



## EMERGING DISEASES IN DOMESTIC ANIMALS: FIELD OBSERVATIONS & TREATMENT – A COMPLETE REVIEW

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### ABSTRACT

Emerging diseases studied in field for 20 years in Tamil Nadu, India. No new disease in the earth. Naturally diseases are hidden, emerging and re-emerging. Glaciers plays major role in preserving and spreading microorganisms (sea water is a sterilizing media) and other pre-disposing factors chronologically. I have explained many diseases caused by micro-organisms, deficiency and excess of minerals, etc..and their treatment.

**KEYWORDS :** Domestic animals, cattle, sheep, goat, dog, cat – emerging diseases – treatment

### 1. ADIPSIA

Means not drinking water, very common in field.

#### SYMPTOMS

Adipsia, with or without nasal discharge and anorexia and hypogalactia.

#### PATHOGENESIS

In oral cavity Ductus incisivus is located in either side of papilla incisiva and again the same is located between the dental plate and first ridge of the hard palate. Ductus incisivus is a small opening where nothing will enter into it normally. Excess air bubbles naturally coming out through ductus incisivus from respiratory tract. Inflammation of ductus incisivus occur due to infection from dry or dusty flour or bran or water. When affected animal dips mouth in water to drink, little quantity of water also enter into ductus incisivus and in turn enter into sinuses and respiratory tract, which is unbearable by the animal. The animal try to send out the entered water by sneezing and severe shaking of head, in due course the animal scares to drink water further. If untreated sinusitis, respiratory tract infection occur.

#### DIAGNOSIS

History of Adipsia and reduced yield.

#### PROGNOSIS

Good.

#### TREATMENT

Enrofloxacin 15ml daily for 2 days, after 48 hours recovery is good. In delayed cases combine Enrofloxacin and Ampicillin with cloxacillin or Strepto penicillin. If anorexia present with adipsia, give liver extract for two days (choose suitable antibiotics based on your experience and geographical locality).

**REF:** Umakanthan T, Floxidine Injection In The Treatment Of Adipsia In Cattle. The Blue cross book Vol. 17 p:40-46 Ductus incisiva



### 2. SUBCUTANEOUS EMPHYSEMA IN COWS

Occur due to sudden feeding of green proteinacious fodder which are regularly fed on dry fodder.

#### SYMPTOMS

Predominantly crepitating, fluctuating subcutaneous swelling over the neck, and/or back, and/or abdominal region.

Whole body is puffed like a balloon. On incision or puncture only a little air is escaped because in the subcutaneous tissue the air becomes pocketed.

#### PROGNOSIS

Good

#### TREATMENT

Virginiamycin 400mg dissolved in 20 ml of distilled water administer intra ruminally for 5 days. Avoid feeding of green lush fodder. Animal return to normal habit like increased feeding and yield from 3<sup>rd</sup> day onward. Complete recovery noticed in 10-20 days. Virginiamycin is a feed additive (polyether antibiotic), normally available in poultry farms and highly economical.

#### PHARMACODYNAMICS OF VIRGINIAMYCIN

The proteinacious fodder is acted upon by microorganism, 3 methyl indole (3 MI) is produced in rumen from the bacterial degradation of abundantly present tryptophan in lush green pasture. The exaggerated respiratory effects break alveoli following escape of air into subcutis resulting emphysema. The intraruminally given virginiamycin inhibit the bacteria and 3 MI and allowing for spontaneous recovery.

The emphysema also seen in faulty and infected drenching.

**REF:** Umakanthan T, Treatment of aspiration borne subcutaneous emphysema in cows with virginiamycin – a field trial report, Indian Vet.J., Aug 2000, 77:704-705

### 3. RECURRENT MILK FEVER

Recurrent Hypocalcemia or relapsing milk fever symptoms occur in recently calved cows (within a week time). Milk fever is not due to hypocalcemia (quantitative), but due to insufficient ionized calcium (qualitative).

#### SYMPTOMS

The symptoms are as in milk fever. When Mifex or calcium

therapy is given classical response noticed, but after 12-18 hours again milk fever symptoms occur including wry neck, comatosed condition and so on.....thus relapse. The cows needed 450 ml of Mifex every 12 hours for 5 or 6 days but mortality or disposable is the usual sequel.

#### PATHOGENESIS

In the blood; inactive calcium is 41% (protein bound), 9% unionised calcium and active ionic form is 50%. After parturition, sudden progesterone withdrawal may cause more estrogen production. This higher estrogen level cause reduction in calcium ionization resulting in milk fever condition.....and relapsing until estrogen level becomes normal. In some animals Calcium is deionized due to reaction with citrate ions also.

#### DIAGNOSIS

Usually misdiagnosed as ketosis, poisoning. Hence confirm recurrent hypocalcemia, if cow shows classical milk fever symptoms within 18 hours after 450 ml of Mifex administration.

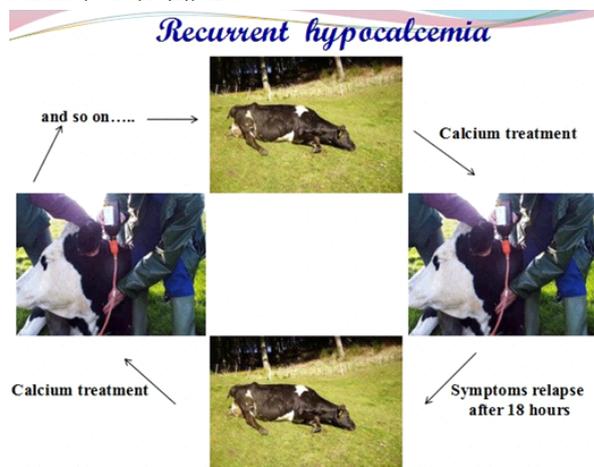
#### PROGNOSIS

Good.

#### TREATMENT

Classical response noticed with 2.5 - 3 gms of progesterone (Duroprogen) and Mifex 450ml administration. After 12 hours of treatment few cases may require Mifex 200- 450 ml if milk fever symptoms recur.

**REF:** U.Umadevi, K.Saranya, P.Madhu Mathi and T.Umakanthan, 2015, Successful treatment of recurrent milk fever in field, ISOR Journal of Agriculture and veterinary Science, Vol.8;10(II), 32-33.



#### 4. TREATMENT OF VIRAL DISEASES

In field generally following viral disease are found, FMD, Peste des petits, Sheep pox, Cow pox, Distemper, Parvo viral enteritis, Bluetongue.

#### CATTLE

Glycerin -7ml+13ml distilled water mixed thoroughly, 10ml i/m at two sites. Benzathine penicillin - 48 lakhs iu- i/m Repeat same treatment after 48 hours for 3 times. Advice to avoid any drenching.

#### SHEEP AND GOAT, DOGS

Each 2ml of the above solution of glycerin and distilled water and benzathine Penicillin i/m.

Repeat same treatment once after 48 hours for 3 times.

To relieve the post symptoms in Canine Distemper recovered dogs, advice paste of 10 leaves of Thulasi (*Ocimum sanctum*) with sweet and 1 multi-vitamin tablet for 30 days

The pharmacodynamics or additive/ synergistic effect of Glycerin is under research. This treatment found to be ineffective in rabies cases. This drug regimen may form a new lawn in human viral disease therapy.

**REF:** Umakanthan T, Field trial reports - clinical treatment of viral diseases in ruminants, *The Indian journal of field veterinarian*, vol 2:2 Oct - Dec 2006, p.46-47.

#### 5. AGALACTIA IN POST FOOT AND MOUTH DISEASE (FMD) COWS

Though not emerging but existing economically important disease. Foot and Mouth Disease (FMD) affected full term pregnant cows after calving always showed Agalactia.

#### PROGNOSIS

Very good.

#### TREATMENT

Corticosteroid 40 mg I/M or Prednisolone acetate 100 mg I/M or Isoflupretone acetate 10 mg i/m, Rintose 2 bottles, Oxytocin 4ml and Galactagogue powder 50gm twice daily for 1 week. Repeat the same treatment after 48 hours, if required once again. Massage the udder and advice to strip the milk 6 times daily for a week. Advice for good feeding.

#### ECONOMICAL IMPORTANCE

Minimum 75% of previous lactation yield achieved.

**REF:** Umadevi. U, Madhu Mathi. P, Saranya, K., and Umakanthan, T, 2015, Successful treatment of agalactia in post food and mouth disease affected cows, *International Journal of Food, Agriculture and veterinary sciences*, Vol.5 (2); 58-59

#### 6. STANDING CONDITION IN COWS

Usually occur after treatment to Downer cow syndrome. Probably due to parenterally injected excess phosphorus.

#### SYMPTOMS

Downer cow syndrome treated cows seen standing long time and not lying down.

#### DIFFERENTIAL DIAGNOSIS

Also exam for; partial/complete blind animals affected with listeriosis found to have standing for 4 days, which may be due to the fear of lying down due to blindness.

#### TREATMENT

Calcium with vitamin D3-30 ml i/m. Untie and allow the animal to walk freely.

Animal lies down within 24 hours.

#### 7. HYPERCALCEMIA

Usually occur after multiple treatments by quacks/ paravets/ vets to recently calved cows leading to increased serum calcium concentration.

#### SYMPTOMS

Animal recumbent, lies the head to the ground, unable to get up, cessation of rumination and urination, highly depressed or semi comatosed. Auscultation revealed muffled heart sound and 32-40 beats per minute, shallow respiration.

#### DIAGNOSIS

Based on symptoms, and history of having treated with many bottles of calcium intravenously and/or oral to milk fever condition. Usually misdiagnosed as ketosis, toxemia and non-responding milk fever.

#### PROGNOSIS

Good.

**TREATMENT**

Carefully drench 750 ml and after 2 hours 400 ml of Antacid (Digene). Antacid inhibit calcium absorption from gut. Observe the animal every hour. Within 6 hours the animal get up and urinate.

**PHARMACODYNAMICS OF ANTACID**

In cattle, major source of calcium is from alimentary tract absorption. Even though there is more serum calcium, the absorption from GI tract is also simultaneously occurring. The drenched antacid forms a coating over the mucosal layer of GI tract and thus prevents the calcium absorption. Within 6 hours of oral antacid, the serum calcium level is spontaneously reduced by deposition in bone and physiological elimination through urine.

