



*The
Blue
Cross
Book*

For the Veterinary Profession

15



EDITOR :

Dr. A. K. Datta

Ph.D., D.M.L.T.(JU)
Intervet Laboratories Ltd.

PATRON :

Mr. W.-J. Bader

Country Manager
Intervet Laboratories Ltd.

K. K. Unni

Chairman,
Intervet Laboratories Ltd.

EDITORIAL BOARD :

Dr. P. D. Sardeshpande

M.V.Sc, Ph.D., F.R.V.C.S.
Bombay Veterinary College (Retd.)

Dr. V. V. Ranade

M.V.Sc., Ph.D.
Bombay Veterinary College (Retd.)

Dr. S. R. Pattabiraman

M.V.Sc., Ph.D.
Madras Veterinary College (Retd.)

Dr. S. Jagdish

M.V.Sc., Ph.D.
Bombay Veterinary College (Retd.)

Dr. A. Madhusudan

B.V.Sc. & A.H.
Intervet Laboratories Ltd.

Dear Readers,

We are glad to inform you that, the initial proof reading and valuable suggestions on technical aspects on this issue was provided by Dr. K. R. Krishnan, M.V.Sc., Ph.D., Veterinary University Training & Research Centre, No. 80 GST Road, Thirunagar, Madurai - 625 006.

We are thankful to Dr. Krishnan for his kind help in this matter.

-Editor

PREFACE



W.-J. Bader
Country Manager

Dear Reader,

I like to present to you the 15th issue of *'The Blue Cross Book'* wrapped in a new design.

Following the worldwide amalgamation process, Hoechst Roussel Vet in India has finally changed its name to Intervet Laboratories Limited. Our new company logo is shown below and symbolises a new beginning. Intervet will operate with two manufacturing sites in India which are based in Pune and Hyderabad. Aim is to develop and manufacture veterinary pharmaceuticals and biologicals for the local market.

Our Research and Development activities in India will focus on development of new concepts and solutions in the areas of disease prevention and diagnostics. Extensive support will be provided by a worldwide network of highly sophisticated R & D centres, which operate under close coordination of the Corporate Head Office in Boxmeer, The Netherlands. With combined forces, we are confident to meet the high expectations of our customers and business partners.

Like in the past, the Editorial Board invites you to comment and send your valuable opinion and suggestions on the scientific reports published in this issue.

Lastly, I would also request you to send your valuable technical article or case report for publication, which may kindly be addressed to -

Dr. A. K. Datta

Editor, *'The Blue Cross Book'*
Intervet Laboratories Ltd.
412, Thakur Mansion Lane,
Somajiguda, Hyderabad - 500 082.
Direct Phone : +91-40-6564451
Fax : +91-40-3316375 / 6564455
Mobile : 09849041787

Best regards,

A handwritten signature in black ink, appearing to be 'W.-J. Bader', written over a light-colored background.

W.-J. Bader

Preface :	1
The Premier Veterinary Institute in India - 5 : College of Veterinary Sciences & Animal Husbandry, Mathura	5

Review Articles :

Control of Parasitic Disease Problems : A Review	7
A. K. Bhattacharya	
Miraculous Effect of Vitamin - E and Selenium in Animals	11
Rachna Dixit	
Selection of Foot and Mouth Disease Virus Vaccine Strains	12
S. Nandi	

Clinical Articles :

Comparative Efficiency of Amitraz (Taktic® 5% EC) and Deltamethrin (Butox® 1.25% EC) against Demodectic Mange in Dogs	14
K. Satish Kumar, M. P. Reddy and P. C. Choudhuri	
Evaluation of Fenbendazole, Levamisole Hydrochloride and Metrifonate for the Treatment of Stephanofilarial Dermatitis in Bovine	17
P. K. Das and S. B. Tripathy	
Effectiveness of Gonadotrophin Releasing Hormone (Receptal®) on Pregnancy Rate in Repeat Breeding Syndrome	20
P. Kumar and R. Jha	
Honey, a Substitute to Glucose Therapy in Hypoglycaemic Cases	21
D. N. Rajguru, Bhoop Singh and L. B. Aananthwar	
Oestrus Response and Fertility in Non-cyclic Crossbred Cattle Treated with Herbal Medicinal Plant, <i>Aloes barbadensis</i> (BSIS: 49940)	24
Uma Shanker, S.K.Srivastava, S.K.Agarwal and Satish Kumar	
Clinico-pathology and Therapeutic Management of Canine Gastroenteritis	26
S. S. Shinde, D. N. Rajguru, L. G. Anantwar, Mohd. Saleem and B. N. Ambore	

Book Review :

"All India Veterinarians Guide 1997"	30
A. K. Battacharya	

Case Reports :

An Extensive Case of Seminoma in a Buffalo Bull and its Surgical Management	32
S. K. Tiwari and M. K. Awasthi	
Clinical Efficacy of Enrofloxacin (Floxadin®) with Amnovit® to Control Infertility, and Abortion due to Infectious Pustular Vaginitis.	34
A. Rai	
An Unusual case of Ascites in Dog	35
D. N. Pandey	

A Typical Case of Dumb Form of Rabies in a Dog	36
Umesh Dimri and M. C. Sharma	
Efficacy of Receptal® Treatment on Pregnancy Rate in Repeat Breeding Cows	38
P. R. Pandey	
Squamous Metaplasia in a Dog	39
J. P. Varshney and O. P. Paliwal	
Post-partum Hysterectomy in a She-Buffalo	40
T. Umakanthan	
Organochlor Insecticide Poisoning in Horses and Cattle	42
Rajesh Kapoor, D. K. Sharma and R. K. Raina	
Anaplasmosis in a Cattle Heifer	43
J. L. Singh, M. C. Sharma, G. C. Gupta, and Shiv Prasad	
Humpsore in Cattle	44
C. K. Singha and Indu Borah	
New Technique :	
Mounting of Blood Film - Cellophane Tape the Candidate for Alteration	45
S. S. Das	
Oil Immersion Microscopy - An Alternative Easy Approach	47
S. S. Das, D. Kumar and R. Sreekrishnan	
Others :	
Readers' Column : Comments / Suggestion	49
Next Issue : Expected Articles	52

Stop Worrying For FMD Outbreak And Relax



- Effective and potent vaccine, high antigenic mass.
- Absolutely safe even for pregnant animals.
- Protects animal productivity and farmers profitability.

Presentation : Cattle, Buffalo, Sheep, Goat	Dosage : Cattle & Buffalo : 3 ml IM/SC
Vial of 30 ml & 90 ml	Sheep & Goat : 2 ml IM/SC

Intervet Laboratories Ltd.
412, Thakur Mansion Lane, Somajiguda, Hyderabad - 500 082.





THE PREMIER
VETERINARY
INSTITUTE
IN INDIA 5

COLLEGE OF VETERINARY SCIENCES & ANIMAL HUSBANDRY, MATHURA

In the golden year of independence, 1947, Uttar Pradesh College of Veterinary Sciences & Animal Husbandry was established at Mathura city, famous for Lord Krishna. Since its inception, the college has effectively met the growing demand of recruiting trained veterinary professionals in order to develop and maintain animal husbandry services not only in the state of Uttar Pradesh but also India. Presently, the institution comprises of the College of Veterinary Sciences & Animal Husbandry, the Experimental Livestock Farms and three Zonal Research & Extension Centres. The college with an extensive livestock development farm over 780 acres of land is located at the bank of river Yamuna on Mathura - Agra Road, 4 km from Mathura city. The livestock cum fodder farm with a total area of approximately 1400 acres is situated at Madhuri Kund about 24 km from main college campus.

Buildings and Other Facilities :

The college has a centrally located spacious and impressive administrative block, teaching & research block with well equipped modern library. The college is totally residential with availability of four boys' hostels and one girls' hostel. It also provides residential facilities for faculty members and staff.

Educational Facilities :

Library : A well equipped library with modern facilities and immense collection of

books, is situated behind the main administrative block.

Academics : The College of Veterinary Sciences & Animal Husbandry, Mathura was established with the main objective of producing and providing in required number of veterinary graduates. In the beginning, the emphasis was in the treatment and control of livestock diseases. Later, with the modernization of animal health services, further development started to commence regular post-graduate teaching and research programme resulting to M.V.Sc., Ph.D. and D.Sc. degree since 1956.

The college has produced over three thousand veterinary graduates and several post-graduates during the last 50 years of its inception.

Research : The college has made significant research contribution in the field of livestock health, animal breeding, animal production and management and in other allied activities. The college has contributed approximately four thousand research publications in national and international journals of repute. Twelve centrally sponsored research projects and one under PL480, have also been completed successfully with excellent results in Swine, Poultry, Goat disease problems and Equine Mycoplasmosis.

