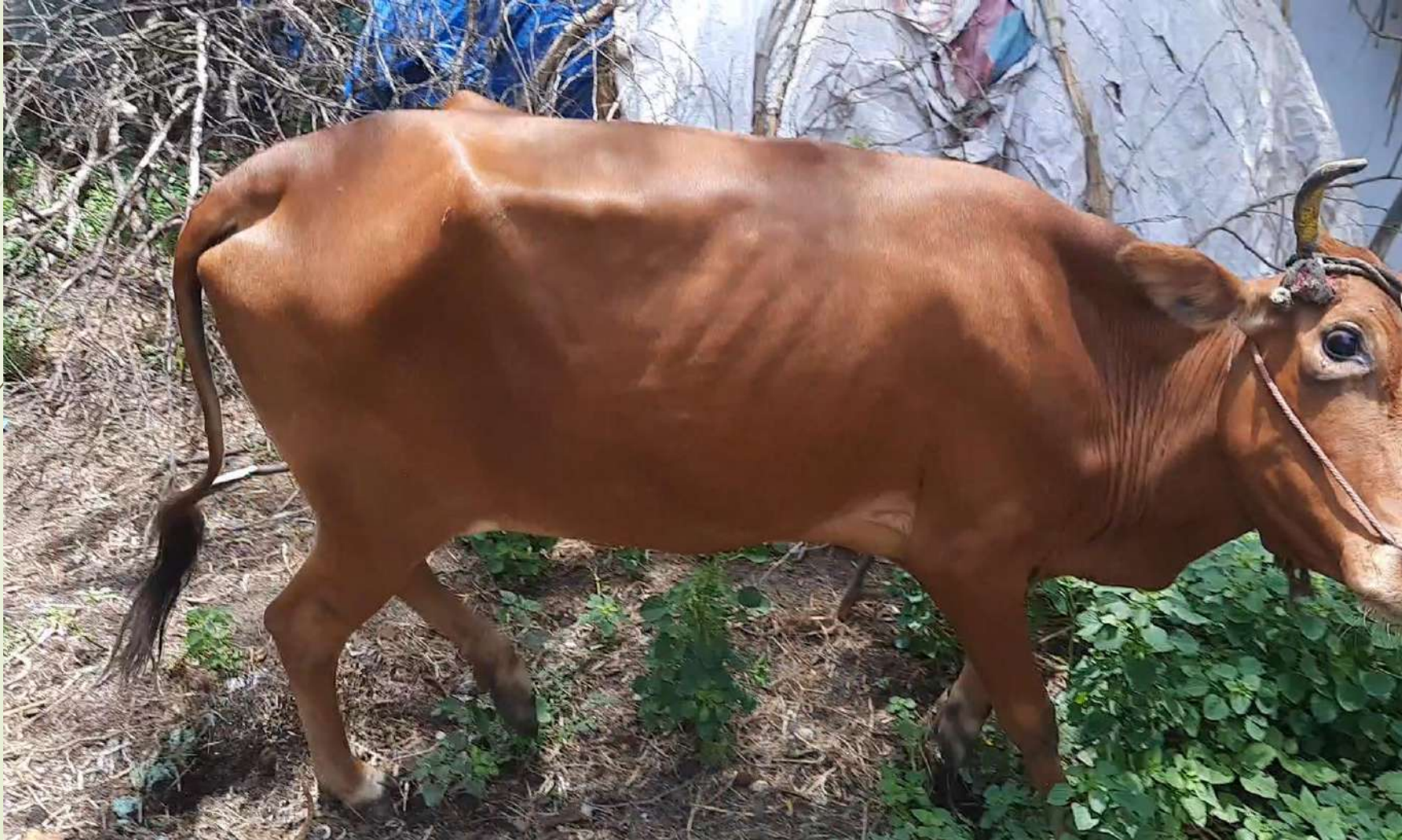
# Recumbency in Calves

- Hypovitaminosis A
- PEM
- Worm Load
- Debility and Dehydration
- HypoMagnesimic Calves
- HPD



# Approaching a case of Staggering Gait and InCo-ordination





## Fine Muscle tremors to Convulsions







# Differential

- Nervous form of Ketosis
- HypoMagneemia
- PEM/Hypovitaminosis A
- Listeriosis
- Cerebral form of HPD...BT or Babesiosis, Tryps
- Plant poisoning-Sorghum
- Lead poisoning
- Tetanus
- Rabies