**REF:** U.Umadevi, K.Saranya, P.Madhu Mathi and T.Umakanthan, 2015, *Successful management of Hypercalcemia in multi-treated milk fever cows, International Journal of Science and Research, Vol4(9); 2015*

U.Umadevi, P.Madhu Mathi and T.Umakanthan. *A field study on serum calcium and phosphorus incalciv cyclers and its treatment in cattle, European Journal of Experimental Biology, 2015, 5(10): 24-25*

**8. (A) TREATMENT OF ACARICIDERESISTANT TICKS IN CATTLE**

Resistance of cattle ticks against the existing acaricides is a major problem at present throughout the world. Thus prevention of diseases transmitted by the ticks in cattle has become questionable.

**SYMPTOMS**

Clinical examination revealed varying symptoms such as debility, roughened skin, anaemia, presence of small to engorged ticks, lymphnode enlargement and reduced production. All had treatment for the same with various brands of acaricides available in market but found to be ineffective.

**TREATMENT**

Cows were treated with topical application of Sesame oil, 100 – 150 millilitre per square metre (or ad libidum) body surface area depending on tick burden, throughout the body only once. No other treatment given. From 24 to 72 hours, 75-90% ticks were clinically found reduced.

**MODE OF ACTION**

Ticks feed on the oil, engorge and fall down from the animal's body. It is miraculous to understand the voracious feeding habits of cattle ticks on sesame oil. It needs further study. It is also important that the ticks had not developed resistance against sesame oil even the oil is in use from time immemorial and now proved comparatively effective than present acaricidal treatment.

**REF:** Madhu Mathi P, Umadevi U, Saranya K and Umakanthan T. *Successful Treatment of Acaricide Resistant Ticks in Cattle. Indian Journal of Applied Research, Vol 6:3, march 2016, p616.*

**8. (B) LEUCAS ASPERA TREATMENT FOR ECTOPARASITISM IN RESISTANT CATTLE****TREATMENT**

Finely ground paste of leaves of *Leucasaspera* (tamil name: *Thumbai*) applied all over the body. 93% recovery noticed.

**REF:** Umadevi, U. and Umakanthan, T. (2016). *Leucasaspera treatment for ecto-parasitism in resistant cattle – Trial report. Asian J. Animal Sci., 11(2): 169-170.*

**CAUSE****9. (A) FAT REDUCTION IN MILK**

Insufficient fibre (below 17%) in feed

**TREATMENT**

100 gm of sodium bicarbonate 30 gm of magnesium oxide  
Advise more fibrous feed.

**9.(B) SOURY MILK****HISTORY**

Milk get clotted after boiling

**TREATMENT**

10 lemon juice given orally for two days, improvement seen after first day and cured after second day treatment. After two days usually mastitis develop in hind quarters.

**9.© WATERY MILK**

Mostly due to chronic mastitis usually non-inflammatory (give pendistrin SH or suitable antibiotic), feeding of more concentrate or reduced roughage feeding.

Advise more feeding of roughage and reduced concentrate (i.e 1 part concentrate: 3 parts Roughage). Give sodium bicarbonate orally until the milk becomes thick.

**10. TREATMENT OF FIBROSED UDDER IN COWS**

Fibrosis is a common sequel of unsuccessful mastitis treatment which is of sentiment and economic importance.

Cows were infused with Pendistrin- SH ointment 6ml (ZyduSAH) once in 24 hrs for 7 days intramammary and topical application of Mastilep gel (Ayurvet) twice daily for 10 to 15 days. 99% recovery noticed with reduced quantity of milk yield.

**REF:** Umadevi U, Saranya K, Madhu Mathi P and Umakanthan T. *Successful Treatment of Fibrosed Udder in Cows, International Journal of Recent Scientific Research, Vol. 6, Issue, 4, pp.3574, April, 2015.*

**11. HYPERCALCEMIA**

Usually occur after multiple treatments for milk fever by quacks/ paravets/ vets to recently calved cows, which leads to increased serum calcium concentration.

**SYMPTOMS**

Animal recumbent, lies the head to the ground, unable to get up, cessation of rumination and urination, highly depressed or semi comatosed. Auscultation revealed muffled heart sound, 32-40 beats per minute, shallow respiration.

**DIAGNOSIS**

Based on symptoms, and history of having treated with many bottles of calcium intravenously and/or oral to milk fever condition.

Usually misdiagnosed as ketosis, toxæmia.

**PROGNOSIS**

Good if treated earlier

**TREATMENT**

Carefully drench 750 - 1000 ml and after 2 hours 400 ml of Antacid (Digene). Antacid inhibit calcium absorption from gut. Observe the animal every hour. Within 6 hours the animal get up and urinate.

**PHARMACODYNAMICS OF ANTACID**

In cattle, major source of calcium is from alimentary tract absorption. Even though there is more serum calcium, the absorption from GI tract is also simultaneously occurring. The drenched antacid forms a coating over the mucosal layer of GI

tract, thus prevents the calcium absorption. Within 6 hours of oral antacid, the serum calcium level is spontaneously reduced by deposition in bone and physiological elimination through urine.

**REF:** U.Umadevi, K.Saranya, P.Madhu Mathi and T.Umakanthan, 2015, Successful management of Hypercalcemia in multi-treated milk fever cows, *International Journal of Science and Research*, Vol4(9); 2100

U.Umadevi, P.Madhu Mathi and T.Umakanthan. A field study on serum calcium and phosphorus in cyclers and its treatment in cattle, *European Journal of Experimental Biology*, 2015, 5(10): 24-25

**12. BOVINE RESPIRATORY DISEASE**

Recorded in adult cows in a particular village only in night times.

**SYMPTOMS**

Peracute, severe respiratory distress, recumbency, frothing at naris, depression, animal cannot bend down the head. Auscultation of heart and lung revealed tachycardia and abnormal sound.

**PROGNOSIS**

Grave if delayed.

**DIAGNOSIS**

Based on severity of symptoms. Usually misdiagnosed as poisoning, peracute pneumonia.

**TREATMENT**

Multi-antibiotic therapy is essential (choose suitable antibiotics your experience and geographical locality).

- Amoxicillin and cloxacillin 4-8 gmsi/v.
- Streptomycin 10 gmsi/m
- Antihistamine i/m
- Anti inflammatory and analgesic i/m

based on Within an hour classical recovery noticed. Continue the antibiotic treatment on second day also.



**13. CAECAL DILATATION AND TORSION**

Because of concentrates price hike, people started feeding the cattle with millet flour especially rice flour. Now the incidence is very common.

**PATHOGENESIS**

Dietary CHO in excess which have not been completely fermented in rumen; is usually fermented in cecum, resulting in an increased production of volatile fatty acids, CO<sub>2</sub>, drop in pH and cecal atony. Butyric acid greatly depresses cecal motility which leads to accumulation of ingesta, gas in cecum, consequently dilatation, displacement and torsion of cecum.

**SYMPTOMS**

In early stage, pyrexia, unsteady posterior gait of one or two limbs, some animal may roll down and evince symptoms of colic repeatedly when raised up immediately lies down, absence of voiding of dung or a little pellety dung. On rectal examination showed empty, narrowing of lumen which turns right with one or two finger dilatation.

**DIAGNOSIS**

History of feeding more rice flour and clinical examination. Tapping with finger and simultaneous auscultation at the right side pelvic and gluteal regions reveal "Ping" sound. Rectal examination revealed progressive constriction of lumen even upto one finger with right side kinking.

**DIFFERENTIAL DIAGNOSIS**

Ruminal, Omasal and Abomasal impaction. Rectal examination confirms the cecal dilatation.

**PROGNOSIS**

Earlier treatment good. **TREATMENT**

- a) Avoid further feeding of rice flour, fermented cookery waste water, greens and legumes for three days
  - b) Feed only straw and ad libidum warm plain water.
  - c) Magnesium sulphate-300 gm
- |                          |          |
|--------------------------|----------|
| Common salt-             | 300 gm   |
| Jaggery-                 | 300 gm   |
| Fresh ginger (as paste)- | 50 gm    |
| Sodium bicarbonate-      | 50gm     |
|                          | -----    |
|                          | 1000 gms |
|                          | -----    |

1000 gms twice daily for two days. Give as electuary and never drench.

- d) Most important treatment is, after oral administration allow swimming twice daily for two days. If there is no water facility, allow the animal for a rough walk on uneven road or ploughed land.
- e) Analgesics and if needed Dextrose with Normal Saline.
- f) When acute colic symptoms are noticed do not allow to swim. Analgesics may be given and wait until the animal accustom to pain and after 12 hours allow to swim.
- g) Foul smelling purgation is the classical sign of recovery.

**REF:** Umakanthan T, A note on the management of caecal dilatation and torsion in cow, *Indian Vet.J.* Vol.80:811-812

**14. PROBABLE CASES OF DEAD GUT**

An emerging disease killing number of cows in Isrel and western countries. Affected cows die in 24-30 hours. Our experience showed the probable presence of this disease here. We could not confirm the disease in laboratory but only with clinical signs, experts.....

**SYMPTOMS**

The symptoms noticed were, occult blood and blood clots in large quantities from anus. In some animals the dung was not even greenish in color but dark red.

**DIAGNOSIS**

Based on symptoms. Usually misdiagnosed as haemorrhagic enteritis, acid / alkali / phyto toxins.

**TREATMENT**

With following regimen we successfully treated for 3 days.

- Enrofloxacin 30 ml i/m
- Oral dosing every morning as below,
- Charcoal as powder 300 gms
- Creta 300 gms
- Kaolin 300 gms
- Catechu 25 gms
- Metronidazole 12 gms

**15. PROBABLE CASES OF BACILLARY HEMOGLOBINURIA AND TREATMENT**

Sporadically seen in field, caused by Clostridium

hemolyticum, an acute intoxication and terminating fatality in cattle.

### PATHOGENESIS

*Clostridium hemolyticum* is a soil borne anaerobe, are carried to liver, lodge there, until damage to parenchyma, resulting hypoxia, create condition suitable for bacterial proliferation. Two toxins are produced, 1. Hemolysin responsible for acute hemolytic anemia, 2. necrotizing toxin.

### SYMPTOMS

On the first day Pyrexia upto 41.5°C, suspended rumination, defecation and lactation, anorexia and dullness. On second day hematuria with foam and greenish watery diarrhoea. On third day dark brown diarrhoea with clots of blood, sub normal temperature, shallow respiration and death.

### DIAGNOSIS

Due to field limitations the cases were diagnosed as probable Bacillary hemoglobinuria. Diagnosis was made from the above symptoms and experts opinion. Usually misdiagnosed as babesiosis, phyto and chemical toxins.

### DIFFERENTIALDIAGNOSIS

Microscopical examination confirm various blood protozoa.