Work on M D C (Mucosal Disease

Complex), Swine Fever, Salmonellosis, African Horse Sickness, Marek's Disease, Para-influenza, Infectious Laryngotracheitis and disease of Zoonotic importance, Brucellosis and Tuberculosis are worth mentioning. In the field of parasitology, about hundred of new species of parasites of domestic animals have been reported. It is worth mentioning that in clinical medicine field, extensive work has been done on Amphiostomiasis, Theileriasis, Babesiosis and Calf-diarrhoea etc.

The college has an extensively contributed in the development of suitable semen extender for buffaloes and semen quality control.

Several new surgical techniques and surgical interventions are the remarkable achievements of the institute.

In the field of animal nutrition, extensive work has been carried out on the establishment of nutritional standard of different feeds and fodders.

Synchronisation of heat in small ruminants and summer fertility management is the remarkable achievement of research on reproduction.

Extensive work has been done on poultry genetics as well as on indigenous cattle and buffalo breeds which will be of commercial importance in future under the indigenous breed conservation programme.

Clinical Facilities :

The college has extension teaching complex (clinical aspect) at Kothari Hospital with indoor patient wards and 24 hour emergency services. The hospital provides quality

treatment and service to the animals regarding the aspect of clinical medicine, surgery and gynaecology. The facilities for ambulatory clinics to the near by area of Mathura are also provided by the college.

Other Facilities :

There are two livestock farms with 500 cattle, 100 buffaloes, 450 sheep and 150 goats for facilitating teaching and research activities.

With the state funded projects on FMD, the college helps in the determination of Foot and Mouth Disease status of U.P. and so to typing of the viruses.

Extension :

The college has extensive animal husbandry activities in the adjoining areas of Mathura district. It imparts training to the farmers, retired defense personnel in the field of improved animal husbandry practices and animal production. Training programme are also organised with the objective of discrimination of modern research activities from laboratories to the field units.

"The information has been provided by an old alumni of Mathura Veterinary College, Dr. J. K. Pandey, now serving in Animal Husbandry Department of U.P. as Veterinary Officer. For further information, kindly contact Dr. Pandey at the following address :

Central Laboratory (NPRE-MAXI-ELISA), Directorate of Animal Husbandry, Badashabag, Lucknow."

- Editor

"He hurts the good who spares the bad"

- Publilius Syrus

Control of Parasitic Disease Problems : A Review

A. K. Bhattacharya

West Bengal University of Animal & Fishery Sciences, Khudiram Bose Lane,
Calcutta – 700 037

Parasites cause various disease syndromes in man and domesticated animals, the consequence of which are of considerable medical and veterinary importance. In domestic animals, parasitism is one of the production problem severely reducing yield of animals throughout the world. The effects are more aggravated in Indian subcontinent having humid and tropical climate where pastures, feral and semi-feral grazing system exist.

In India, research activities in the field of veterinary parasitology had been initiated in a modest beginning in the year 1893 when Dr.A.Lingard, Founder Director of Imperial Bacteriological Laboratory at Mukteswar started research on Surra. It goes without saying that scientists in the field had worked convincingly with dedication on taxonomy, patho-biology and treatment of a good number of parasitic diseases of livestock. It was in 1956 that post-graduate education programme in veterinary parasitology had started at Mathura Veterinary College and Indian Veterinary Research Institute (IVRI), Izatnagar. Subsequently, other veterinary colleges of Agricultural Universities had followed the tract and now post-graduate education in veterinary parasitology is imparted from almost all the faculties of respective universities.

Unfortunately, a good number of devastating parasitic diseases affecting directly or indirectly animal health are still prevailing.

Efforts are given to control parasitic diseases compared to the enormous magnitude of the

problem seem to be unusually below the desired level. In one of the recent observations, the loss of livestock assets due to parasitic infections has been estimated to the tune of 16.96%, 15.02%, 8.91% and 14.66% due to morbidity and mortality only among age-group of one year, one to three years, three to six years and above six years respectively in India. In fact, the loss due to protozoan, helminthic and acaricide problems are maximum causing reduction in weight gain, loss in milk yield and wool production and reduction in quality of hyde all over the country. It is because of humidity that certain ectoparasites harbouring in goat skin of Indo-Gangetic planes affect the quality of hyde and tremendous economic loss results from the point of view of export of leather. The overall loss on account of parasitic infection in livestock remains alarming.

It was in 1991 that a publication came out from Dr.Stromyer, Pirbright, The UK, wherein it was mentioned that bad hygienic condition, high humidity and prevalence of haemo-parasitic disease among farm animals namely, Anaplasmosis, Theileriosis, Trypanosomiosis, etc. may cause Foot and Mouth Disease (FMD) among cattle in very severe malignant form. The aggravation of Foot and Mouth Disease in a severe outbreak as recorded in 1989 in state livestock farm, Kalyani, West Bengal, was analysed and the observation of World Reference Laboratory, Pirbright, The UK, was found in conformity. It was recorded that Theileriosis and Trypanosomiosis had been prevailing amongst dairy cattle of the farm at the time

when Foot and Mouth Disease outbreak occurred. It was indeed, very severe incidence of the disease causing mortality to the tune of 7% irrespective of age group and morbidity above 60%. The involvement of haemoparasitic infection was so much important in changing course pathogenesis of Foot and Mouth Disease in that farm.

Another incidence of concurrent infection in one coastal hamlet of South 24-Parganas district, West Bengal in 1993 may be cited. Sixteen cross-bred cows were affected by Theileriosis and subsequently by Foot and Mouth Disease and the later disease turned so severe that all the animals died, some of them being in prime lactation phase. It was so great a loss that the owner could not recover and start house dairy project again. Such is the magnitude of loss from haemoparasitic infection of cross-bred milch cows in particular.

Control of parasitic disease of animals should include parameters like provision of nutrition, good housing, hygienic measure, treatment and immuno-prophylaxis, if permissible. It is a fact that significant progress has been made in the last few decades towards reducing the occurrence of some parasitic diseases of man and livestock. But, human malaria and kalazar are prevailing in our country in the same magnitude as that of post-second world war period, some fifty five years ago. Intricate diagnostic techniques have revealed that virulent antigenically mutated strains have emerged and the intermediate host turned resistant to the common insecticides. Same is the picture of gastro-intestinal helminthiasis, like Haemonchosis which is responsible for high mortality in sheep thereby affecting the production of wool and mutton.

Diagnosis of parasitic diseases by conventional methods is being regularly updated by modern techniques based on

molecular biology. Spectacular observations have come out in the field of diagnosis and treatment of human malaria. It has been postulated by Dr. Padmanaban, an eminent parasitologist in India, that time is not far away to have a methodology to control human malaria. It has been established that an enzyme viz, ALAD is liberated by RBC and there is a competition between *plasmodium* sp. and this enzyme in haemostatic environment for securing iron. *Plasmodium* sp. blocks two receptors of the enzyme thereby making the enzyme defunct in the process of securing iron. In fact, the parasite requires iron for its survival and for that purpose they block the enzyme receptors in active cases of malaria. Now, if the receptors of ALAD can be blocked by a suitable component artificially in the molecular level, the function of the enzyme can be sustained as a result of which the parasite will starve and ultimately degenerate. The infection will, therefore, be automatically turned void. It is indeed a phenomenal breakthrough in the field of control of human malaria and it can be hoped by the turn of a year or so, innovative work in this field which may result in averting the disastrous disease. Techniques like PCR, Multiple PCR, ELISA, DNA characterisations and reverse line BLOT – DNA – probe hybridization in diagnosis of parasitic diseases of which Malaria, Babesiosis and Theileriosis are important, may be utilised to the cause of control of parasitic diseases of importance in India.

In the field of immuno-prophylaxis of parasitic diseases, endeavours are being carried out to develop DNA vaccines. DNA recombinant vaccine has been tried with success in control of Babesiosis, Theileriosis, Anaplasmosis and Toxoplasmosis. Besides, during the last two decades recombinant candidate antigen vaccines have been developed against Cestodes, Nematodes, Trematodes, Protozoans

and Arthropod Parasites of men and animals. It goes without saying that since early 70s attenuated live vaccines have been developed against some of the protozoan diseases mentioned above. It may be worth mentioning that success has been achieved in control of lung worm or dictycaulosis by using

irradiated larva. Introduction of DNA probes and peptides could eventually facilitate cloning and a number of recombinant vaccines may come out. There is reason to be optimistic in success towards control of parasitic diseases by application of immuno-prophylaxis in near future.