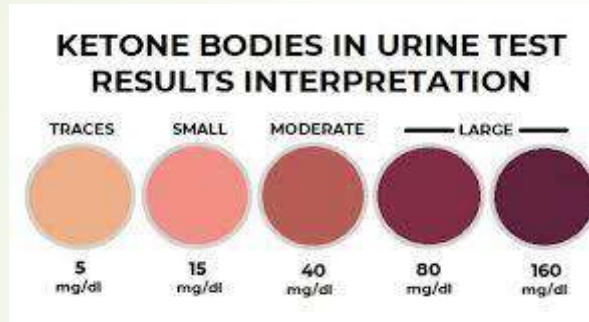
# KETOSIS VS HYPOMAGNESEMIA

- Walking in circles
- Head pushing
- Apparent blindness
- Vigorous licking
- Aimless move and wandering
- Chewing with salivation
- Prefer only roughages than concentrates
- Responds to Treatment
- PICA
- InCoordination
- Hyperesthesia
- Tetany
- Tonic Muscular spasms
- Convulsions
- High Fatality if not Treated early



# Cow side Tests

- Ketosis
- Rotheras Test-



- Hand Made devices-Glucometer
- Normal Value-60-80mg/dl



# Ketosis-Clinical Points

- The dose recommended is **500 mL 50% dextrose IV**. Administration of IV dextrose leads to an immediate hyperglycemic state, lasting approximately 2 hours (50g per 100ml...**250g in 500ml**)...**D25 2bottles enough**
- **Dose of DEXAMETHASONE-Total Dose-20mg/Cow...5ml enough (Reduces Tissue Glucose uptake and Milk Production)**
- Oral commercially available Glucose precursors-and **NOT ORAL JAGGERY or MOLASSESS-VFA-Acidosis**
- **Vitamin B12** (cyanocobalamin) and **phosphorus** (butaphosphan) -supportive therapy for ketosis since they are **integral to the Krebs cycle**.-Inj **INJECTIPHOS ZYDUS**
- **Insulin Therapy(200-300IU Sc) q24-48 hrs per Animal In Non Responsive or Recurrent Cases**

# Hypomagnesaemia-Clinical Points

- **Rapidly growing grasses** may contain relatively high concentrations of **potassium** and most always have **low concentrations of Mg**.
- Parenteral Magnesium Injection 1ml per Kg IV slow
- **Followup**
- **Oral Mg salts:** 50% Mg sulfate solution (125–150 mL for adult cattle).
- **Subcutaneous injection** of 100–200 mL (for adult cattle) of a 20%–50% Mg sulfate solution. **Limit to 50 mL per site to avoid tissue damage.**