### PROGNOSIS

Earlier treatment good.

### TREATMENT

First day streptomycin sulphate 10 gms, second and third day 5 gm of Strepto penicillin (Bistrepen) intramuscular. No need to give any other treatment even styptics.

**REF:** Madhu Mathi, P Saranya, K., Umadevi, U, and Umakanthan T., 2016, Treatment of probable cases of Bacillary Hemoglobinuria in cows- A field trial report, *Indian Journal of Veterinary Science and Biotechnology*, vol.11(4); 51-52

### 16. TETANUS IN GOAT AND SHEEP – TREATMENT ETIOLOGY, SYMPTOMS, DIAGNOSIS

All vets know well.

### TREATMENT

70% alcohol (Arrack) 10-15 ml or 30-50 ml Whisky or Rum orally twice daily for 20-25 days. Local alcohol/ whisky/ rum contains more alcohol percent than beer and wine.

Streptopenicillini/m for 7 days. Treat wound if any. Careful, slow oral feeding of diluted milk.

From 8th day onward reduction of stiffness noticed in due course, walking and feeding started. Full recovery noticed on 25th day.

### PHARMACODYNAMICS OF ALCOHOL

Usually alcohol neutralizes Tetanospasmin and Tetanolysin which are produced by *Clostridium tetani*. A glass of beer or wine or mixed drink or a shot of spirit contains 14gm (gram) of alcohol or about 0.3mol ethanol. In vitro, the growth and neurotoxin production of *Clostridium botulinum* (sporostatic and/or bacteriostatic) were completely inhibited by six percent ethanol. Because tetanus and botulinum toxin resembles each other in their amino acid sequence, it is hypothesized that ethanol's effect may be same on Tetanospasmin in vivo. The alcohol also acts as muscle relaxant. Tetanospasmin binds to peripheral motor neuron, terminals, enters axons and spinal cord and brain, similarly the alcohol does and neutralize intra-neurally translocated Tetanospasmin.

Arrack also tried successfully mixed with DNS i/v.

This may pave a new way to equine and human tetanus therapy.

**REF:** U. Umadevi, P. Madhu Mathi, K. Saranya, and T. Umakanthan, 2016, Treatment of Tetanus in Goats and Sheep, *Indian Journal of Applied research*, Volume : 6, Issue : 2; 722.

### 17. BOVINE MALIGNANT CATARRHAL FEVER

Seen mostly in villages located at the foot of hill where sheep and cattle are reared together.

### SYMPTOMS

Pyrexia followed by diarrhoea, anorexia, dyspnoea, like Rinderpest bran-like deposition in oral cavity, exudate obstruction of nostrils, corneal and scleral opacity with or without highly grey or white thickening of cornea and sclera, entire muzzle become cracked like dry pond, cachexia, hoof shedding and death occur within seven days.

### PROGNOSIS

Grave.

### TREATMENT

Ineffective

### CONTROL

Segregation of sheep from cows.

### 18. TREATMENT OF REPEATER IN COWS (EARLY EMBRYONIC MORTALITY)

Repeating cow usually shows heat symptoms; less than 18-21 days between 18-21 days and more than 21 days. Early embryonic death occur in cows which show symptoms of heat more than 21 days.

After artificial insemination or natural service 85-95% and 90-95% recovered ova of cows and heifers respectively are found to be fertilized. But calving rate varies between 40-65 percent. Thus embryonic death is nearly 40 percent.

### SYMPTOMS

Clear estrual discharge, no pathology of reproductive tract and animal repeat itself to heat between 21-75 days.

### TREATMENT

Inseminate first and second day of heat. Considering oestrus day as day one, give 4th, 14, 24, 34, 44 and 54th day progesterone depot (Proluton depot - German remedies) 250mg i/m.

### RESULT

90% calving recorded.

**REF:** Umakanthan T, A field trial on progesterone treatment in repeat breeding cows, *Indian Vet.J.*, Dec95, p:1308.

Umakanthan T, Management of early embryonic death in cows – a field report, *The Blue cross book* 7/96, p:39 – 40.

### 19. PROLONGED GESTATION IN COWS

Prolonged gestation or delayed birth due to hypothyroidism, vitamin A deficiency, inbreeding, pathology of pituitary and adrenal glands. Though generally delayed birth over 295 days is considered as normal gestation, but in field it is stressed to terminate pregnancy when it takes 15 days overtime.

### DIAGNOSIS

Based on history, breeding date and rectal examination.

### TREATMENT

PGF2 alpha or refer below reference

**REF:** Umakanthan T, *Case report: Prolonged gestation in cows: therapeutic management, Milcow, Oct 96 p:35*

## 20. CHRONIC CYSTITIS IN COWS

An emerging man made disease. Occurs as an ascending infection usually after attempt to relieve dystocia.

### SYMPTOMS

History of great struggle to relieve dystocia. Reduced feed and water intake, cachexia, hypogalactia, dullness, dry muzzle, congested mm. Rectal examination revealed involuting uterus with or without metritis. Urinary bladder wall thickened, bulged with retention of urine. When the bladder was stripped down gently with palm a little quantity of urine with pus flakes passed out. Frequent urination in small volume with flakes of pus.

### DIAGNOSIS

Based on the History and symptoms. Urine culture revealed *E.coli* and *Corynebacterium* sps.

### PROGNOSIS

Good

### TREATMENT

Enrofloxacin 10-15ml i/m for 7 days I/Ut antibiotic for 7 days PGF2 alpha

**REF:** Umakanthan T, *Chronic cystitis and its treatment in a cow, The Indian journal of field veterinarians, vol 2 Number 4 Apr - June 2007 p.69-70.*

## 21. TREATMENT OF OMASAL IMPACTION

Omasal impaction is common in cattle due to adulterant/coarse feed. Usually omasum impacted animal dies off because of diagnostic challenge to the veterinarians and poor response to the present therapy.

### SYMPTOMS

Anorexia, cessation of defecation, temperature 38 to 40 degree C, moderate to severe dehydration, congestion of mucus membrane of eye, engorgement of capillaries of eye ball, alert, dullness, mild jugular pulse, dry muzzle, normal posture, recumbency, no abdominal distension, rectum was with or without hard pelleted dung, examination of rumen, reticulum and abomasum revealed no abnormality, reduced yield and deep palpation between 7th and 9th rib at the omasal area evinced pain in some animals. By auscultation it was difficult to differentiate the sounds from other stomach compartments. The disease was found to be acute.

### TREATMENT

1. Neostigmin methyl sulphate (Tilstigmin - Tablet India Ltd) 3.5 - 5 mg i/m
2. Magnesium sulphate 300 gms  
Sodium chloride 300 gms  
Jaggery 300 gms  
Sodium bicarbonate 50 gms

Fresh Ginger paste 50 gms, mixed, and orally administered as bolus. Twicedaily for two days. Every time prepare fresh mixture. While preparing avoid water because jaggery contains enough water. Keep warm water ad libidum to drink.

3. Pheniramine maleate (Avil - Hoechst) 159.25 to 227.50 mgs was given i/m
4. Before treatment rectum was manually emptied.
5. Administer DNS as required.

Voiding of dung noticed within 12hrs and cows become completely normal in 3-4 days.

## CONTROL

Avoid coarse fibrous feed or feed with sand or adulterated feed which predispose omasal impaction. Please refer the below given references for non-responding animals.

### REF:

1. T.Umakanthan, "Treatment of omasal impaction - a field report", *Indian Veterinary Journal*, 74(7), 1997, pp. 605-606
2. T.Umakanthan, "Acute Omasal Impaction In A Buffalo", *Indian Veterinary Journal*, 73(8), 1996, pp. 886-887
3. Umakanthan, T. (2002). *Native drug therapy for omasal impaction in cattle. The Indian veterinary journal*. 79. 295-296.

## 22. MASTITIS WITH AIR

Sporadically seen and highly fatal mastitis. While stripping purging of air heard. All the affected milk samples in vitro revealed *Klebsiella aerogens* and sensitive to Enrofloxacin intramammary.

### SYMPTOMS

Acute or peracute swelling of quarter, partial feeding or anorexia and/or limping of the affected quarter side, not respond to routine treatment, from 2nd or 3rd day onward stripping of affected quarter showed purging of air with sound and yellow colored fluid, in due course abscess and sloughing off quarter and mortality occurred.

### TREATMENT

The affected quarters are stripped off completely and infused 200-300 mg of Enrofloxacin intramammary for 2 or 3 days. Complete cessation of air purging noticed from 48 hours. Some cases required 3rd day treatment. Further infusion cause haemorrhage.

Return of post treatment milk yield is not appreciable.

**REF:** Madhu Mathi P, Saranya K, Umadevi U and Umakanthan T, 2016, *Mastitis with air in cows- Field report, International Journal of Multidisciplinary Research and Development, Volume 3; Issue 1; 410-411*

## 23. PROBABLE CASES OF CONTAGIOUS BOVINE PLEUROPNEUMONIA (CBPP)

Sporadic and mostly adult cows are found to be affected.

### SYMPTOMS

Mild swelling in intermandibular region, within two days rapidly extend upto brisket and/or masseter muscle region.

Exudation present and pith on pressure. Anorexia, dull, depression, cachexia, on puncture clear fluid noticed.

### PROGNOSIS

Earlier treatment is better.

### DIAGNOSIS

Based on symptoms. Usually misdiagnosed as HS, TRP

### TREATMENT

Tylosin 3-4 gm (Tylan-15-20 ml) i/m with Enrofloxacin 10-15 ml i/m daily for 5 days.

If treated earlier, swelling disappear within a week. If delayed response to treatment is good but swelling persist for months together which become suppurated. Then treat as open abscess.

Probable cases of, Contagious Bovine Pleuro Pneumonia (CBPP)



Before treatment On

7th day of treatment

## 24. ZONOOSES: ISOLATION AND TREATMENT OF HUMAN *KLEBSIELLA* STRAIN IN BOVINES SYMPTOMS

A sport bullock aged about 4 years and a recently calved Friesian cross cow aged 5 ½ years were presented. The cow showed recurrent bloat especially after protein rich feeding, frequent purging of air from anus, reduced feeding and milk yield. The bullock showed reduced feeding and recurrent bloat. Both animals were treated prior with transient recovery and subsequent re-occurrence of symptoms.

Clinical examination showed mild mucous membrane congestion, bloat and abnormal loud intestinal sounds, which was heard from distance. Rectal examination revealed no abnormality.