**NOW
IN
INDIA**

Panacur[®] Susp.

The wormer of choice all over the world

**Ready-to-use suspension
for application by drenching gun, syringe or bottle**



Panacur Suspension 2.5%

Animal	Body weight kg	Dose
Sheep & Goats	30	6 ml
Dogs	10	20 ml for 3 consecutive days

Panacur Suspension 10%

Animal	Bodyweight kg	Dose ml
Cattle	400	20
Horses	400	30

Presentation

Panacur Suspension 2.5% : 450 ml & 1 litre Plastic Bottles

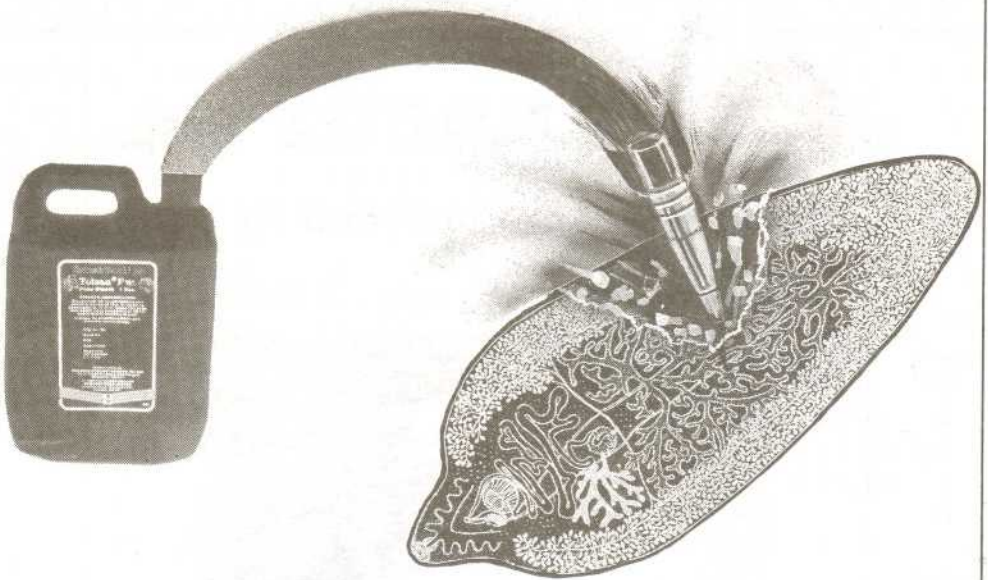
Panacur Suspension 10% : 450 ml Plastic Bottles

Intervet Laboratories Ltd.

412, Thakur Mansion Lane, Somajiguda, Hyderabad - 500 082

intervet

Hoechst Launches
WAR AGAINST FLUKES



Tolzan F^{*}

(Oxyclozanide 3.4% suspension)

An Effective Flukicide

**For Improved Productivity &
Higher Profits**

^{*} Regd. Trade Mark of Hoechst AG, Germany

Intervet Laboratories Ltd.

412, Thakur Mansion Lane, Somajiguda, Hyderabad - 500 082.

intervet

Miraculous Effect of Vitamin – E and Selenium in Animals

Rachna Dixit

19/6, B. K. Banerjee Marg, Beli Road, Allahabad - 221002, U.P.

In domestic animals, Vitamin-E plays a vital role as an anti-sterility factor. It is much more important as an antioxidant and prevent diseases of brain, muscle and fat.

Deficiency of Vitamin-E and Selenium have been associated with white muscle disease or muscular dystrophy or nutritional myopathy or stiff-lamb disease. The disease is prevalent in nursing animals because milk is a poor source of Vitamin-E. Lambs and calves are mostly affected with this. The clinical signs include locomotor disturbances namely, reluctance to move, stiffness, inability to stand and ultimately death. In chicks and ducklings nutritional muscular dystrophy is caused when deficiency of Vitamin-E is associated with deficiency of methionine and cystine,. In white muscle disease, there is pale streaks mainly in breast and thigh muscles due to degenerated and necrosised muscle fibres. Animals have responded well to the treatment by Vitamin-E and Selenium either in oral or injectable form.

In swine, acute hepatic necrosis or dietary hepatic necrosis is related to Vitamin-E deficiency. Another disease steatosis or yellow fat disease in pigs is caused by feeding a ration low in tocopherols and high in fish meal. Steatitis also occurs in cats, fed on certain fish diets. In cow and buffaloes the threatened abortion and cases of prolapse have responded miraculously to the treatment by adequate dose of Vitamin-E and Selenium. Repeat breeders have shown marked improvement in conception or fertilization rate after they were treated with Vitamin-E and Selenium.

In the cases of Dagnala which is very common disease of paddy grown area, the

animals show loss of hair and degeneration of tail, foot lesions and dry skin. When such animals were treated with Vitamin-E and Selenium they were cured of their lesion and even the hair on the tail reappeared.

In poultry, Vitamin-E deficiency causes encephalo-malaria or crazy-chick disease, exudative diathesis, and nutritional dystropy. Above conditions can be prevented by giving adequate doses of Vitamin-E and Selenium since primary function of Vitamin-E is protection of cell membranes as an intracellular antioxidant, its deficiency results in damage to blood vessels and changes in capillary permeability. Crazy-chick disease is seen in birds usually in good condition up to the age of 5 weeks or so. Clinical signs are of muscular weakness, frequent falling, violent incoordination, head retraction or torticollis, paralysis and ultimately death. Vascular lesions give rise to oedema and petechial or even larger haemorrhages in the cerebellum with ensuing neuron degeneration. These lesions with appropriate clinical signs and history are virtually pathognomonic. The condition is prevented by adequate Vitamin-E and Selenium as these said to have some prophylactic effect.

In exudative diathesis, the capillary lesions lead to increased vascular permeability resulting in plasma leakage. Plasma accumulates subcutaneously, particularly over the breast, under the wings, also intramuscularly and in the pericardial sac. This condition is prevented by Vitamin-E and Selenium. Thus it is clear that adequate dose of Vitamin-E and Selenium play an important role in the prevention and cure of various diseases of animals and poultry.

Selection of Foot and Mouth Disease Virus Vaccine Strains

S. Nandi

Division of Virology, IVRI (Mukteswar), Nainital - 263 138, U.P.

Introduction :

Foot and Mouth Disease (FMD) has still remained worldwide the most important and for economic reasons, the most meaningful animal disease. This highly diffusible infection affecting thirty or more cloven-footed animals include some of the man's most valuable livestock: cattle, buffalo, swine, sheep and goat. The disease is generally characterized by vesicular lesions on the feet and mouth of the infected animals besides the involvement of skin, teats, snout, rumen and myocardium. In cattle, there is profuse drooling of rosy saliva and rupturing of tongue vesicles, exposing large raw areas on the tongue.

The disease affecting hundreds of thousands of animals and leaves in their wake a multitude of infertility, sterility, impaired work ability and a very large number of dead young calves. It has the potential for causing enormous economic impact partly because of the effect on trade. The Government should make a considerable effort to generate a greater awareness of the disease and its economic importance among the people by implementing the proper and successful control programme. Successful disease control involves a number of measures used in combination. The availability of an appropriate high quality vaccine is an essential element in any successful campaign for the control of FMD besides a range of zoosanitary measures, including restrictions on the movement of animals and effective cleaning and disinfection procedures. The vaccines consist of FMD virus grown in suspensions of Baby Hamster Kidney (BHK₂₁) clone 13 cells has been inactivated with acetylenimine (AEI) or binaryethylenimine (BEI) and adsorbed into

aluminium hydroxide gel particles.

Selection of Vaccine Strains :

Vaccination is likely to be the cornerstone around which any future policy will be built. Potent, safe and cheap vaccine will be required for both prophylactic and emergency purposes. To manufacture the polyvalent vaccine as in the case of FMD, the first and foremost duty is to select vaccine strains of all the types prevalent in a particular country. There are three important points which should be kept in mind while selecting vaccine strains of FMD virus to be incorporated in polyvalent vaccine.

I. Serological Specificity of Vaccine Viruses

FMD virus, being its high mutation rate, is constantly changing to produce a range of antigenic variants. So, it is necessary to renew the vaccine strains time to time with the strains having wide coverage to get the desirable result. The basis for the evaluation of serological specificity is best expressed as the r-value relationship either in complement fixation test (CFT) or micro-neutralization test (MNT).

$$r = \frac{\text{Titre of reference serum against field isolate}}{\text{Titre of reference serum against homologous reference strain}}$$

This criterion recognizes that the serological relationship between reference vaccine and field strain is not always symmetrical. If the r-values of all the field strains are closer to 1.00, it is certain that the current strain is able to give protection in animals against all

the strains available in the field. If the r-value are very far from the 1.00, it is desired to replace the current vaccine strain with a suitable strain. The ideal FMD vaccine strain, therefore, would be one whose antiserum is highly reactive with many virus strains of the same type derived from the different parts of the world. It should be noted that factors influencing serological results such as test method employed, the intrinsic error of the test method, variation in the avidity of antiserum and the quality of the reagents used should be taken into account while interpreting the data.