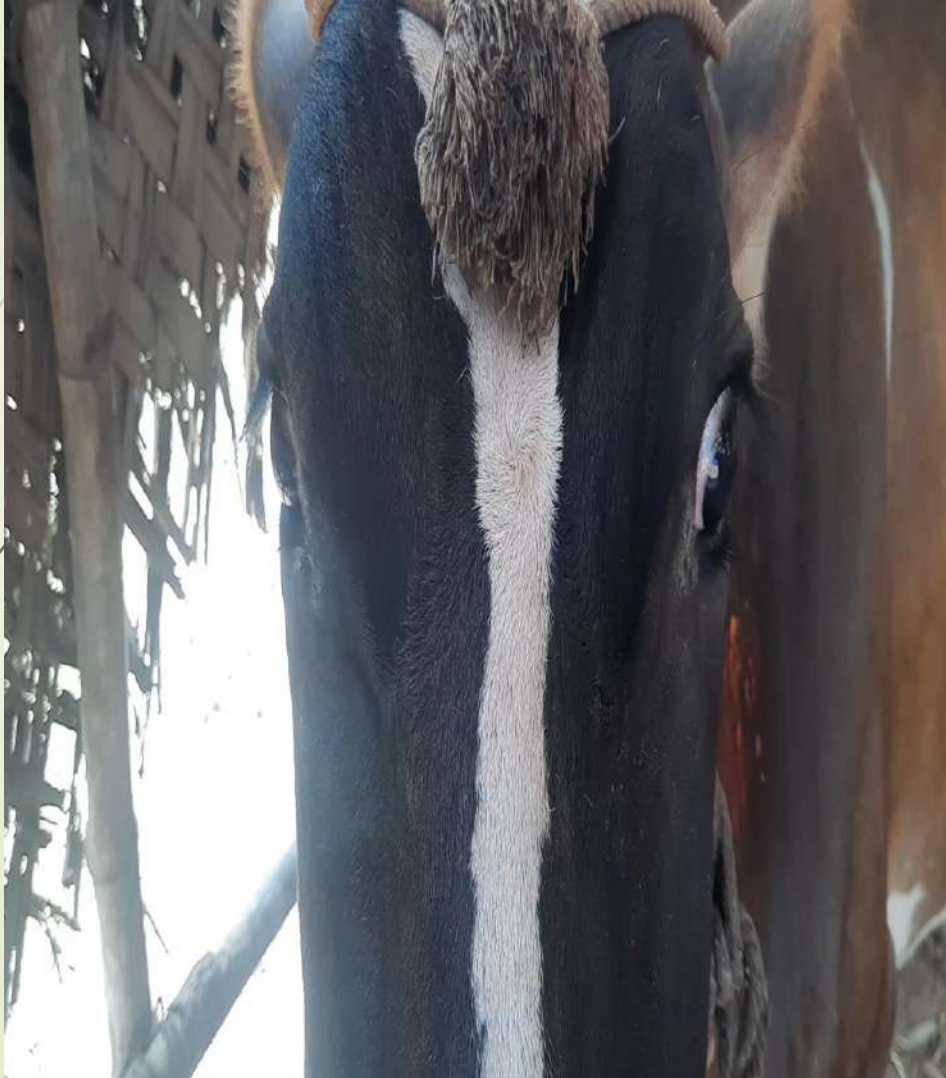
# Immediate Recovery



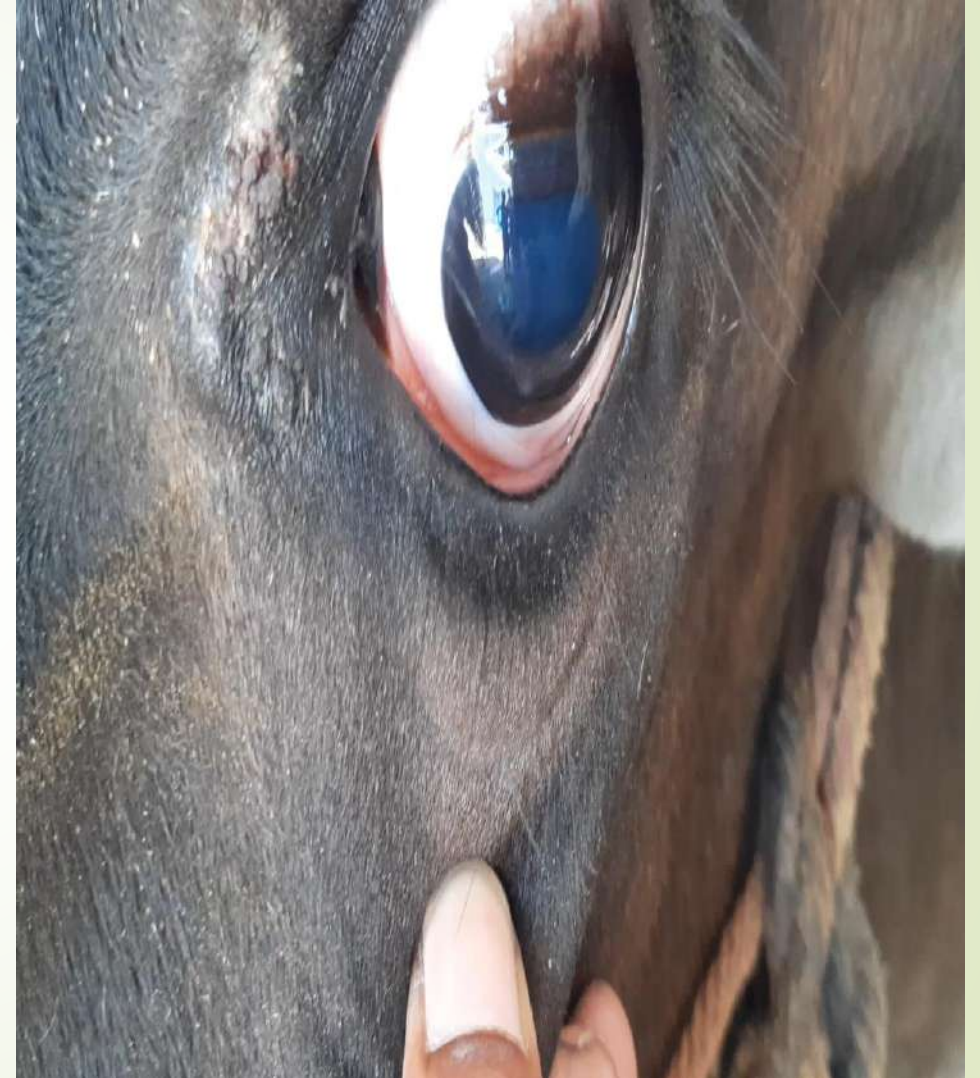


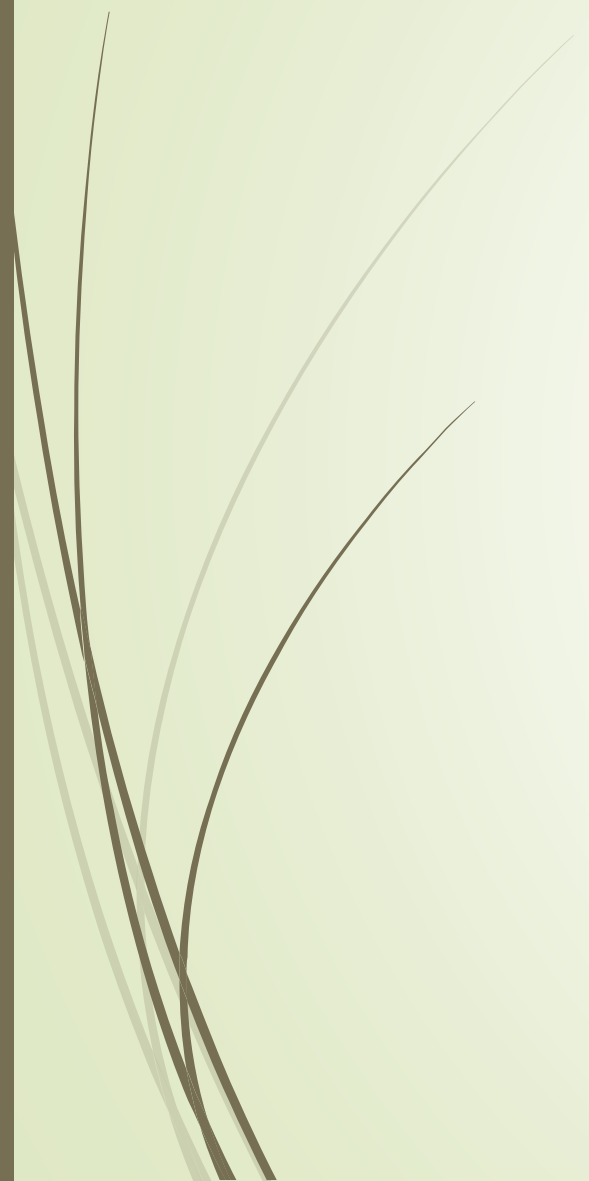
- Pregnant 8m
- Incoordination, Staggering Gait
- Difficult to get up
- Wandering
- Bruxism
- No Fever
- Normal Sugar Levels

## DorsoMedial Strabismus



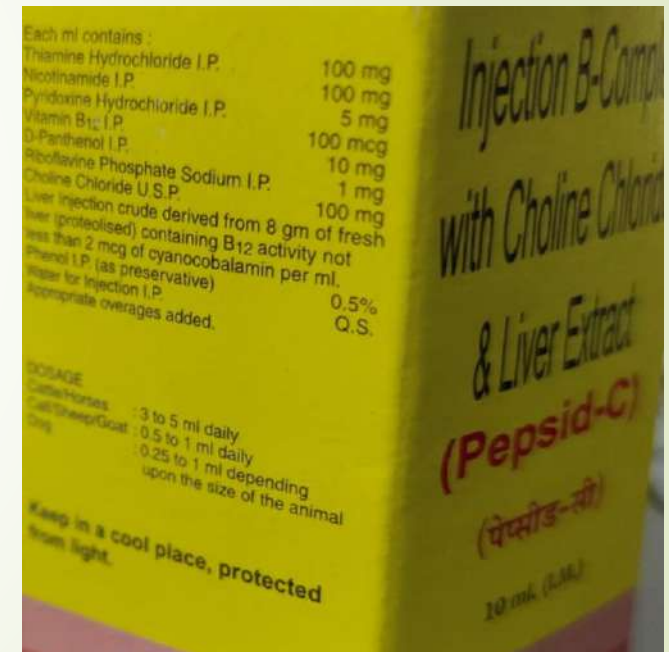
## Nystagmus





# PEM

- Signs-Head Pressing, Blindness, Convulsions, **Nystagmus** and **DM strabismus** and **Recumbency**
- Thiamine at 10mg per Kg 3-4 times a day initially...**70ml of B1B6B12 inj per treatment for 3days atleast**
- Dilute it with NS or DNS and give slowly..**Direct IV leads to SHOCK AND DEATH**
- Cerebral Damage-**Dexamethasone** 1-2mg per Kg IM or Sc in Non Pregnant Animals
- Anti Convulsants if Needed
- Injectable IM and Oral Thiamine prep.,for followup- Hepatal Ds,Vitakind Liv and Aviplex EC