### DIAGNOSIS AND TREATMENT

Dung and blood samples collected from ailing animals. Culture and ABST revealed *Klebsiella aerogenes* suggestive of human types and sensitive to Pefloxacin. Pefloxacin (Pelox) 2gms intravenously and 4gms orally once daily for three days.

The owner was advised to have a separate utensil and attendant for the affected animals, avoid feeding remnants of human food and water, less feeding of legumes and to give only the deep bore well water. Until 5 months no recurrence was noticed.

### CONCLUSION

In cattle, *K. aerogenes* causes mastitis. The geographical location of this trial conducted area is a valley, situated in the downstream of Periyar river. The water become more contaminated as soon as reaches the plain. *K.aerogenes* and *E.coli* content of this water is more than the permissible level.

The *K.aerogenes* produces air by acting up on the proteins of the in-taken food. More human here are affected with commonly called 'gas trouble'. Hence the infection was suspected to be zoonothropo zoonoses. Amphizoonoses may also possible in this area with *K. aerogenes*. *K.aerogenes* was isolated prior in an animal husbandry assistant and treated successfully with Pefloxacin.

**REF:** Mathi, P, Madhu; Saranya, K.; Umadevi, U., Umakanthan T. *Isolation and Treatment of Human Klebsiella Strain in Bovines. Intas Polivet Jul-Dec2015, Vol. 16 Issue 2, p302-302. 1p.*

## 25. ACTINOBACILLOSIS (QUIDDING)

Sporadically noticed in adult cows. The symptoms are quidding, mild glossitis, halitosis, tongue pale in color, mild to severe erosion of mm of dorsum of tongue and oral cavity soiled with ingesta. Impressions smear from tongue showed *Actinobacillosis* sps. No animal showed wooden tongue.

### TREATMENT

Terramycin LA (Pfizer) 30 ml I/M once in 48 hours three times.

**REF:** T. Umakanthan, Probable cases of *Actinobacillosis* in cattle – a field report, *Indian Vet.J.*, Jan-98, p:67-68

U. Umakanthan, *Actinobacillosis* in cows, *The Indian Journal of Field Veterinarians*, Vol 2:2, Oct-Dec 2006

## 26. TREATMENT OF PREPARTUM CERVICO-VAGINAL PROLAPSE IN COWS WITH INDIAN MALLOW AND CASTOR OIL

The prolapsed masses were cleaned thoroughly with plain water, ad-libitum *Ricinus communis* (Castor oil) was applied on prolapsed masses, and repositioning was attempted. 100gms of fresh leaves of *Abutilon indicum* (Indian mallow – Tamil name Thuthi (g`\$), were mildly fried in castor oil, macerated finely, and orally administered once daily. Animals were followed for data recording till term.

Complete recovery was noticed between 36 and 72 hours. Recovery was assessed based on the disappearance of tenesmus and return of normal position of prolapsed organs. No adverse reaction was noticed and cows calved normally.

**REF:** U.Umadevi, T.Umakanthan. *Management Of Prepartum Cervico Vaginal Prolapse In Cows With Indian Mallow And Castor Oil, Indian Journal of Animal Reproduction 32 (3) : Dec 2011*

## 27. HYPERGLYCEMIA

Many unscrupulous cow traders in order to fetch a higher price forcefully increase milk yield. They feed traditional galactogogues, minced coconut, grains especially unboiled rice, millet, maize, etc and infuse calcium also. This cause deleterious effects.

### SYMPTOMS

Acute, normal to subnormal temperature, lateral recumbency, semicomatosed condition, distressed breathing, protrusion of tongue to locked jaw, reduced pupillary and anal reflexes, diarrhoea to cessation of voiding of dung, ruminal impaction and bloat.

### DIAGNOSIS

Usually misdiagnosed as milk fever, hence calcium treatment further worsens the condition.

### PATHOLOGY

Immediate serum glucose estimation ranged between 90 and 140 mg in all animals (normal 35-55mg).

### TREATMENT

Though after one hour of Insulin 200 IU -i/m showed slight reduction of serum glucose level all cows collapsed. Dearth of literature, diagnostic and therapeutic challenges need further elaborate study.

**REF:** Umakanthan T, *Hyperglycemia and its symptoms in cattle, The north east Veterinarian, Vol.II No.3,p:22*

## 28. HOMEOPATHIC TREATMENT OF CERTAIN TEAT AFFECTIONS IN COWS

Teat lesions in cows like fibrosis, papillomatosis and impetigo are very common and not respond to allopathic drugs therapy.

### SYMPTOMS

Teat lesions like soft fluctuating to hard nodules of 2-4mm round/irregular in shape and significantly reduced milk yield because of pain while stripping.

### TREATMENT

Thuja 200C drops (Sarada Homeo Lab –Kolkata) 1 ml orally twice daily for one week, followed by 1 ml once daily for next 3 week. Topically Thuja ointment (Sarada Homeo Lab- Kolkata) applied twice daily for 30 days. 95% recovery noticed. But with *Calcaria* flower and *Silicea* 75% recovery seen.

**REF:** Umadevi U, Madhu Mathi P, Saranya K and Umakanthan T. *Successful Homeopathic Treatment of Certain Teat Affections in Cows. The Journal of Veterinary Science, Photon 116 (2015), p 200.*

## 29. FOOT ROT IN CATTLE

Very common in field.

### SYMPTOMS

Limping of either one of the hindlimbs and occasionally forelimb. Swelling and reddening of coronet, animal show reduction or resistant to locomotion. Thorough washing with water showed erosion of sole and wet chalk white foul smelling debris.

### PROGNOSIS

Good

### DIAGNOSIS

Based on symptoms. Usually misdiagnosed as limping, trauma, sprain, contusion.

### TREATMENT

Sulphadiazine with trimethoprim (Bactrisol-pfizer) 10-15ml i/m for 3 days. Foot bath with 10 ml formalin in 500 ml of water for 15 minutes for 10 days. Damaged sole become normal.

**REF:** Umadevi, U, Madhu Mathi, P, Saranya, K., and Umakanthan, T., 2016, Field epidemiological surveillance and treatment of foot rot in cattle, *International Journal of Fauna and Biological Studies*, 3(2):21

### FOOT ROT IN CATTLE



## 30. HYPOMAGNESEMIA

Seen in bullocks and recently calved cows mostly in cold season.

### SYMPTOMS

Peracute, pyrexia, hyperesthesia, vigorous chewing movements, biting the objects, peddling movements, nystagmus, frothy salivation, frequent protrusion of tongue, mania like symptoms, recumbency and cows vigorously lick their shoulders inflicting severe wound.

### DIAGNOSIS

Based on peracute symptoms. In field usually confused with rabies.

### PROGNOSIS

Good

### TREATMENT

10-15 gm of magnesium sulphate dissolved in 500ml of DNS i/v. Immediate recovery noticed. Follow up therapy is, 50 gm magnesium sulphate orally twice daily for three days. If symptoms relapse follow same treatment. Keep the animal in warm shed.

**REF:** Umakanthan T, Field observation and treatment of hypomagnesemia, *Pashudhan*, Nov 94 p:4

## 31. REFRACTIVE HEMORRHAGE IN UDDER

Seen from recently calved cows to 7 months pregnancy.

### SYMPTOMS

Sanguineous fluid or blood mixed milk.

### DIAGNOSIS

Based on symptoms. Usually misdiagnosed as trauma, haemorrhagic mastitis, leptospirosis, toxins.

### TREATMENT

In cows with sanguineous fluid the cause was found to be bran (Karukkathavidu). Immediately stop feeding bran. Supportive therapy with Etamsylate, 250mg in 8 ml of distilled water Intramammary for 3-5 days. Classical recovery noticed.

## 32. TREATMENT OF BLOOD IN MILK CONDITION IN POSTPARTUM COWS

Blood in milk immediately after parturition is not uncommon in cows. Its successful treatment is reported here.

### SYMPTOMS

Cows calved 1 to 3 days back, showed blood, or blood stained milk with/without blood clots from one or more teat. No other abnormalities noticed.

### TREATMENT

Progesterone 1500mg (Hyprogen Plus - Vetpharma) i/m. Owners were advised to follow full hand milking. Recovery noticed in 24 – 36 hours.

### PHARMACODYNAMICS

Usually elevated level of progesterone maintains much of the pregnancy and its secretion stops some 30-40 hrs before parturition. Simultaneously sudden oestrogen release at high level enhances the parturition by increasing uterine contractility and milk secretion. Concentration of progesterone decreases from 10 ng to 0.05 ng and oestrogen increases from 2 pg to 1500 pg during and immediately after parturition. This oestrogen surge during parturition causes rupture of mammary gland capillaries, which causes blood in milk. Thus administration of progesterone to counteract the sudden oestrogenic virulence proves effective.

**REF:** Umadevi U, Madhu Mathi P, Saranya K and Umakanthan T. Successful Treatment of Blood in Milk Condition in Postpartum Cows. *International Journal of Scientific Research*, Vol 5 (4), Apr 2016, p29.

## 33. HYPERSENSITIVITY TO DIAMIDINO COMPOUND (BERENIL)

Daily we are using Berenil. The hypersensitivity is not dose dependent but individual idiosyncrasy.

### SYMPTOMS

Symptoms occur 5 mins to 1 hr of injection. Restlessness, frequently lying down and getting up, passing of semi-solid dung, muscular tremors, abdominal distress and colic, shaking the head and neck laterally, arching of the back, upward erection of ears, polypnoea, sterna recumbency and keeping the head and neck to the ground.

### PROGNOSIS

Earlier treatment is the best.

### TREATMENT

10 to 15 ml of Baralgan or Buscopan 10ml i/v or any spasmolytic drugs. In 5 to 30 mins symptoms disappear.

**REF:** Umakanthan T, A field report on hypersensitivity to berenil in cross bred cows, *Indian Vet.J.*, Apr 96, p:478-479

### 34. TRANSMISSIBLE VENEREAL TUMOUR IN DOGS/ ORAL PAPILLOMA IN DOG/ CUTANEOUS WARTS IN LIVESTOCK TREATMENT

Thuja -200c (Saradha Homeo Laboratories- Kolkota) orally 1ml twice daily for 10 days followed by 1ml daily until recovery. External application of Thuja ointment over the warts. In one month oral papilloma and warts disappear. TVT starts to shrink in one month, after two month 2/3<sup>rd</sup> shrinks and complete recovery noticed in 90 days.

#### REF

U.Umadevi, K.Saranya, P.Madhu Mathi and T.Umakanthan, 2015, Successful homeopathic treatment of transmissible tumour in dogs- Case report, *International Journal of Science and Research*, Volume 4, Issue 4, 2799

Umakanthan T, Homeopathic treatment of multiple oral papilloma in a dog - a case report, *Indian Vet.J.*, January 2002, 79:63.