II. Physiochemical Characteristics of Vaccine Viruses

The immunogenicity of FMD virus resides in the intact capsid. In majority of cases, the immunogenic antigen is the intact virion particles (75 S) lacking in RNA genome is equally immunogenic and stable over a period of at least 2 years at 4°C. In selecting a vaccine strain for vaccine manufacture, it is important, therefore to identify the immunogenic component for that strain. It is equally important that the capsid should be stable to the inactivant used to render the virus non-infectious. FMD virus strain of almost similar serological specificity may be different in their capsid stability to inactivants used in vaccine viruses.

III. Growth Characteristics of Vaccine Viruses

It is not sufficient to identify a FMD virus strain having wider antigenic spectrum and higher capsid stability to be used in manufacturing vaccine. Its growth characteristics in BHK₂₁ suspension cell (generally used in FMD vaccine production) must meet the desirable criteria. The vaccine virus should multiply rapidly in BHK₂₁ suspension cells so that even at low multiplicity of infection, extra-cellular infectious virus yield would reach peak titre of 6.5 log₁₀

pfu/ml within 24 hours of culture inoculation.

Virus isolated from the same epizootic may differ markedly in their growth characteristics in BHK₂₁ suspension cells. It has also been seen that even plaque mutants derived from the same virus isolate may differ greatly in their growth characteristics in BHK₂₁ suspension cells and small plaque variants generally grow readily in BHK₂₁ to a higher titre than large plaque variants.

Conclusion :

The higher antigenic variation and low vaccine potency resulting from the inherent instability of the FMD virus results in a vaccine failure and disease outbreak. Due to its high mutability, emergence of a large number of strains quite different from vaccine strain are no longer taken care of by vaccine strain. It is of prime importance to select the vaccine strains from time to time to renew the existing strains to obtain a better and successful result. It is suggested, therefore, that an ideal FMD virus vaccine strain should fulfil the following criteria:

- 1) Wide antigenic spectrum or coverage.
- 2) Grow rapidly and regularly in the cell culture to a higher titre.
- 3) Give rise to a high content of immunizing antigen which is stable after inactivation of infectivity.
- 4) In the formulated state, the antigen must be capable of provoking immunity in vaccinated animals. The antigen must be stable for atleast one year at refrigerated temperature.

Lastly, formulated vaccine containing FMD virus strains of all serotypes having desirable characteristics should be reached to the users in ideal condition to vaccinate the entire susceptible animals, otherwise the whole idea of controlling and eradicating the notorious disease will be jeopardized.

Comparative Efficacy of Amitraz (Taktic® 5% EC) and Deltamethrin (Butox® 1.25% EC) Against Demodectic Mange in Dogs

K. Satish Kumar, M. P. Reddy and P. C. Choudhuri

Department of Clinical Medicine, College of Veterinary Science, Tirupati – 517 502

Mange is an important problem in canine, causing severe dermatitis and pruritis manifested by itching. As irritation increases, the animals bite and scratch the area in an attempt to overcome the itchiness (Higgins, 1985). Among the several types of mites causing mange, *Demodex canis* lives deep in hair follicle and sebaceous glands of skin causing follicular or demodectic mange (Sharma *et al.*, 1999). Control of mange in dogs has acquired a vital role due to the increased awareness and concern in rearing them. Use of several types of important acarids liberally, results in resistance development to the ectoparasites (Solmon, 1983) which forms a major problem in controlling them. Information on individual efficacy of Deltamethrin and Amitraz among various species is available. A clinical trial was undertaken to study comparative efficacy of Amitraz (Taktic® 5% EC, Intervet Laboratories Ltd.) and Deltamethrin (Butox® 1.25% EC, Intervet Laboratories Ltd.) on demodectic mange affected dogs.

Materials and Methods:

The study is based on 11 dogs of various breeds and age group between 2-3 years. Lesions were over the face, abdomen, medial aspects of thighs, elbows, feet and dry and scaly in nature with pustules here and there, thickening and wrinkling of skin with loss of hair at some parts. Skin scrapings examination from all the dogs were collected under aseptic condition with the scalp blade till blood oozes from the surface in 10% KOH for microscopic analysis, which revealed the presence of *Demodex canis* (average 8 mites per square inch area) and

microbiological examination could not reveal any fungal growth, confirming demodectic mange infestation.

Dogs were divided into 3 groups viz. Group I and II with 5 dogs in each and Group III with one (please see table for details of group-wise treatment schedule). Specific therapy was given to dogs in Group I and II for two times at weekly interval i.e. on day 1 and day 7 after monitoring intensity of mites (average number of mite per square inch of affected area) along with the common supportive treatment with **Pheniramine maleate** (injection Avil®, Intervet Laboratories Ltd.) and Vitamin-A preparations Group III (one dog) received only supportive treatment i.e. Avil® and Vitamin-A (please see table for details of treatment schedule). Therapeutic efficacy was assessed, based on the mortality per cent of mites with reduction in intensity of lesions and reappearance of normal skin and hair.

Results and Discussion :

From the table, it is evident that all the dogs in group II treated with Taktic® 5%EC showed a marked recovery with 100% reduction of mites on day 10 i.e. after two external applications. All dogs in group II showed disappearance of patches over the body with regaining of normal healthy skin and hairs. Moreover, the coat condition developed to glossy and silky appearance in dogs that received Amitraz therapy compared to some what dull and rough hair coat of dogs treated with Deltamethrin. A symptomatic treatment with Antihistamines and Vitamin-A, helped in rejuvenation of

Table : Showing the Comparative Efficacy of Drugs in Demodectic mange infested Dogs.

Expt. Group	No. of Dogs	Intensity of mite per square inch, Prior to treatment on Day 0	Therapeutic resume	Intensity of mites per square inch on Day 7	Intensity of mites per square inch on Day 10	Recovery %	Therapeutic efficacy
I	5	8	Butox [®] (Deltamethrin) @ 4ml / ltr of water externally on day 1 and day 7 Avil [®] (Pheniramine maleate) @ 1ml/ Intra-muscularly and Vitamin-A @0.5ml Intra-muscularly for 4 alternate days	6	4	50	Moderately efficacious
II	5	8	Taktic [®] (Amitraz) @ 10ml ml/ltr water externally on day 1 and day 7, Avil [®] (Pheniramine maleate) @ 1 ml/Intra-muscularly and Vitamin-A @ 0.5ml Intra-muscularly for 4 alternate Days	2	0	100	Highly efficacious
III	1	7	Avil [®] (Pheniramine maleate) @ 1 ml Intra-muscularly and Vitamin-A @ 0.5 ml Intra-muscularly for 4 alternate days	7	7	0	Not efficacious

skin and reducing of pruritis in all groups.

Bose *et al.*, (1991) and Midleau & Willemse (1991) have reported that Amitraz is highly efficacious against demodectic mange in dogs. moderate efficacy of Deltamethrin noted here may be because of its inability of penetrating through the keratin layer of skin of warm blooded mammals (Mujumdar, 1991).

Summary :

Eleven dogs of various breeds which were clinically suffering from demodectic mange were treated with Deltamethrin (**Butox**[®]

1.25% EC) @ 4 ml per litre of water (group 1) and Amitraz (**Taktic**[®] **5% EC**) @ 4 ml per litre of water (group II) topically twice at weekly interval, along with supportive treatment with Antihistamines (**Avil**[®]) and Vitamin-A preparations for 4 alternate days parentenally, Group III (one dog) received only supportive treatment i.e. **Avil**[®] and Vitamin - A and served as active control animal. On the 10th day of post-treatment, it was observed that Group II animals (treated with **Taktic**[®] **5% EC**) were comparatively better than Group I (treated with **Butox**[®] **1.25% EC**).

References :

D. A. Bose, A. B. Sathe, D. P. Bhalero and S. Jagadish (1991). Recent advances in control of diseases of cross bred and companion animals - *A Compendium Abst.*, 304:62

Higgins, A. J. (1985). *Br. Vet.Jr.*, 141:197-216.

Jani, B. M., Jani, R. G., Thaker, A. M. and Avasthi, B. L. (1991). *J. Vet. Parasitol.*, 5: 136-138.