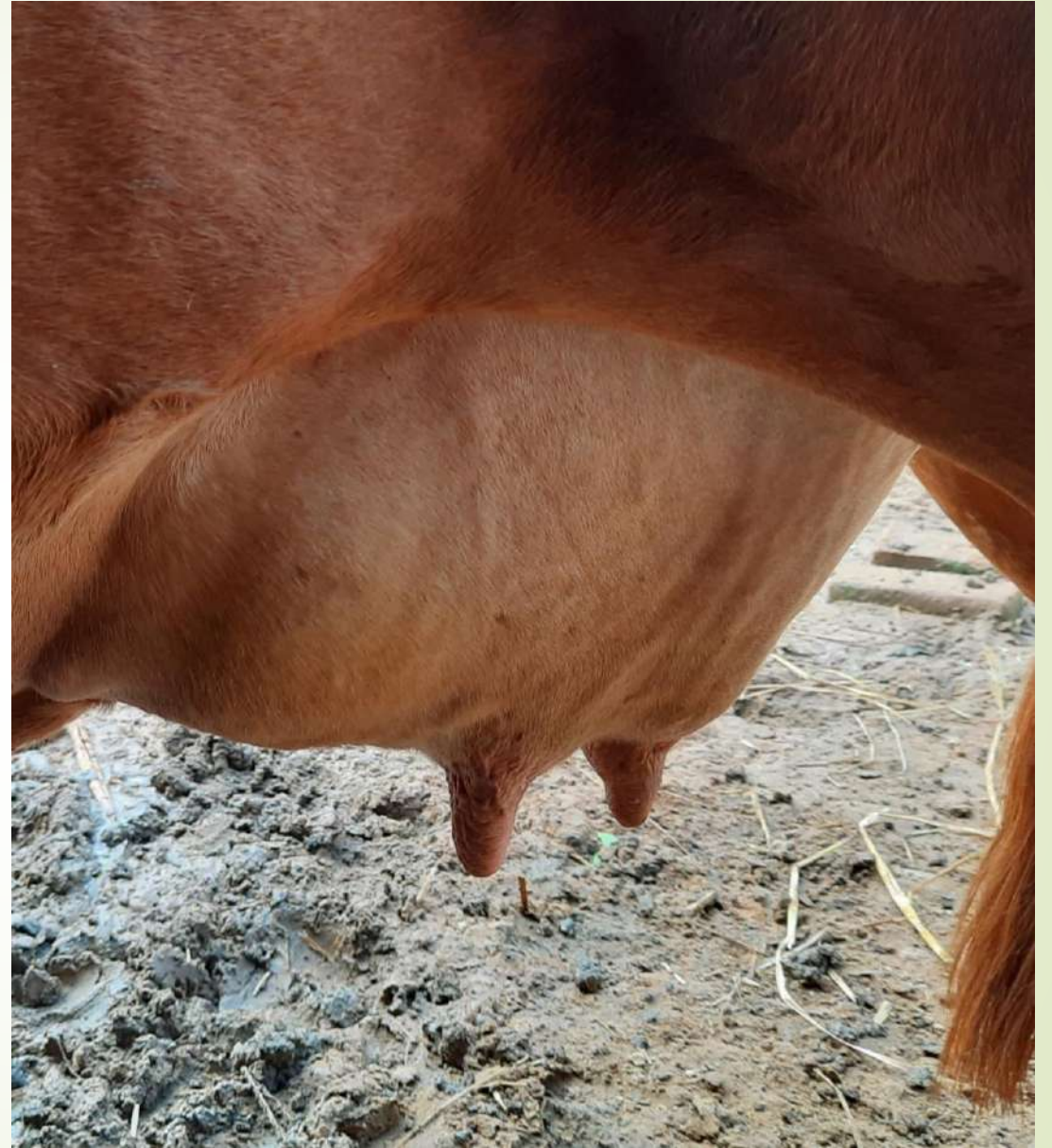




# After Recovery

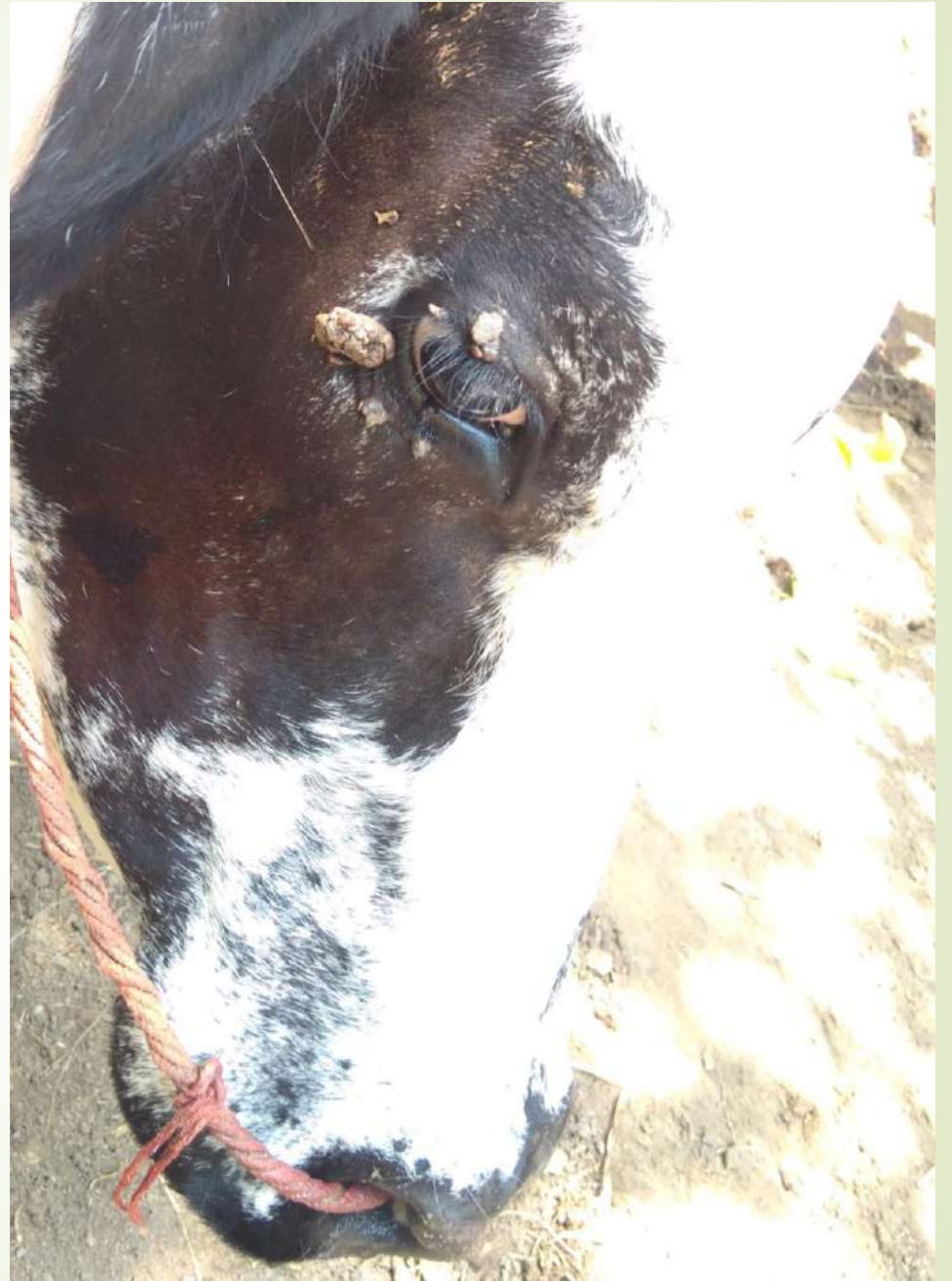


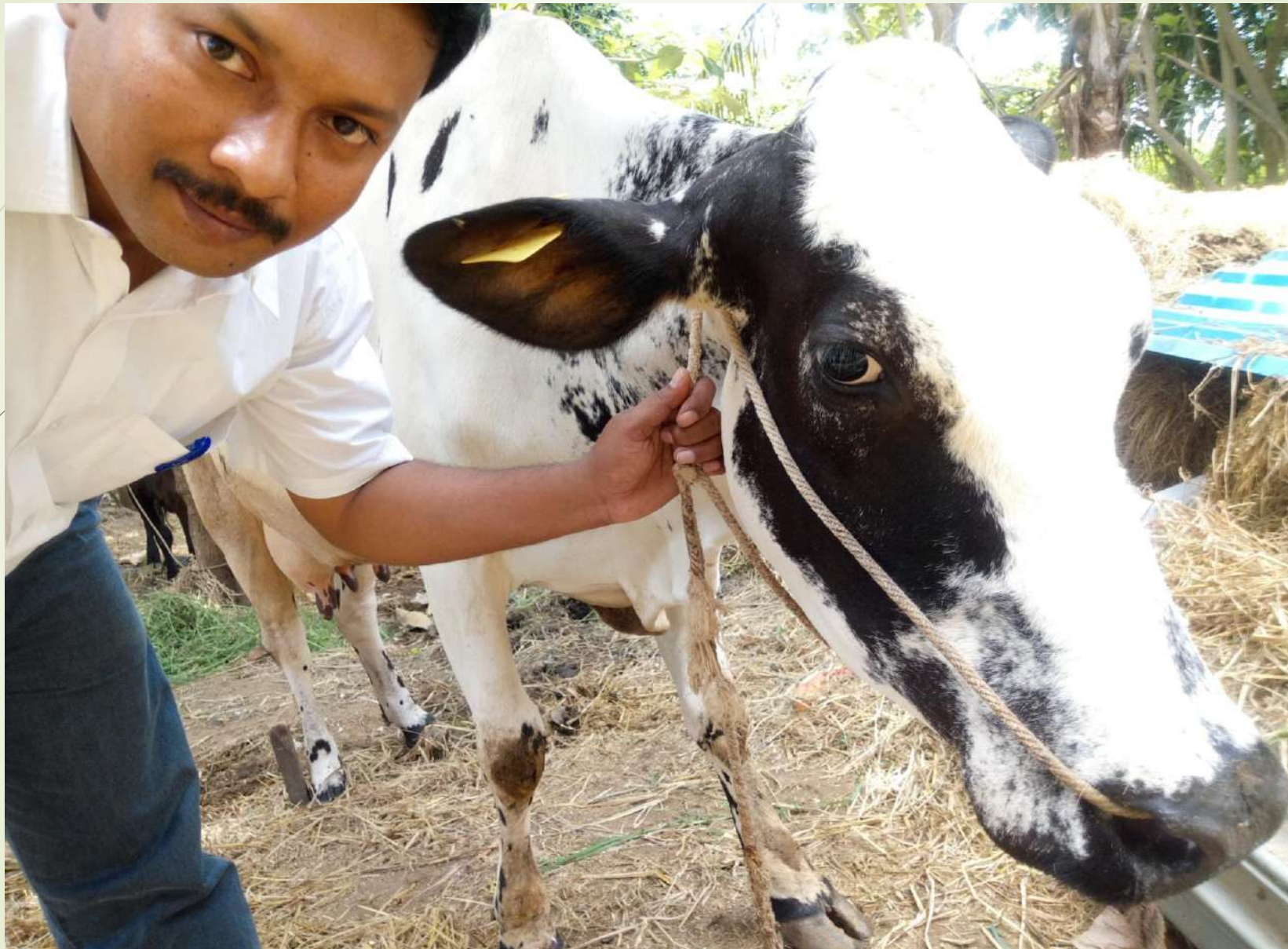














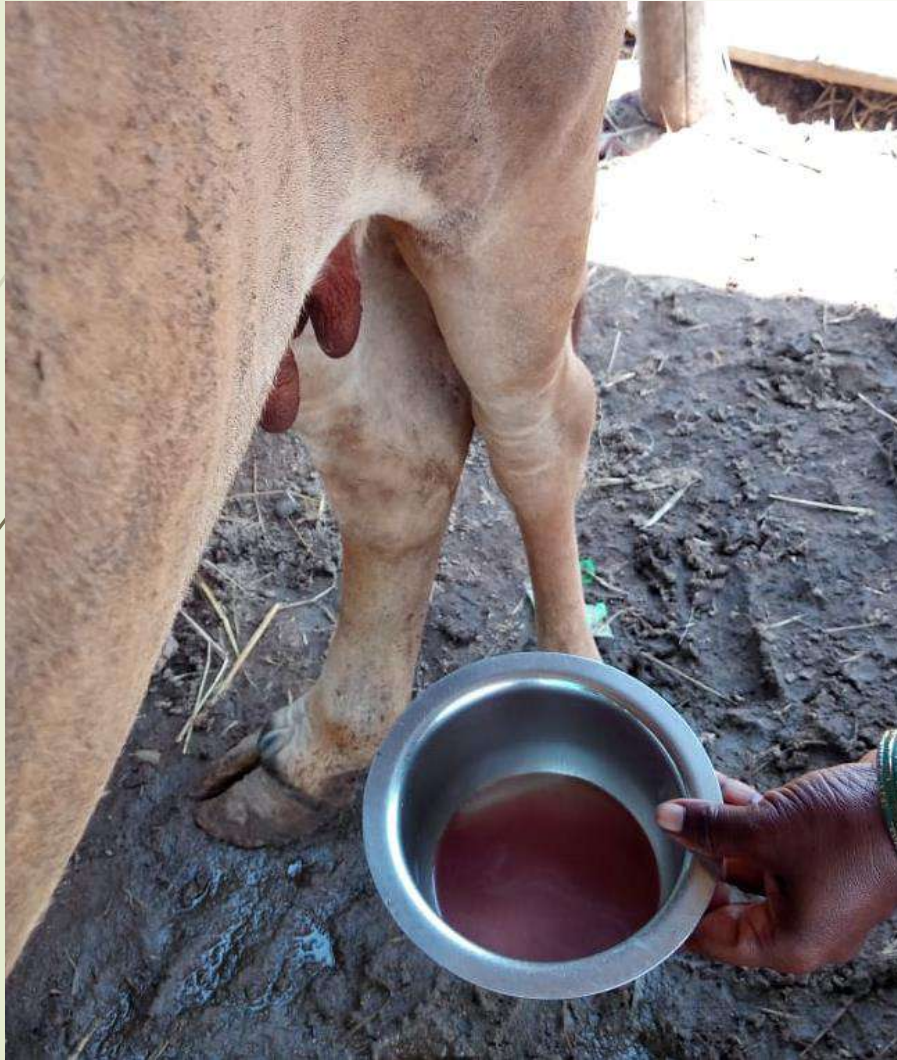
visual2-papillomatosis



# BPV-Treatment protocol available

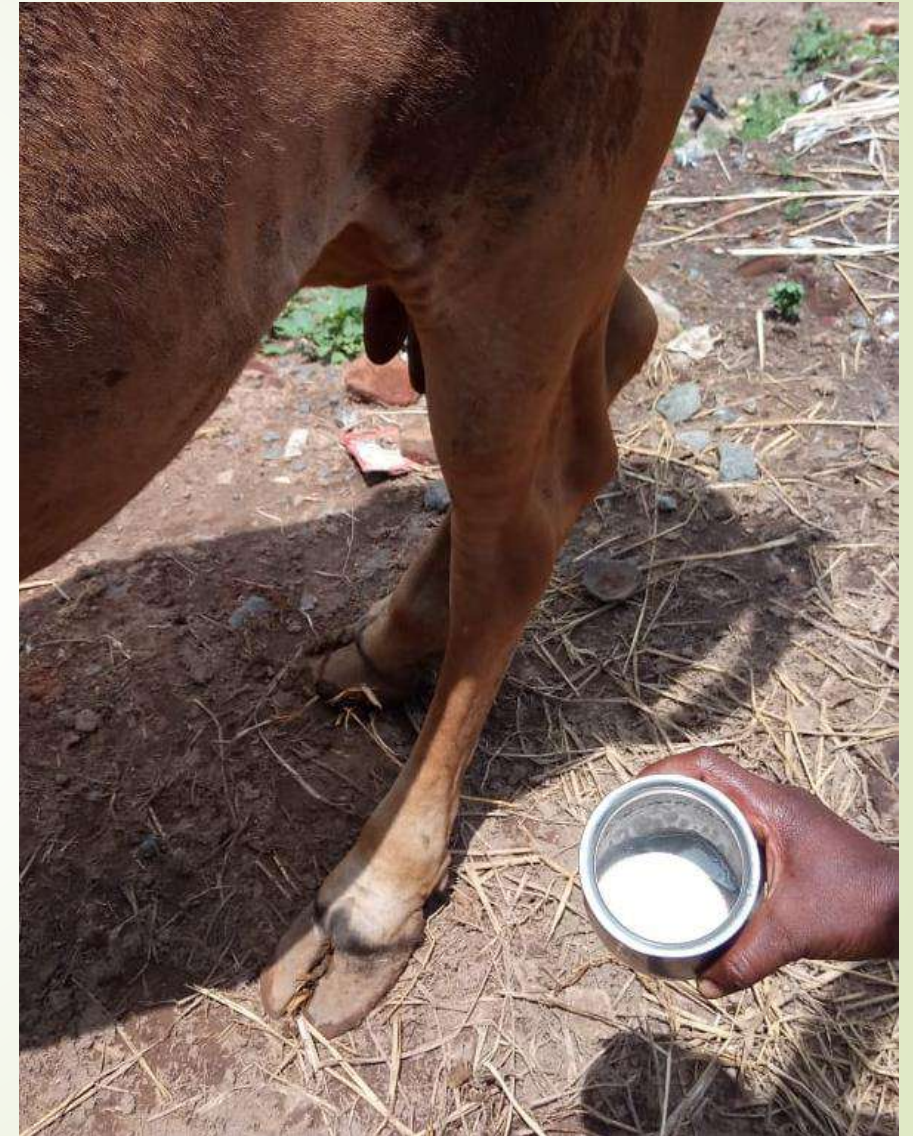
- **ImmunoCompromised Animals** –Head,Neck,Eyes ,Shoulders,Ventral Abdomen and In Udders
- **Autohemotherapy**- 20ml of Venous Blood for 450kg btwt–jugular venipuncture-10ml SC and 10ml IM-once for 6weeks