Madhu Mathi, P, Saranya, K, Umadevi, U and Umakanthan T, 2016, An Effective Treatment Regimen for Warts in Cattle, *Journal of Veterinary Science & Animal Husbandry*, Volume 4, Issue 2; 202

U. Umadevi, P.Madhu Mathi, K.Saranya, S.Sivaramakrishnan, T.Umakanthan, (2017) " Homeopathic Treatment of Cutaneous and Oral Cancer in Domestic Animals - Field Report", *International Journal of Management and Applied Science (IJMAS)*, pp. 12-13, Volume-5, Issue-2

### 35. POULTRY FLEA REPELLENT EFFECT OF JATROPHA SP

Many problems are posed by fleas hence naturally a lot of vested interest in the control and prevention internationally. In villages backyard poultry farming *Echidnophaga sp.* fleas is very common. Flea infestation and subsequent human menaces is also very common. Presently used anti-flea medicines are having residual effect, adverse reaction, high costs, high resistance, laborious process, etc.

#### CAUSE

The infesting fleas were identified as *Echidnophaga sp.*

#### TREATMENT

*Jatropha sp.* (Purging Tree; Tamil name Kattaamanaku) branches with leaves and /or individual leaves were kept at different places of the floor of poultry yard in the evening. No other treatment or management practice was employed for flea control.

Subsequent morning on close observation, the flea from the bird's body and house came down and cling or stick to the leaves on the floor. Most of them died. The leaves were thrown away. In this first operation majority of the flea population were eradicated and with the same second operation complete flea were eradicated.

#### MODE OF ACTION

There are 175 species of *Jatropha* genera. The particular species used in the study was not identified but the younger plant with yellowish green colour leaves was used. The yellow surface acted as a super normal stimulus, because they emit peak energy in the same band with as foliage but at greater intensity and the younger plant tissue display a relatively strong reflection in the yellow region of the leaves and most insects are attracted to yellow colour. Because of these phenomena the fleas might have attracted, when they stick with the waxy surface and fed or contact on the leaves which contained Hydrogen cyanide, the insecticidal property might have caused the death of the fleas. Many questions of how insects are attracted and killed by leaves are still unanswered....

REF: U. Umadevi, T. Umakanthan. Poultry flea repellent effect of *Jatropha sp.* - A field report. *Journal of Veterinary parasitology*, 26 (1) 2012: 93.

### 36. TREATMENT OF METRITIS IN COWS WITH METRONIDAZOLE AND OXYTETRACYCLINE

#### SYMPTOMS

In all the cows with metritis followed by abnormal calving, abortion, retained placenta, natural service, unhygienic AI etc. were included for the study. The symptoms noticed were, mucopurulent or sanguineous discharge with or without foetid odour. Uterus were slightly or highly enlarged or involuting. Some cows showed hypogalactia, arched back, anorexia and elevated temperature.

Mixture of metronidazole 300mg (Metrogyl gel- Lekar pharma) dissolved by vigorous shaking with Oxytetracycline 1500mg (Oxy liquid - Pfizer) was infused (10-60ml) intrauterine depending on the severity of metritis in all cows daily for 2-8 days.

#### RESULTS

The treated recovered completely in 3-10 days. The recovery was assessed by the return to normal feeding, increased milk yield, normal discharge or cessation of abnormal discharge.

#### DISCUSSION

All the anaerobic organisms isolated by earlier workers were sensitive to metronidazole. The use of oxytetracycline of intrauterine infusion has been recommended for metritis. The irritation caused by the oxytetracycline liquid is alleviated when thoroughly mixed with metronidazole gel. The drugs were economical and effective.

The uterus is naturally anaerobic medium. More than 50% of the organisms isolated from uterus are anaerobic. Incomplete treatment or only with tetracycline may cause repeating problem.

REF: Umakanthan T, Treatment of Metritis in Cows with Metronidazole and Oxytetracycline - A Field Trial Report, *Indian Vet J.*, Aug 2004, 81:950.

### 37. TREATMENT OF MYCOTIC DERMATITIS IN DOMESTIC ANIMALS WITH POLY HERBAL DRUG

Globally, mycotic dermatitis is very common but there is no single proven specific allopathic treatment regimen. In this study, domestic animals with skin diseases of different age and breed from geographically varied regions of Tamil Nadu state, India were employed. Most of them have had previous treatment with native and allopathic medicines but without success. Clinically, the skin lesions were found to be mild to severe.

The trial animals were treated with poly herbal formulation prepared finely grinding individually the leaves of *Andrographis paniculata* (nilavembu/ sirianangai) 100gm, *Lawsonia inermis* (maruthani) 100 gm and mixed with *Madhuca longifolia* (ilupai) oil 100ml. This stock medicine is applied once daily for 10-20 days. 99% recovery noticed even in cases resistant to other medicinal systems. In Ethnoveterinary, this combination was tried for the first time. This herbal formulation is economical and an alternative for skin diseases.

REF: U. Umadevi, T. Umakanthan. Treatment of Mycotic Dermatitis in Domestic Animals with Poly Herbal Drug. *International Journal of Animal and Veterinary Sciences*. Vol:10, No:10, 2016. (The authors presented this research at World Academy of Science, Engineering and Technology international conference at London on 16.10.2016 and won the Best Research award).

**NOTE:**

This drug is tried and found best for human skin diseases also.

**38. BABESIOSIS OR RED WATER DISEASE DUE TO B. BOVIS AND B. DIVERGENS**

Sporadically noticed in the foot of western hill. Highly fatal and contagious.

**SYMPTOMS**

Pyrexia, depression, anorexia, mm brick red and at terminal stage pale, pathognomonic sign is tarry colored urine producing stable froth and death within 24 hours.

In *Babesia divergens* affected animals, addition to the above symptoms, spasms of anal sphincter cause passage of "Pipe stem" dung, ie., the dung passes out with force and as a long thin "Green rope".

**DIAGNOSIS**

Blood smears confirm the organisms.

**PROGNOSIS**

Highly fatal.

**TREATMENT**

Berenil RTU single dose and within 48 hours recovery noticed.

**RISK**

Highly contagious. Concurrent administration of Liver extract with B complex showed fatality in most cases due to formation of macromolecules which occlude coronary vessels.

**39. 1. A PROBABLE READY RECKONER FOR MASTITIS TREATMENT**

**1. Seasons:** Spring and winter

**Type of Mastitis:** All

**No. of cows used:** 18

**Treatment:** Antibiotics + distilled water used (paranthesis) Infused Intra Mammary

**for 1-3 days:** Cefaclor 250 mg (5ml)

**Result %:** 66

**Culture Test results:** *Streptococcus sp.*, *Klebsiella sp.* and *Staphylococcus sp.*

**2. Seasons:** All Seasons

**Type of Mastitis:** Per-acute and Acute

**No. of cows used:** 20

**Antibiotics:** Ceftriaxone 250mg or 500mg (5 ml)

**Result %:** 95

**Culture Test results:** *Staphylococcus aureus*, *Non-Haemolytic Streptococcus sp.* and *Coliform bacilli*.

**Remark:** Best in March and April

**3. Seasons:** All Seasons

**Type of Mastitis:** All

**No. of cows used:** 15

**Antibiotics:** Sparfloxacin 200mg (5 ml)

**Result %:** 70

**Culture Test results:** *Coliform* and *Streptococcus sp.*

**4. Seasons:** All Seasons

**Type of Mastitis:** All

**No. of cows used:** 52

**Antibiotics:** Cefotaxime 250mg to 1g (4ml) plus Hynidase + Beta methasone sodium (2mg)

**Result %:** 96

**Culture Test results:** *Staphylococcus aureus*, *Streptococcus sp.*, *Pseudomonas aeruginosa*, *Klebsiella sp.* and *Bacillus sp.*

**Remark:** A best drug for all seasons especially, for severe and per-acute mastitis in cows just nearing or soon after parturition

**5. Seasons:** All Seasons

**Type of Mastitis:** Mild Form

**No. of cows used:** 108

**Antibiotics:** Pendiistrin SH (6ml.) + Metronidazole gel (100mg)

**Result %:** 93

**Culture Test results:** *Staphylococcus sp.*

**Remark:** Best for all types of mild form of mastitis

**6. Seasons:** Spring and Winter

**Type of Mastitis:** Mild Form

**No. of cows used:** 64

**Antibiotics:** Tobramycin Sulphate 80mg (2ml)

**Result %:** 94

**Culture Test results:** *Klebsiella sp.*, *Staphylococcus sp.* Gram +ve rods and *E. coli*

**Remark:** Best for all types of mild form of mastitis

**7. Seasons:** Mid Summer

**Type of Mastitis:** Per-acute

**No. of cows used:** 14

**Antibiotics:** Cefoperazone sodium 500mg(5ml) and Hynidase + Betamethasone sodium (2mg)

**Result %:** 100 (in 15 to 84 hrs)

**Culture Test results:** *Staphylococcus aureus*

**Remark:** The only best drug from May second week to end of May

**8. Seasons:** All seasons but more in rainy and cold season

**Type of Mastitis:** Mild form without inflammation but milk yellowish color and blood stained

**No. of cows used:** 10

**Antibiotics:** Streptomycin 2 g (6ml) for three days (morning and evening)

**Result %:** 90

**Culture Test results:** *Leptospira sp.*

**Remark:** Usually Parenteral also administered

**9. Seasons:** All seasons

**Type of Mastitis:** All forms

**No. of cows used:** 200

**Antibiotics:** Cefazolin 250 mg (5ml) (Reflin – Ranbaxy)

**Result %:** 90

**Culture Test results:** *Staphylococcus aureus*, *Streptococcus sp.*, *Pseudomonas aeruginosa*, *Klebsiella sp.* and *Bacillus sp.*