Midleau, L. M. and Willemse, A. (1991). *Proc. AAVD/ACVD A. Z. Schosdale*, pp. 41.


Mujumdar, K. A. (1991) Recent advances in control of diseases of cross bred and companion animals – *A compendium Abst.*, 1.70:37.

Sharma, A. K., Mandial R. K., and Dinesh Parmer (1999). *The Blue Cross Book*, 13: 38.

Solmon, K. R. (1983) *Adv. Vet. Sci. Comp. Med.*, 27: 273-296.

Taktic®

The exceptional ectoparasiticide for the control of Ticks, Mites & Lice in Dog.




Application : Dog wash by dermal application only.

Dog	Ticks & Lice	6 ml per liter of water.
	Mange	10 ml per liter of water.

- **Frequency of treatment recommended** : In severe cases of infestation a second treatment is recommended, 7 - 10 days after the first.
- **Presentation** : Available in 25 ml. glass bottle along with measuring cap.
- **Precaution** :
 - For use only under the supervision of veterinary medical practitioner.
 - Read enclosed insert carefully before use.
- **Antidote** : Symptomatic treatment only. Do not use Atropine.

Intervet Laboratories Ltd.
412, Thakur Mansion Lane, Somajiguda, Hyderabad - 500 082.



Evaluation of Fenbendazole, Levamisole Hydrochloride and Mefenquine for the Treatment of Stephanofilarial Dermatitis in Bovine

P. K. Das and S. B. Tripathy

Department of Medicine, Orissa Veterinary College, OUAT, Bhubaneswar – 751 003

Introduction :

Among the skin affections encountered in cattle, Stephanofilarial dermatitis holds a major share particularly in Assam, West Bengal, Orissa, some parts of Andhra Pradesh, Bihar and Andaman and Nicobar Islands. Various anthelmintics like Thiabendazole (Ray *et al.*, 1972) Levamisole Hydrochloride (Chakrabarti, 1983 and Ueno & Chibana, 1980), Mebendazole (Tripathy *et al.*, 1985), Organophosphates (Baki & Dewan, 1975, Das *et al.*, 1977; Patnaik, 1970 and Srivastava & Malaviya, 1968) and herbal products (Hassan, 1969) have been used for the treatment. The present study deals with therapeutic efficacy of Fenbendazole, Levamisole Hydrochloride and Mefenquine (Trichlorofon) against Stephanofilarial dermatitis in cattle.

Materials and Methods :

The study was conducted in Puri district of Orissa which was identified as endemic area (Das, 1972) for Stephanofilarial dermatitis. Skin scrapings of affected animals were obtained from the lesions and preserved in physiological saline solution for the demonstration of adult Stephanofilarial worm. Two impression smears from the oozing blood of each animal were also prepared on glass slide for the detection of Microfilariae. The animals used in this study were about 5 years of age and suffering from disease for about one year without treatment. The lesions measured about 5-9 cm in diameter and were mostly in oozing surface with several pruritus.

Fenbendazole @ 5 mg/kg body weight, Levamisole Hydrochloride @ 7.5 mg/kg

body weight and Mefenquine @ 60 mg/kg body weight were administered orally to 10 animals. Each treated animal was examined once a week till 8th week to record clinical progress post-treatment and presence of adult Stephanofilarial worm and Microfilaria in the skin scrapings. Skin biopsy about 1 square cm of 2 animals from each treated group were obtained before treatment and at 8th weeks of post-treatment observation period for comparative histopathology.

In the 2nd trial, 180 animals having advanced stage of lesions, were divided randomly into 6 groups, each comprising of 30 animals. Animals of group I to VI were applied topically once daily for 28 days with 3% Fenbendazole, 4% Fenbendazole, 3% Levamisole Hydrochloride, 4% Levamisole Hydrochloride, 8% Mefenquine and 10% Mefenquine ointment respectively. Ten animals having advanced stage of lesion were kept as untreated control. Animals were examined once a week for clinical cure and presence of adult parasites and or microfilariae respectively. Subsequently, the animals were examined once in 2 months till one year. Skin biopsy of 2 animals from each of treated groups and control group were taken for histopathological study.

Observations :

Oral Administration : Animal treated with Fenbendazole, Levamisole Hydrochloride and Mefenquine @ 5mg, 7.5 mg and 60 mg per kg body weight respectively did not show any clinical improvement on the 8th week of post-treatment. However, 40% and 20% animals treated with Mefenquine and Fenbendazole respectively had some relief

(lesion was dull and inflammatory condition reduced). Subsequent examination of skin scraping and oozing serum from the treated lesions revealed adult parasites and microfilariae in all animals.

Topical Application : Cent percent animals of all the treated groups, except Levamisole Hydrochloride (3%) showed absence of pruritus by 2-4 weeks after daily application of medicaments. Metrifonate treated animals showed the earliest absence of itching followed by Fenbendazole and Levamisole Hydrochloride.

Disappearance of lesion was observed in about 87% of animals after 4th week of treatment with 3% and 4% ointment of Fenbendazole indicating that there was no difference in both the concentration. Application of 3% and 4% ointment of Levamisole Hydrochloride showed cure rate 77% and 83% of animals after 4th weeks of treatment respectively indicating 4% Levamisole Hydrochloride to be superior to 3% Levamisole Hydrochloride. Similarly more than 90% animals showed disappearance of lesions when treated topically with both 8 percent and 10 percent Metrifonate for 4 weeks. There was not much difference between Fenbendazole and Metrifonate treated animals at the end of 4th week of treatment. So far, the absence of lesion is concerned, Levamisole Hydrochloride was the least efficacious of the three drugs, used in this trial.

Absence of adult parasite and microfilariae were noticed in 100% of cases by 2nd, 3rd and 4th weeks of treatment with both the concentrations of Metrifonate, Fenbendazole and Levamisole Hydrochloride respectively indicating superiority of Metrifonate for its parasiticidal effect in this trial.

Metrifonate (8 or 10%) proved to be the best therapeutic agent in this trial followed by Fenbendazole (3 or 4%) and Levamisole Hydrochloride (4%).

None of the drugs showed any adverse effect and no recurrence of lesion on the same site was seen till one year of observation period. The ten untreated control animals did not show any improvement so far itching, healing of lesion and absence of parasite were concerned during the period of observation. On the other hand, lesions increased and about 80% of animals were restless during day time due to itching and irritation.

Histopathological study of treated skin indicated that restoration of different components of skin started by structural changes of the tissue on elimination of adults parasite from the lesion. However, complete restoration of appendages of the skin in the affected area was not observed. The hair follicles regenerated but their population per unit area of the skin was greatly decreased. No sebaceous gland could be encountered in recovered animals. In untreated control animals, lesions did not show any tendency to heal.

Discussion :

Oral administration of Fenbendazole, Levamisole Hydrochloride and Metrifonate @ 5mg, 7.5 mg and 60mg per kg body weight respectively failed to show any curative or parasiticidal effect. As the excretion of Levamisole Hydrochloride through the skin is very minute (Goodman *et al.*, 1980). It is natural that oral therapy would not have any significant effect on the course of the disease. Ueno & Chiban (1980) reported disappearance of lesion and parasite (*Stephanofilaria okinawaensis*) 4 weeks after oral treatment with Levamisole Hydrochloride @ 7.5 mg per kg body weight but lesions reappeared with parasite, 8 weeks after initial treatment. The present findings was in agreement with the earlier observation of Dirksen & Radermacher (1960) who failed to treat summer sore by oral administration of Metrifonate at the same dose rate. Metrifonate is known to be

excreted through the skin (Schulz & Schafer, 1965) perhaps the concentration of Metrifonate used in this study was not sufficient enough to kill the parasite in the lesion. Further study with more number of animals will be required. There is no report on the oral use of Fenbendazole to compare the present findings.

Topical application of Metrifonate (8 and 10%) once daily for 28 days produced optimum therapeutic effect as revealed by absence of parasites and disappearance of lesion. There was no recurrence for one year post treatment. Histopathological findings also confirmed reparative changes and regeneration of hair follicle by previous workers (Srivastava & Malviya, 1968), Rahman & Khalique, 1974; Baki & Dewan, 1975; Dewan & Baki, 1976 and Baki & Hussain, 1984 also reported that Metrifonate (2-20% ointment) alone or with Sulfamilamide for 2-3 weeks cured Stephanofilarial dermatitis. But recurrence was observed in animals treated with 2% ointment. On the basis of above reports and present finding, it is recommended that 8% ointment may be used for the treatment of infection. Tripathy *et al.*, (1985) reported clinical cure by the use of 2% Fenbendazole topically for 12 days but in 40% cases there was recurrence after 250 days. The delay in recovery with the use of 3 or 4% Fenbendazole in the present study might be due to advanced stage of dermatitis and recovery was not observed upto 1 year post treatment. Tripathy *et al.*, (1985) recorded clinical cure in all 12 animals with 4% Levamisole Hydrochloride but in the present study it caused recovery in 87% cases. The difference in result could be due to the fact that earlier workers used the drug along with Himax which possess a good wound healing property (Tripathy & Pradhan, 1978). Histological findings supported the restorative process of the lesion. It also suggested that the inability of many drugs to

cure Stephanofilarial lesion was primarily due to deep localisation of parasites in the skin and protective environment of tunnels in which the parasites are lodged.