- **Mode of Action**-Stimulation of **RES**-Macrophages-Regression of Papillomas
- **Inj Levamisole** at 2.5mg per kg –ImmunoStumilant and AntiNematodal
- **Homeo**-Thuja 30c 10drops sublingual and External Thuja ointment
- **LAT** 15ML deep IMq48hrs once-5 times-**Pedunculated wart**,Not in Sessile and Flat Warts.
- Severe Cases-**Autogenous Vaccines**-older papillomas in 10%Formalin-NS-SP 2mg/ml-10ml of Suspension –SC-6wks

# Blood in Milk-Haemolactia



## Treatment Protocol-

- **Non Infectious**-Trauma-Knuckling Method of Milking  
-Capillary Bleeding in Heifers with Udder edema
- **Infectious**-Leptospirosis/E.coli-Rule out
- Parentral **Hemostat**-Tranexamic Acid IV
- Parentral **coagulant**-Ca IV
- Inj **Vitamin C** IM (Wound Healing and Tissue repair) at 5-10mg per Kg
- Oral **Camphor**(4-5) in banana bid  
Oral **Curry leaves** 200g in 5Lemon bid-Styptic action  
Oral **Touch me not** plant-200g bid-Alkaloid-Mimosine-adrenaline like substances
- Oral **Formalin Therapy**(5ml in 500ml water once oral)
- Inj **Progesterone Therapy**-Recently calved animals.





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Veterinary Assistant Surgeon  
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As Veterinary officer-KMF Karnataka-2007-2009

As VAS

-DAH-TN

-2009-Till date

**Thank you...**