**Remark:** Highly economic

**10. Seasons:** All Seasons

**Type of Mastitis:** Sub acute Mastitis with air purging (while stripping)

**No. of cows used:** 24

**Antibiotics:** Enrofloxacin 200 – 300 mg

**Result %:** 90

**Culture Test results:** *Klebsiella sp.*

**Remark:** Earlier treatment is the best otherwise highly fatal

Sl.No.	Seasons	Type of Mastitis	No. of cows used	Antibiotics + distilled water used (paranthesis) INFUSED INTRA MAMMARY for 1-3 days	Result %	Culture Test results	Remark
1.	Spring and winter	All	18	Cefaclor 250 mg (5ml)	66	<i>Streptococcus sp. Klebsiella sp. and Staphylococcus sp.</i>	-
2.	All Seasons	Per-acute and Acute	20	Ceftriaxone 250mg or 500mg (5 ml)	95	<i>Staphylococcus aureus, Non-Haemolytic. Streptococcus sp. and Coliform bacilli.</i>	Best in March and April
3.	All Seasons	All	15	Sparfloxacin 200mg (5 ml)	70	<i>Coliform and Streptococcus sp.</i>	-
4.	All Seasons	All	52	Cefotaxime 250mg to 1g (4ml) plus Hynidase + Beta methasone sodium (2mg)	96	<i>Staphylococcus aureus. Streptococcus sp. Pseudomonas aeruginosa, Klebsiella sp. and Bacillus sp.</i>	A best drug for all seasons especially, for severe and per- acute mastitis in cows just nearing or soon after parturition
5.	All Seasons	Mild Form	108	Pendistrin SH (6ml.) + Metronidazole gel(100mg)	93	<i>Staphylococcus sp.</i>	Best for all types of mild form of mastitis
6.	Spring and Winter	Mild Form	64	Tobramycin Sulphate 80mg (2ml)	94	<i>Klebsiella sp. Staphylococcus sp. Gram+ve rods and E. coli</i>	Best for all types of mild form of mastitis
7.	Mid Summer	Per-acute	14	Cefoperazone sodium 500mg(5ml) and Hynidase+Beta methasone sodium (2mg)	100 (in 15 to 84 hrs)	<i>Staphylococcus aureus</i>	The only best drug from May second week to end of May
8.	AH Seasons but more in rainy and cold season	Mild form without inflammation but milk yellowish in colour and blood stained	10	Streptomycin 2 g (6ml) for three days (morning and evening)	90	<i>Laptoospira sp.</i>	Usually Parenteral also administered
9.	All seasons	All forms	200	Cefazolin 250 mg (5ml) (Refin – Ranbaxy)	90	<i>Staphylococcus aureus. Streptococcus sp. Pseudomonas aeruginosa, Klebsiella sp. and Bacillus sp.</i>	Highly economic
10.	All seasons	Sub acute Masitis with air purging(white stripping)	24	Enrofloxacin 200 – 300 mg		<i>Klebsiella sp.</i>	Earlier treatment is the best otherwise highly fatal

**REF**

- Umakanthan T.A probable ready reckoner for mastitis treatment, The Blue cross book 19-2202.p.9
- Umakanthan, T., Kaniyappan. M and Soundarajan .K. (1996). Ind. Vet. J.,73 : 788.
- Umakanthan, T. (1997a), Ind. Vet. J.,74 : 70. 4. Umakanthan, T. (1997b), Ind. Vet. J.,74 : 698. 5. Umakanthan, T. (1998), Ind. Vet. J.,75 : 732.
- Umakanthan, T. (2001), Ind. Vet.J., 78:1037-1038
- Umakanthan, T. Ist national integration of field and 5th Round table Conference on mastitis compendium p:89-91
- Umakanthan, T. (2001), Ind. Vet.J., 78:422-423
- Umakanthan, T. (2004), Ind. Vet.J., Vol.81:567-568
- Madhu Mathi P, Saranya K, Umadevi U and Umakanthan T, (2016), International Journal of Multidisciplinary Research and Development, Volume 3; Issue 1; 410-411

**40. A REPORT ON KLEBSIELLA SPECIES ZONOSIS AND ITS TREATMENT CASE HISTORY**

An animal husbandry assistant was ailing from periodic moist eczema And pruritus in the bulbs of the fingers. For about five years in periodic episodes with vesicles, edema, pustules ultimately leading to wounds with weeping surface spreading to nail beds occurred. He was badly in need of others help even for personnel cleaning, eating and dressing. He was socially shunned, used to wrap each palm with cloth and had sleepless nights due to severe pruritus.

**TREATMENT**

The patient was treated by local medicos of various systems and had transient relief. As a routine, disease recurrence noticed within two months of healing. The symptoms were found to be gradually increasing in severity with every episode. During routine treatment of cattle in dispensary he used to strip out the mastitis milk in his palm without using strip cup.

Routine culture of the mastitis milk revealed Klebsiella sp. in some animals. In an occasion, coincidence of Klebsiella mastitis in a cow and after some days mild pruritus in him were observed together. A few days later, the disease flared up in the bulbs of all his fingers. This time the disease was found to be very severe.

Materials collected from the moist eczema, on culture revealed Klebsiella sp. Antibiotic sensitivity test indicated

high sensitivity to pefloxacin. He was treated with pefloxacin 400 mg (Linder et al., 1994 and CIMS, 1997) (Pelox tablet - Wockhardt) 1 BID with Pheniramine maleate 25 mg (Avil tablet -Hoechst) 1 BID for 7 days. An excellent recovery was recorded from third day onwards and on 10thday complete recovery was noticed.

From then, the patient was advised to refrain from handling mastitis affected animals. Nine month- after complete recovery he had a mild itching of a few finger bulbs which was treated with Pelox 400 mg tablet 1 BID for 2 days. Even after 5 years no recurrence was noticed.

REF: Umakanthan T, Indian Vet J., Dec 2003; 80: 1292

**41. TREATMENT OF POSTPARTUM BLOOD IN MILKCONDITIONIN COWS WITH HERBAL FORMULATION SYMPTOMS**

Cows calved 1 to 3 days back, showed blood, or blood stained milk with/without blood clots from one or more teat. No other abnormalities noticed.

**TREATMENT**

Orally administered fresh paste of 200gms of curry leaves (*Murraya koenigii*) mixed with juice of 5 normal sized lemon (*Citrus limon*) twice daily for 2-3 days. 95% recovery noticed. Very economic treatment.

REF: U .Umadevi , T . Umakanthan. Successful treatment of postpartum blood in milk condition in cows with herbal formulation. Tamilnadu. J. Veterinary & Animal Sciences 6 (4) 179-180, July - August 2010.

**42. COMBINED DRUG THERAPY OF PAPILOMA IN CATTLE**

In all species of animals including man papilloma or warts present throughout globe. In cattle it occurs on almost any part of the body, caused by types of virus, may lead to secondary bacterial invasion, spread by contact, economically important.

**SYMPTOMS**

Various size and type of sessile/ pedunculated cutaneous warts on various part of the body seen with or without udder or teat involvement, causing pain, bleeding and interference in milking.

**TREATMENT**

*Ocimum basilicum* (tamil name: *Thirunitrup pachilai*) leaf paste applied ad-libitum once daily for 20 days, and 10 ml Thuja 200X (Saradha Laboratories, Kolkata) subcutaneously administered once in 4 days for 4 or 5 times.

Shrinking and sloughing off warts from 10th day and disappearance noticed from 15th day onward. Complete recovery seen within 20 days.

**PHARMACODYNAMICS**

The one of the probable mode of actions is antagonism of  $\gamma$ -aminobutyric acid (GABA) receptor system) and the convulsant action is caused by modulating the GA-0BS-gated chloride channel (Ishida et al, 1989). Thuja contains  $\alpha$ -thujone which acts on the non-competitive blocker site of the GABA A receptor.

*Ocimum basilicum* plant and its oil is highly effective in inhibiting papilloma and the activity may be due to the presence of vital chemical constituents like Camphor, d-limonene, myrcene and thymol present in the plant.

**REF:** Umadevi U, Umakanthan T. Successful Combined Drug Therapy for the Treatment of Papilloma in Cattle. *International Journal of Research in Pharmaceutical and Biomedical Sciences*, vol. 4 (2) Apr-Jun 2013, Pg 657.

**43. HOMEOPATHIC TREATMENT OF PRE PARTUM VAGINAL PROLAPSE IN COWS**

The exact etiology of prepartum vaginal prolapse in cows remains obscure or multiple.

**SYMPTOMS**

Cows showed vaginal prolapse with or without mild tenesmus. Some showed prolapse during recumbency but disappeared while standing Whereas some showed propelled vaginal mass outside labia but not returned even while standing. Prolapsed masses were normal or with mild ulceration and /or congestion.

**TREATMENT**

Cows were orally administered 1 ml of Thuja 200x (Sarada Homeo Laboratories – Kolkata) twice daily for 10 days and once daily up to one month after parturition. Whenever propelled mass was seen, either animal was made to stand or pure castor oil applied over the mass and gently replaced inside. 90% recovery noticed.

Usually for prepartum prolapse Homoeopathic drug combination of calcarea 30 + carboveg 30 + sepia 6 twice daily for 10 days and then a dose three days in a week till parturition is recommended (Madrewar, 1996). But the regimen with Thuja 200x in this study was found to be comparatively effective and economical.

**REF:** Umakanthan T, Homeopathic treatment of prepartum vaginal prolapsed incows, *The Indian Journal of Field Veterinarians*, Vol 2(4), Apr-Jun 2007

**44. PREGNANCY METRITIS IN COWS**

Symptoms of oestrous during pregnancy may occur in 1 -6% of cows in the first trimester of pregnancy (Roberts, 1971). In field, symptoms of estrous during gestation are usually misjudged by many farmers as non-conception and therefore they allow their cows to have a repeat Artificial Insemination (A.I) or Natural Service (N.S). When this is done by NS by an infected bull abortion and/or metritis may follow.

**SYMPTOMS**

The cows showed mucopurulent to purulent discharges combined with flakes, obviously soiling the vulval lips, tail and

thigh regions. Examination per rectum revealed that all the cows were in the first trimester of pregnancy and were suffering from mild cervicitis. The cows were otherwise normal. Cultural examination of the vaginal discharge revealed presence of bacillus organism.

**TREATMENT**

Oxytetracycline HCL 1000mg (Oxytetracycline Hydrochloride - Pfizer) administered within 3-5 seconds with an AI gun covered with sterile sheath inserted gently and very carefully into the partially open cervix reaching upto the middle to 2/3<sup>rd</sup> of the cervix, and the AI gun was withdrawn very slowly. The same treatment was repeated for 3-5 days at 24 hours interval.

**REF:** Umakanthan T, Prabhakar T G., Treatment of metritis during pregnancy in cow, *The north east Veterinarian Vol.II No.4, 2003 p:22*

**45. COMMON PARALYTIC CONDITIONS IN FIELD****A. OBTURATOR PARALYSIS**

Obturator paralysis occur due to forceful traction in hiplock condition to remove the fetus while the cow is in lateral recumbency.