References :

- Baki, M. A. and Dewan, M. L. (1975). *Bangla Vet. J.*, **9**:1-6.
- Baki, M. A. and Hussain, M. I. (1984). *Bangla. Vet.*, **1**:14-16.
- Chakrabarty, A. (1983). 3rd I.S.V.M. Symposium held at Bhubaneswar.
- Das, P. K. (1972). M.V. Sc. Thesis submitted to OUAT, Bhubaneshwar.
- Das, P. K., Tripathy, S. B. and Mishra, S.K. (1977). *Orissa Vet. J.*, **11**: 110-114.
- Dirksen, G. and Radermacher, F. (1960) *Dtsch. Tier. Wschr.*, **67**:70-72.
- Goodman, G. A., Goodman, L.S. and Gillman, A. (1980). The pharmacological basis of therapeutics 6th edn *Mackillion Publishing Co. Inc.* New York.
- Hassan, Z ((1969). *Pakistan J. Sci.*, **21**:160-166.
- Pattnaik, B. (1970). Studies on stephanofilarisis in Orissa. *Ind. J. Anim. Sci.*, **40**: 167-175.
- Rahaman, A. and Khalique, A. (1974). *Vet. Med. Rev.*, **4**:371-374.
- Ray, S. K., Tripathy, S. B. and Nayak, D. C. (1972). *OUAT J. Res.*, **1**:46-49.
- Schulz, V.W. and Schafer, R. (1965). *Sonder. Mono furvet*, **7**:254-260.
- Srivastava, H. D. and Malviya, H. C. (1968). *Ind. Vet. J.*, **9**:73-74.
- Tripathy, S. B. and Pradhan, R.K. (1978). *Orissa Vet. J.*, **12**:113-115.
- Tripathy, S. B., Das, P. K. and Das. B. K. (1985). *Ind. J. Vet. Med.*, **5**:137-38
- Ueno, H. and Chibana, J. (1980). *Vet. Parasitol.*, **7**:59-68.

Effectiveness of Gonadotrophin Releasing Hormone (Receptal®) on Pregnancy Rate in Repeat Breeding Syndrome

P. Kumar and R. Jha

Dr. Jha's Veterinary Dispensary & Artificial Insemination Centre, Krishnapuri, Allapatti, Darbhanga - 846003, Bihar

Introduction :

The repeat breeding syndrome is defined as a condition in which cows, have regular oestrus cycles and appear normal on superficial clinical examination, failed to become pregnant following three or more AI (Lafi & Kaneene, 1988). Repeat breeding problem in the field, causing a great economic loss to the farmers. The Gonadotrophin Releasing Hormone (GnRH) was found to be effective in treating repeat breeding cases (Rao, 1991). The present study reports the efficacy of GnRH (**Receptal®** of Intervet Laboratories Ltd.) as a therapeutic agent for repeat breeder cows.

Materials and Methods :

The field trials were conducted on 30 repeat breeder crossbred cows in and around of Darbhanga, Bihar. These repeat breeder crossbred cows were maintained under traditional husbandry conditions, with a history of repeated oestrus at regular intervals but not conceived even after 3 to 6 inseminations. Morphological examination did not reveal any abnormalities. As Darbhanga is a flooded area, all these experimental animals were necessarily drenched with **Tolzan-F®** (Intervet Laboratories Ltd.) @ 90 ml per cow orally before the proper treatment started. The

repeat breeder cows were given 2.5 ml of **Receptal®** (GnRH), injection intra-muscularly in the neck region at the time of AI (Artificial Insemination). Also, 10 healthy crossbred cows with a record of regular conception were kept as untreated controls. All these cows were inseminated with frozen semen, after being observed in oestrus. Pregnancy status was confirmed per rectally 60 to 90 days after breeding and treatment.

Results and Discussions :

Very good percentage of pregnancy was confirmed in treated repeat breeder crossbred cows. Out of 30 inseminated, 16 cows were found pregnant giving 53.33% conception rate. These results commensurate with the report of Stevenson *et al.*, (1998). Only two (20%) of the control cows became pregnant. In field, therapeutic efficacy of **Receptal®** (GnRH analogue) in repeat breeding condition was found to be best.

References :

- Lafi, S. G. and Kaneen, J. B. (1988). *Vet. Bull.*, **58**:891-903.
- Rao, A. V. N. (1991). *Ind. Vet. J.*, **68**:267-270.
- Stevenson, J. S., Prantz., K. D. and Call, E. P. (1988). *Theriogenology*, **29**:451-460.

"The great end of life is not knowledge but action"

- Thomas Huxley

Honey - A Substitute to Glucose Therapy in Hypoglycaemic Cases

D. N. Rajguru, Bhoop Singh and L. B. Aananthwar

Department of Veterinary and Animal Sciences, MAU, Parbhani - 431 402

Honey is considered to be one of the precious gifts of the nature to mankind. Honey is popular in the Ayurvedic and Unani systems or modern medicine for therapeutic objectives. Honey of the melliferous bees is a highly nutritive foodstuff of nature and complete arsenal of powerful therapeutic agent viz. quite helpful in building up of haemoglobin, blood purifier and curative for ulcers in the digestive tract. Honey was used as medicine since 1550 BC. In the oldest medicine, honey was used both as remedy and as an analeptic. Honey is demulcent, laxative and nutritive (Russel & George, 1956). Honey has been used in medicine as general tonic; local antibacterial and antimycotic; in dry cough, laryngitis, bronchitis and asthma; as an expectorant and diuretics. It was recommended in the many kinds of poisoning, intestinal ailments and in particular gangrenous stomatitis. Honey has a beneficial effect on the heart and also favourable effect on the nervous system. It is most effective remedy for many eye diseases. Honey can be useful in diabetics as a means of preventing acetonemia. It is excellent remedy in pulmonary tuberculosis (Naum Iyorish, 1974). Externally it is also used as a healing pomade for boils, wounds, ulcers and burns. Honey contains some eighty different substances of importance to the living organisms, but it consists mainly of sugars (glucose and fructose) on an average 76.33%. In the present paper, an attempt was made to discuss and emphasize some critical assessments on the therapeutic usages of honey as favourable and non-harmful substitute to either glucose therapy or fluid and electrolyte agents in hypoglycaemic buffaloes (*Bubalus bubalis*).

Materials and Methods :

As pilot study, five buffaloes were selected which were suffering from hypoglycaemia due to metabolic disorders. Five healthy buffaloes from MAU farms were randomly selected and kept as healthy control group. All hypoglycaemic buffaloes were treated with Avil® (Intervet Laboratories Ltd.) injection @10ml intra-muscularly followed by 40% solution of honey @ 0.5 g/kg of body weight through intra-venous route slowly for 3 consecutive days. Blood glucose was estimated by God-Pod method, described by Kelline & Hartree (1948) and haematology was done as per methods, described by Schalm *et.al.*, (1975) before and after treatment.

Results and Discussion :

The mean serum glucose value of experimental animals was significantly ($p<0.01$) decreased 51.48 ± 2.437 mg/dl as compared to healthy buffaloes (61.42 ± 0.91 mg/dl). However, after treatment with honey solution there was significant ($p<0.01$) increase in mean serum glucose 62.23 ± 1.08 mg/dl. Non-significant changes were observed during haematological observations (Table). Several authors, Anantwar *et.al.*, (1994) and Vendateshwarulu & Rao (1994) treated hypoglycaemic buffaloes with 25% Dextrose solution. However, Radostits *et.al.*, (1994) recommended other sugar substitutes especially fructose for treating hypoglycaemic cases for good results. Naum Iyorish (1974) stated that honey injected into blood had a beneficial effect on the general conditions and more effective than an injection of glucose. Honey temporarily

changes the composition of blood and brings about regeneration since the honey consists of whole set of substances with a complex composition and structure that affects the organism as a whole and are needed by cells and fibers. As honey consists of glucose and fructose which are primarily monosaccharides that too easily assimilated by the organism. It has high caloric value (one kg containing 3150-3350 calories). In this pilot study honey was used as a

substitute to glucose, as glucose consists solely of carbohydrate that provides the organism with plenty calories while honey contains more than eighty different substances needed by cells, tissues and organs for normal development and functioning. In addition to simple sugars, honey contains Magnesium, Sulphur, Phosphorus, Iron, Calcium, Chlorine, Potassium, Iodine, Sodium, several enzymes like diastase, invertase, saccharase, catalase,

Table : Mean Serum Glucose Values and Haematological Observations of Hypoglycaemic Buffaloes Before and After Treatment with Honey.

Bio-chemical and Haematological Parameters	Hypoglycaemic buffaloes				Healthy group	
			BT	AT		
	Mean	SE	Mean	SE	Mean	SE
Serum Glucose (mg/dl)	51.48	±2.43	62.23	±1.08	61.42	±0.91
Hb. (g/dl)	9.81	±0.33	9.36	±0.092	9.87	±0.20
PCV%	28.30	±1.24	28.40	±0.400	30.3	±0.58
TEC (10 ⁶ /cumm)	4.63	±0.17	4.98	±0.22	5.33	±1.48
TLC (10 ³ /cumm)	8.35	±0.42	8.97	0.18	0.03	0.27
MCV (F1)	61.15	3.10	51.35	1.93	60.07	1.34
MCH(pg)	19.87	0.91	18.91	0.69	20.3	0.77
MCHC (g/dl)	32.51	0.68	32.96	0.21	33.42	0.56
Neutrophils%	31.2	0.96	31.6	0.37	32.87	1.20
Eosinophils%	5.6	0.74	5.2	0.37	4.1	0.46
Basophils%	0.2	0.24	0	0	0	0
Monocytes%	3.4	0.24	4.0	0.38	3.66	0.33
Lymphocytes%	59.6	1.12	59.2	0.48	59.37	0.66

BT : Before treatment. AT : After treatment • : Significant at (<0.01).

TLC : Total Leucocyte count
MCHC : Mean Corpuscular Haemoglobin Concentration
Hb : Haemoglobin

PCV : Pack Cell Volume
TEC : Total Erythrocyte Count
MCV : Mean Corpuscular Volume
MCH : Mean Corpuscular Haemoglobin

peroxidase, lipase and certain organic acids like malic, citric, tartaric, oxalic and also contains vitamins, hormones and other nutritious substances. Honey also possesses antimycotic property, it does not go mouldy if stored properly and has been known to keep for centuries.

Summary :

Five hypoglycaemic buffaloes were selected for this pilot study and five healthy buffaloes were observed as control group. The hypoglycaemic buffaloes were treated with 40% solution of honey @ 0.5 g/kg of body weight by slow intra-venous route for 3 days. The serum glucose and haematological finding were determined and compared with healthy group. The treatment with honey showed significant ($p < 0.01$) increase in serum glucose and non-significant changes in haematological findings. Importance of honey was discussed.

References :

Anantwar, L. G.; Rajguru, D. N.; Awaz K. B. and Ali Mir Salabat (1994). *Livestock Advisor*, 19(10):26-28.

Kellin, D. and Hartree, E. F. (1948) *Biochem. J.*, 42:230.

Naum Ioyrish (1974), *Bees and People* (Translated by Glynis. A. Kozloya. *Mir publishers*, Moscow, Pp. 46-108.

Roussel, G. J. and George, F. B. (1956). *Hoares Veterinary Materia Medica and Therapeutics*. 6th edn. *Bailliere Tindall and Co.*, London, 345.

Radostits, O. M.; Blood, D. C. and Gay, C. C. (1994). *Veterinary Medicine : A text book of the diseases of cattle, sheep, pigs goats and horses*. 8th edn. *Bailliere Tindall Oval Road*, London, P.1350.

Schalm, O.W.; Jain, N. C. and Carroll, B. J. (1975). *Veterinary Haematology*, 3rd edn. *Lea & Fabiger*, Philadelphia, pp. 40-160.

Venkateshwarulu, K. and Rao, D. S. T. (1994). *Ind. J. Vet. Med.*, 14:6-8.

*"He will always be a slave who does not know,
how to live upon a little"*

- Horace

*"The life given us by nature is short,
but the memory of a well spent life is eternal"*

- Cicero

"Accuracy is the twin brother of honesty"

- C. Simmons

Oestrus Response and Fertility in Non-cyclic Crossbred Cattle, Treated with Herbal Medicinal Plant, *Aloes barbadensis* (BSIS: 49940)

Uma Shanker, S. K. Srivastava, S. K. Agarwal and Satish Kumar

Division of Animal Reproduction, IVRI, Izatnagar – 243 122.

Introduction :

Anoestrus condition is one of the most common reproductive disorder encountered in cattle leading to prolonged intercalving periods, reduced milk production and thus affecting greatly the economy of our farming community. Hormonal therapies for anoestrus are very costly. Various herbal preparations like prajana, Janova and Sahali have been employed in the treatment of anoestrus. The objective of the present study was to evaluate the medicinal plant, *Aloes barbadensis* on induction of oestrus in anoestrus cattle.

Materials and Methods :

Twenty eight crossbred cattle with apparently in good health but failed to exhibit oestrus and had smooth inactive ovaries at 3 successive interval at 7 days were selected. Estrogen and progesterone levels in blood were monitored before commencement of treatment, during treatment, on the day of oestrus and 10 days post - oestrus. Group I was treated with plant powder 300 mg/kg body weight orally for two days. Control group II were not treated with any drug. The animals were kept under normal management conditions. Oestrus was detected twice daily using a teaser bull. The average length of the cycle subsequent to treatment was estimated as interval between the induced oestrus and the first natural oestrus.

Percentage of animals with reestablished ovarian activity and percentage of animals conceived were established.

Results and Discussion :

Results revealed that among the crossbred 48.8 percent treated animals exhibited induced oestrus within 4-7 days (on an average 6.7 days post - treatment). Out of these animals 33.3 percent ovulated and 33.3 percent conceived. None of the control animals exhibited oestrus during the experiment. Establishment of cyclicity was restored in 50.00 percent crossbred animals. Plasma concentration of estradiol 17B and progesterone was at the basal level before commencement of the treatment in non-cyclic crossbred cattle. Following treatment at induced oestrus level of E_2 increased and thereafter it declined. The progesterone level following oestrus on day 10 increased over its basal values on the day of oestrus indicating formation of corpus luteum. Since *Aloes barbadensis* plant powder was shown to be effective in increasing folliculo-genesis and steroido genesis in rats (Jaya Kumar 1991). The results are encouraging.

However, several other indigenous drugs marketed by Pharmaceutical companies like Prajana (Patil *et al.*, 1983), Heatinee (Nemade *et al.*, 1994), Estrona (Shah & Darashri 1985), Moralac Tablets (Dhoble *et al.*, 1995) and MAU herbal drug (Dhavale *et al.*, 1998) have been tried with regards to induction of oestrus and ovulation in dairy cows and buffaloes.

The response of *Aloes barbadensis* for induction of oestrus was similar to earlier reports but conception rate was comparatively lower.

Based on the results, it is concluded that a higher dose of *Aloe barbadensis* might be more efficient in induction of oestrus in cattle.

However, there is a need to further improve this formulation for its clinical efficacy in induction of oestrus, may be with some other herbal plants/ extracts.

Acknowledgement :

Authors are thankful to Director, H.D.A.R., Head, A.G.Division, IVRI for facilities provided during the research work.

References :

Dhavale, P.K.; Dhoble, R.L.; and Dande, C.G. (1998), *Ind. J. Anim. R.*, **19**(1), 24-25.

Dhoble, R.L. and Mark Andeya, N.M. (1995), *Buffalo. J.*, **11**(2): 170-181.

Jaya Kumar, S. (1997), Effect of certain medicinal plant on ovarian function in experimental animals. M.V.Sc Thesis IVRI. Deemed University.

Nemade, P.K., Gante, M.M., Som Kumar, A.P. and Ranade V.V. (1994), *The veterinarian*, **18** : 9 – 11.

Patil, J.S., Bangatia, N.S., Sinha, A.K., Sharma A.S. and Chopra, S.C. (1983). *Ind. Vet. J.*, **60** : 1019-1020.

Shah. I.M. and Darashri H.N. (1985). *J. Anim. Reprdn.*, **6** : 81-83.