**Unilateral:** The cow stand on the affected limb; on walking the limb moved stiffly forward and is abducted so that foot is placed on the ground 0.5 to 1 feet lateral from normal position. The cow is unsteady, likely to slip and fall.

**Bilateral:** Both the limbs are stiffly extended and abducted, unable to rise, on assistance limbs held together animal stand but on walk limbs abducted and cow fall down.

**B. EXTERNAL POPLITEAL PARALYSIS**

Dropping of the stifle joint is the pathognomonic symptom.

**C. SCIATIC PARALYSIS**

Usually occur after i/m injection in gluteal region. The symptoms are hoof dropping and dragged on the ground while walking.

**TREATMENT FOR A,B, C**

Good nursing, restrain movement, periodically administer anti-inflammatory and nervine stimulants. In mild cases, spontaneous recovery seen in 2-8 days. Severe cases may take 2-4 months.

**46. DOWNER COW SYNDROME (DCS)**

DCS is associated with many etiology, but we come across with pregnant and recently calved cross bred cows.

**SYMPTOMS**

Lying down and trying to get up with futile attempts. All other habits are normal.

**TREATMENT**

Follow the therapy as per below given order 1 to 5, so that we can give time for the 1 to 4 drug to exert their action in full while mifex is on transfusion. Do not reverse it.

- i. Antihistamine 10 ml i/m
- ii. Anti-inflammatory 10ml i/m (do not continue diclofenac sodium 2<sup>nd</sup> day in pregnant cows)
- iii. Vitamin B1, B6, B12 10ml epidural
- iv. Ionic phosphorus (Catasol) 30ml i/v
- v. Mifex 450ml i/v

After mifex infusion, manually lift the animal, massage hind and fore limbs. Make the animal to stand in a wooden trevis or gunny cradle for 24 hours in a non-slippery floor, avoid cement and stone floor. If not animal responds after 24 hours, follow the same procedure. In DCS, 50% of recovery is influenced by the above physiotherapy.

REF: Umakanthan T, Downer cow syndrome and its Treatment, *Indian Vet.J.*, Mar 96, p:358- 359.

#### 47. CONTROL OF FMD MORTALITY IN CATTLE

FMD affected adult animals after treatment while resuming normal habits die suddenly. The reason for death is cardiac failure. This could be due to *Staphylococcus aureus* which descend from oral cavity ulcer to heart causing damage to myocardium (This is similar to human patient's sudden death due to cardiac failure after teeth extraction). *Staphylococcus aureus* is the normal inhabitant of oral cavity of human and animals.

#### DIAGNOSIS

In ailing animals, on auscultation over cardiac area heart beat sound is inaudible or muffled but clearly audible in the surrounding area.

#### PROGNOSIS

Good

#### TREATMENT

Streptomycin sulphate – 8-10 gms/m daily for 4 days or Cefotaxime (Alkem Lab) – 5 gm daily i/v for 5 days. This regimen may even be followed from the first day with Glycerin oral application at where mortality is more.

(In clinics, some animals with above symptoms seen. Auscultation and treatment as above done successfully. In these cases shedding of teeth and its raw wound are noticed).

REF: Madhu Mathi, P, Saranya, K, Umadevi, U, and Umakanthan T, 2015, A field report on diagnosis and successful treatment of bacterial endocarditis in bovine, *International Journal of Recent Scientific Research*, Vol.6 issue 9, pp. 6444-6445

#### 48. KETOSIS – NERVOUS FORM

Symptoms seen within a week of calving. Tongue protrusion is unusual in length which turns left to right, vice versa. Cow is not in its mood, mania like symptoms as suspected for rabies/listeriosis. Taking water and little dry fodder but not green and concentrates. Biting continuously on some objects and occasionally hyperaesthetic.

#### TREATMENT

Betamethason sodium 10 ml i/v, Rintose 2 bottles. complete recovery noticed in 3-6 hours.

#### 49. POST-PARTUM HYSTERECTOMY IN SHE-BUFFALO - A CASE REPORT

This paper describes about a new successful method of post-partum hysterectomy in a she-buffalo under field condition.

About six years old, Murrah graded she- buffalo, after her second normal calving was presented with the history of mild post- partum uterine prolapse during first calving and now total prolapse with severe straining, uterus was re-positioned with vaginal retention tape suture by a para-veterinarian first time and by the present author second time, but failed. Later the prolapsed mass was left without treatment for more than two days by the client.

On 5th day, the buffalo was presented; the prolapsed uterus was found to be oedematous, infected, necrotic and foul smelling. The she-buffalo showed severe straining, sunken eye balls, eye mucus membrane congested, dehydrated, temperature 38.7°C, anorexia, lateral recumbency and cachectic. The cervix was oedematous and the vulval lips were oedematous and lacerated. Hence, it was decided to perform hysterectomy.

The she-buffalo was given, Procaine penicillin 45 lakh IU

Penicillin G sodium 15 lakh IU and Streptomycin 7.5 gm, Pheniramine maleate (Avil®, Intervet Laboratories Ltd.) 227.5 mg Prednisolone acetate (Intervet Laboratories Ltd.) 100mg intra- muscularly. During Pre-and post-operatively, she-buffalo was given 5% dextrosesodium chloride 5 litre and Rintose 2 litre with 20 ml of multi-vitamin injection intravenously.

Epidural anaesthesia was produced by 10ml of 2% Lignocaine Hydrochloride. The prolapsed mass was cleaned and antiseptic applied. The she-buffalo was placed in left lateral recumbency. The prolapsed mass was completely pulled out so that vaginal canal was clearly visible. The prolapsed vaginal canal was very carefully palpated and assured that neither bladder nor intestine present. The vaginal canal was pressed firmly up and down and flattened between the palms of the assistant throughout the surgery.

First a ligature was placed at the left lateral end of the flattened vaginal canal next to this ligation, a row of separate horizontal mattress sutures were placed firmly and ended with a ligation in the right lateral end of the flattened vaginal canal. Like this, parallel to first row, second and third rows of sutures were placed down and up respectively to first row. The suture material used was a thick nylon thread. The Cobbler's hooked needle was used. The interspaces between the individual first row mattress sutures were exactly covered by placing mattress sutures down and up in the second and third row respectively. This ensured that descending blood vessels through vaginal canal to uterus were ligated by these three rows of ligation. Each mattress suture was 1.5cm long and while suturing interspace between the mattress sutures in each row is minimized as far as possible. The space between the rows of sutures were nearly 2 cm.

Leaving cervix, just on the cervico-uterine junction, uterus was carefully and slowly incised. Only three veins were found to be bleeding which were very easily ligated with absorbable catgut. The cervix was gently and carefully replaced. After removing maggots and debridement simple sutures were placed through both vulval lips.

Post operative treatment from second day onwards included the administration of Rintose one litre intravenously, Procaine penicillin 45 lakhs IU Penicillin G sodium 15 lakh IU and Streptomycin 7.5gms X 2 vials. Pheniramine maleate (Avil) 227.5 mg and liver extract with B-complex 10ml intramuscularly daily for 7 days. Prednisolone acetate 100mg was given intramuscularly daily for the first three days. Vulval wounds was cleaned and dressed with antiseptic ointment.

From the second day onwards straining decreased gradual recovery was noticed. On the 11th day vulval sutures was removed. Further she-buffalo was under observation for 20 days and discharged on 21st day of surgery.

REF: Umakanthan, T. (2000) Postpartum Hysterectomy in a She- Buffalo, *The Blue cross book Vol 15, p:40-41*

#### 50. HYPODERMAL RASH OF HADWEN

Occur in cattle. Usually hindlimb occasionally forelimb affected.

#### SYMPTOMS

Extensive patches of keratinized and horny encrusted lesion with erythema (like dry pond cracks).

#### PROGNOSIS

Good

#### TREATMENT

Anti inflammatory 10-15ml i/m for 7 days. Streptopenicillin (Bistrepin)-5 gm i/m for 7 days.

**Anti histamine** – 7 ml i/m for 3 days.

Over the lesion apply a mixture *Madhuca indica* oil (Illupai ennai) + fine leaves paste of *Lawsonia inermis* (Maruthani) and *Andrographis paniculata* (Nilavembu). Recovery noticed within a week.

### 51. ECTOPIC MUMMY IN A COW

In this paper a successful diagnosis and surgical removal of ectopic mummy in a cow is reported.

#### CASE REPORT

A HF crossbred cow calved 18 months back, was cycling normally and not responding to treatment for conception. Rectal examination revealed normal oestral discharge. There was no abnormality in the genitalia. Between the rumen and pelvic cavity a mummy was present with distinct hard head, neck and abdomen. The case was confirmed as extra uterine foetal mummy. After five months when examined again the size of the mummy was found to be remarkably reduced.

#### SURGICAL PROCEDURE

The cow was prepared for the surgery by overnight starvation. Left para lumbar site was prepared for exploratory laparotomy operation. The anesthesia was para vertebral block and local infiltration. Incision was placed slightly higher to the standard lower ventral site. Extra uterine single foetal mummy was located and was removed by gentle traction after separating the fast adhesions. This extra uterine mummified foetus was hard with deposits of mineral possibly calcium and adipose tissue. This simulated "Lithopedions" reported in human. The incision was closed as per standard method. Antibiotics, corticosteroids and fluids were administered for seven days and on the tenth day sutures were removed with uneventful recovery. Later the animal cycled normally but did not conceive.

**REF:** Umakanthan, T., *Ectopic Mummy in a Cow*, *Indian Vet.J.*, Vol.81:842-843

### 52. A DRUG REGIMEN FOR LEPTOSPIROSIS TREATMENT IN CATTLE SYMPTOMS

Temperature 40- 41.5°C, dullness, anorexia, depression, paler to icterus mucous membrane, hypogalactia, some cases showed hydraemia and arching of back while micturition. The disease was recorded as acute and subacute form. Random urine and serum samples were collected. Clinical and laboratory diagnosis confirmed the *L. pomona*.

#### TREATMENT

8 gms of dihydrostreptomycin on the first day, and from 2<sup>nd</sup> to 5<sup>th</sup> day procaine penicillin 30, 00, 000IU, penicillin G 10, 00, 000 IU, streptomycin sulphate 5 gms (Bistrepen- Alembic) administered intramuscularly.

(Dihydrostreptomycin was used on 1<sup>st</sup> day at the rate of 25mg/kg body weight for elimination of leptospiruria and subsequently streptopenicillin for four days for the treatment of systemic infection. This regimen was found to be comparatively economical, more effective and less time consuming infield condition).

**REF:** Umadevi U, Madhu Mathi P, Saranya K and Umakanthan T. *A Drug Regimen for Leptospirosis Treatment in Cattle - A Field Trail Report. International Journal of scientific engineering and research*, Vol 3: 10, Oct 2015, p19.

### 53. LEPTOSPIROSIS ZONOSIS - FIELD TRIAL REPORT

Leptospirosis, a common bacterial infection of animals brings zoonotic consequences.

A cow aged 6 years, calved two months back was presented with the history of anorexia, dullness and hypogalactia. Clinical examination revealed pale mucous membrane of eye and vulval lips. Temperature 39.2°C and yellow colored urine. Serum and urine samples collected and confirmed for Leptospirosis through laboratory examination.

Animal was treated with Streptomycin 8 gm intramuscularly, followed by daily procaine penicillin 30 lakh units, for four subsequent days twice daily and owner was advised to adopt strict hygienic measures while removing cows excreta because of possible zoonosis. Third day onward the cow showed gradual recovery and fully recovered on seventh day.

On 10<sup>th</sup> day the cow attendant showed symptoms like fever (103°F), biphasic retro-orbital headache, chill, myalgia and excruciating muscular pain in thigh, calves, lumbosacral as well as abdominal region, inappetance, cachexia and unable to walk long were also observed along with progressive weakness. On clinical examination it was suspected to be the skeletal muscular form of leptospirosis.

Laboratory examination of serum and urine revealed presence of *Leptospira interrogans pomona*. The cow was administered Doxycycline 100 mg twice orally daily for 12 days. Recovery noticed from fifth day onward, but complete recovery achieved by 12th day.

**REF:** Umakanthan T., *Field Trial Report – Leptospirosis zoonosis. The Indian journal of field veterinarian*, vol 2:2 Oct - Dec 2006, p.45

### 54. TREATMENT OF NASAL OSTEOSARCOMA IN A CAT WITH LOMUSTINE AND PREDNISOLONE

Osteosarcoma is the most common primary bone tumour in cat. The flat bones affected most frequently are skull, vertebrae, scapula and pelvis. Osteosarcoma of nasal bone in a cat was diagnosed and successfully treated.

#### MATERIALS AND METHODS

A non-descript, domestic female gravid cat, 8 years old presented with symptoms of inappetance and frequent epistaxis. It was suspected to be due to trauma and the cat had local treatment since 6 months with relapsing episodes. Clinical examination revealed pain in the nasal region. As the time advanced the cat reduced the food intake and became dull and depressed.

Radiography revealed shortened, incognito nasal bone on left lateral side (attached Figures 1 and 2). Tentatively diagnosed as nasal osteosarcoma.

#### TREATMENT AND RESULTS

The cat was orally treated with Lomustine (Moostin-Miracalus Pharma) 2.5 mg once in 3 days and Prednisolone (Wysolone-Wyeth Pharma) 5 mg daily, for 21 days.

Gradually epistaxis reduced, showed increased appetite and remarkable recovery noticed on 9<sup>th</sup> day onward. Complete recovery on 21<sup>st</sup> day. No adverse effect noticed, except mild cellulitis in frontal region which subsided within 10 days of cessation of treatment. Also the cat queened healthy kittens normally on 18<sup>th</sup> day of treatment commencement.

#### DISCUSSION

Osteosarcoma is the most frequently reported (70–80%) primary bone tumor in cats, accounting for 70–80% of all primary malignant cancer of cats. Osteosarcoma was reported to occur in older cats, with a mean age of approximately 10 years and in aged, female domestic short hair cats. Symptoms are epistaxis (40–94%), bilateral or unilateral nasal discharge, airflow obstruction, facial

deformity and sneezing, while weight loss is less common.

The radiographical features are variable and there may be predominantly osteolysis, characterised by radiolucency of the bone with thinning and loss of the cortices.

In general, osteosarcomas metastasise slowly in cats and treatment by surgical excision has been apparently successful. The type and duration of chemotherapy can have a bearing on the survival post-surgery, although the differences between published protocols are not great. The animals are most likely to be euthanized due to inability to achieve good palliative care and pain control.

In this study, Lomustine and Prednisolone oral therapy is followed. The use of Lomustine and Prednisolone is also reported for mast cell tumor in dog. Lomustine is an alkylating nitrosourea compound used in chemotherapy and one of the most commonly used agent in veterinary medicine. It is used to treat some types of cancer. It disrupts the growth of cancer cells, which are then destroyed. It is a highly lipid soluble, non-ionized drug that rapidly crosses blood-brain barrier, available only in oral dosage form. Lomustine is a less toxic drug and has been used with some success in feline lymphoma.

Oral daily Prednisolone therapy has a long term success rate of about 25%, and oral Prednisolone and Lomustine therapy has a slightly higher success rate (40%). The administration of prednisolone resulted in a reliable decrease in the number of osteosarcomas. Prednisolone is used as a part of chemotherapy treatment; it is known to have anti-inflammatory action which allows tumor shrinkage by virtue of removal of the inflammatory component of the tumor. Lomustine usual recommendation dose is 2.5 mg once in 6 weeks but we followed 2.5 mg once in 3 days found to be highly effective, safe, with mild adverse effect and may be safe during pregnancy.

**REF:** Umakanthan T, Madhu Mathi P, Umadevi U (2017) Successful Treatment of Nasal Osteosarcoma in a Cat with Lomustine and Prednisolone – A Case Report. *J Anim Health Behav Sci* 1:102.

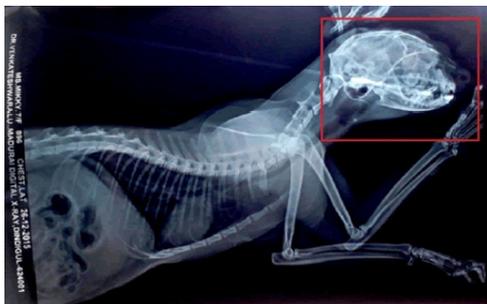


Figure 1: X-ray left lateral view.



Figure 2: Nasal osteosarcoma—shortened, incognito nasal bone.

## 56. GLOSSITIS

Acute in nature, severe inflammation of tongue and extensive protrusion, salivation, intermandibular swelling, etc. Highly fatal.

Probably actinobacillosis or unidentified other cause.

### TREATMENT

- Intamox 8gms i/v
- Alincomycin 20ml i/m
- Diclofenac sodium – 1 day
- IV fluids
- Antihistamine
- Orally sulphanimide with glycerine applied

Treat for 3 to 5 days, good result noticed in 48 hours.

## 56. LISTERIOSIS

Now highly emerging in adult cattle, sheep and goat.

### SYMPTOMS

Staggering, uni or bilateral blindness, quidding of feed, lateral kinking of head and neck. Some cases showed paralysis of lower lip hence teeth visible, salivation, unilateral facial paralysis, lower jaw slightly dropped, aimless walking, dashing against objects. Some cases showed stiffening of entire muscles of body. Partial/complete blindness.

### DIAGNOSIS

Based on symptoms. Usually misdiagnosed as Trypanosomiasis, nervous form of ketosis, Toxemia, Rabies.

### PROGNOSIS

Good

### TREATMENT

- Terramycin LA (Pfizer) -30 ml i/m every 48 hours for 3 times.
- Sterpto penicillin -5gm i/m for 5 days.
- Vitamin A 10ml for cattle if blind on 1st day only.
- Recovery noticed from 48 hours.

(please click on this YouTube link: <https://www.youtube.com/watch?v=LfVVirLORas>)

**REF:** Seminar Compendium on control and prevention of economically important diseases of livestock and poultry organized by Institute of Veterinary Preventive Medicine, Ranipet, Tamilnadu (2012), p39.

### CONCLUSION

I humbly request all the beholders to share this with other veterinarians, in order to serve our companions better.

### Author's Short Bio

Dr.T.Umakanthan, B.V.Sc., GLPVL., graduated from Madras Veterinary College, India. Serving 35 years in Tamil Nadu Government Veterinary Department. Published 115 research articles. An eminent field Veterinary Surgeon, Physician, Multidisciplinary Scientist, Specialized in Molecular Chemistry and Spiritual man. Trained in Good Laboratory Practice at United Kingdom. Participated in many international conferences in India and abroad and presented research papers in various science. Reviewer and associate editor of many international journals of different science faculty. Filed 10 patents nationally and internationally. Honoured many awards and reputations in science and divinity. Specialized in Vedicscriptions of all religions. Published divine articles and books (last published: The Multi-science 22<sup>nd</sup> century inventions, Omniscirptum Germany). His entire royalty is being spent to feeding poor and planting trees without considering nationality and religion. Now involved in

Atomic chemistry and Radio chemistry research, and have done many inventions; based on this, also undertaken research on water-based Mid-IR Generating Atomizer (MIRGA).

**Dr. U. Umadevi** M.Sc., M.Phil., Ph.D., Assistant Professor of Botany. Cleared TSIR-UGC NET exam and SET exam. Published 41 research articles in National and International Journals. Editorial board member of Virology Research Journal and Biomedical Journal of Science and Technical Research. Co-authored a scientific book, "The Multiscience 22<sup>nd</sup> century inventions" (Publishers - Scholar's press, Germany) and also published book on divinity. Filed 10 patents nationally and internationally. Received awards, fellowships, prizes from Government and private organizations. Presented papers in national and international conferences. Chaired the International conference, organized by World Academy of Science, Engineering and Technology, London on 17<sup>th</sup> and 18<sup>th</sup> October, 2016 and got best paper award. Received Alexander Flemming Award from USA. Got many central and state Government scholarship and grants. Now undertaking research in Atomic chemistry and Radio chemistry, and have done many inventions. Based on this, also undertaken research on water-based Mid-IR Generating Atomizer (MIRGA).

**Dr. P. Madhu Mathi**, B.V.Sc & AH., graduate of Madras veterinary college, Chennai. Now Subject Matter expert level – I in Animal Health Claims department, Allianz India, a United Kingdom based company. Published 20 research articles in reputed International Journals. Assisting scientific research and spokesman to reputed scientists. Reviewer of the International Journal of Agricultural sciences and Editorial board member of Virology Research Journal, Archives on Veterinary Science and Technology Gavin Publishers. Attended "18<sup>th</sup> International Conference on Livestock farming, medicine and surgery" at London on 17<sup>th</sup> and 18<sup>th</sup> October, 2016. Recipient of Alexander Flemming award - USA. A member of Indian Spectroscopy Society. Now undertaking research in Atomic chemistry and Radio chemistry. Based on this, also undertaken research on water-based Mid-IR Generating Atomizer (MIRGA).