SOLVE
The Animal Health Care Rubik's Cube

Floxidin
Tonophosphan

FERTILITY

Iliren

Receptal

Floxidin :
(Enrofloxacin Injections)
The True Broad Spectrum &
Fast Acting Antimicrobial Drug

Tonophosphan :
(Injectable Phosphorus Preparation)
Inject & Inseminate!
Improve Conception Rate!!

Iliren :
PGF₂ α analogue : A Master Key
To Open Anoestrus Lock!

Receptal :
GnRH Analogue For Better
Conception Rate. To Treat
True Anoestrus & Follicular Cysts.

Intervet Laboratories Ltd.
412, Thakur Mansion Lane, Somajiguda, Hyderabad - 500 082.

Intervet

Clinico-pathology and Therapeutic Management of Canine Gastroenteritis

S. S. Shinde, D. N. Rajguru, L. G. Anantwar, Mohd. Saleem and B. N. Ambore

Department of Clinical Medicine, Preventive Medicine & Veterinary Jurisprudence, College of Veterinary & Animal Sciences, MAU, Parbhani - 431 402

Gastroenteritis is the commonest disease which is encountered in all breeds and age groups of canine population. Dietetic errors (Brumley, 1945), irritant drugs (Paul & William, 1973), bacterial infection (Nair *et al.*, 1985), endo-parasitic infestations (Patra & Tripathy, 1986), feeding poisonous plants (Atkin & Johnson, 1975), ingestion of toxic herbicides, pesticides, fertilizers, etc. (Cornelius & Wingfield 1980) and parvo virus infection (Balu & Thangaraj, 1981) have been reported to be associated with canine gastroenteritis. The present communication deals with clinico-pathology and therapeutic management of canine gastroenteritis in Parbhani district of Marathwada region.

Materials and Methods :

A total of 78 dogs of either sex, were presented for treatment at Veterinary Polyclinic, MAU, Parbhani. They were especially examined for gastroenteritis by various clinical methods and other disease entities. All 78 affected dogs were subjected to biochemical, parasitological and bacterial investigations. Serum plasma for Sodium and Potassium (Oser method), Calcium (Daly method), Magnesium (Orange-Rhein method), Glucose (PAP method), BUN and total serum proteins were analysed using kits supplied by M/S Siddham Diagnostic, Nagpur. Identification of parasites, ova, cysts was carried out by floatation and sedimentation methods. Isolation of micro-organisms from faecal samples were carried out on artificial media employing the

standard methodology. Therapeutic management of gastroenteritis was devised on the basis of etiological agents and all the affected dogs were divided in 4 groups comprising 20 dogs each group in I, II, III and group IV had 18 dogs only (Please see table for details of treatment schedule). A control group consists of 6 healthy dogs. The biochemical observations were recorded and compared with control group. Statistical analysis was carried by the standard method applicable therein.

Results and Discussions :

The positive cases of gastroenteric dogs showed hyponatraemia ($108/91 \pm 1.79$ mEq/l). the mean Potassium value showed non-significant decreased trend (4.41 ± 0.61 mEq/l) as compared to mean Potassium values in control dogs (4.94 ± 0.49 mEq/l). Decrease in Potassium level could be due to loss of body fluid and electrolyte from the body. The mean Calcium level (7.45 ± 0.12 mEq/l) was significantly ($p < 0.01$) decreased, that might be due to possible malabsorption from the intestine. Mean Magnesium level (1.43 ± 0.02 mg/dl) was also significantly decreased as compared to control group. Hypomagnesemia could be due to the hypocalcemia. The observations of Sodium, Potassium, Calcium and Magnesium were in close agreement with findings of Davis (1985). Gastroenteric dogs showed a state of hypoglycaemia (50.38 ± 1.41 mg/dl) as compared to control group (60.38 ± 1.29 mg/dl). This may be possible malabsorption from intestine and these findings were in

Table : Biochemical Values in Dogs Suffering with Gastroenteritis and four different treatment regimens.

Bio-chemical Parameter	Group I	GroupII	Group III	Group IV	Control Group
Sodium (mg/dl)	107.74 ± 2.37	108.75 ± 2.88	117.37 ± 2.64	107.33 ± 2.62	137.83 ± 1.88
Potassium (mEq/L)	4.16 ± 0.20	4.13 ± 0.22	4.42 ± 0.11	4.10 ± 0.18	4.94 ± 0.49
Calcium (mg/dl)	7.944 ± 0.124	7.294 ± 0.150	7.075 ± 0.116	7.462 ± 0.101	9.67 ± 0.33
Magnesium (mg/dl)	1.40 ± 0.02	1.429 ± 0.02	1.465 ± 0.02	1.475 ± 0.02	2.70 ± 0.09
Glucose (mg/dl)	51.49 ± 0.98	53.48 ± 2.21	49.47 ± 1.52	47.10 ± 0.94	64.36 ± 1.29
BUN (mg/dl)	33.92 ± 0.87	36.75 ± 0.93	33.33 ± 1.47	33.52 ± 0.34	11.59 ± 0.39
Total Proteins (g/dl)	7.18 ± 0.187	7.44 ± 0.256	6.91 ± 0.286	7.15 ± 0.201	6.28 ± 0.19

Treatment Regimes :

- Group I :
- 1) Injection Ciprofloxacin (5 mg/kg) intra-venously for 2-3 days.
 - 2) Injection Ringer's lactate (40-60 ml/kg) intra-venously for 3-5 days.
 - 3) Injection Maxeron (1 mg/kg) intra-muscularly for 2-3 days
 - 4) Injection Ascorbic acid (2 ml) intra-venously for 2 days
 - 5) Injection Belamyl (0.25 to 1 ml) intra-muscularly for 2 days
 - 6) Astringent mixture 2 gm orally for 2 days

- Group II :
- 1) Injection **Floxidin**[®] of Intervet Laboratories Ltd. (Enrofloxacin 5 mg/kg) intra-muscularly for 2-3 days
 - 2) Injection Ringer's lactate (40-60 ml/kg) intra-venously for 3-5 days.
 - 3) Injection Maxeron (1 mg/kg) intra-muscularly for 2-3 days
 - 4) Injection Ascorbic acid (2 ml) intra-venously for 2 days
 - 5) Injection Belamyl (0.25 to 1 ml) intra-muscularly for 2 days
 - 6) Astringent mixture 2 gm orally for 2 days

- Group III :
- 1) Injection Gentamycin (4 mg/kg) intra-venously for 3-5 days
 - 2) Injection DNS 5% (40-60 ml /kg) intra-venously for 3-5 days
 - 3) Injection Maxeron (1 mg/kg) intra-muscularly for 2 days
 - 4) Injection Belamyl (0.25 to 1 ml) intra-muscularly for 2 days
 - 5) Astringent mixture 2 g orally for 2-3 days
- Group IV :
- 1) Table **Panacur**[®] of Intervet Laboratories Ltd. (Fenbendazole 30 mg/kg) oral
 - 2) Injection DNS 5% (40-60 ml/kg) intra-venously for 3-5 days
 - 3) Injection Gentamycin (4 mg/kg) intra-muscularly for 2-3 days
 - 4) Injection Belamyl (0.25 to 1 ml) intra-muscularly for 2-3 days

agreement with the results, recorded by Dhanapalan *et al.*, (1993). The mean BUN value (34.38 ± 0.90) was significantly ($p > 0.01$) increased as compared to control dogs (11.59 ± 0.39 mg/dl), that might be due to functional disturbances of kidney. The total serum proteins (7.17 ± 0.23 g/dl) was significantly increased as compared with healthy dogs (6.28 ± 0.19 g/dl). That might be the result of developed dehydration and polycythaemia. Similar observations on BUN, total serum protein were recorded by Jani *et al.*, (1992). A total of 18 dogs (31.03%) found positive for parasitic infestation. Different parasitic species recorded were *Ancylostoma caninum* (13.79%) *Toxoscaris canis* (8.62%), *Taenia hydatigenia* (6.89%) and *Toxoscanis leonia* (1.72%). The findings are in accordance with Jani *et al.*, (1992). All the dogs affected with gastroenteritis were subjected to antibiotics therapy as per drug sensitivity pattern. In group I, Ciprofloxacin (5 mg/k) and supportive therapy consists of Ringer's lactate (40-60ml/kg) and symptomatic therapy which includes Mexeron (1 mg/kg) and ascorbic acid, astringent mixture and injection Belamyl was administered for 3 days at 24 hours interval. Complete recovery was indicated by improvement in clinical signs, restoration of biochemical values (Table) and cessation of diarrhoea within 2-3 days. Keng & Wanner (1974) reported that Ciprofloxacin is antimicrobial active substance and it expresses a significant systemic antimicrobial

activity. In group II, Injection **Floxidin**[®] of Intervet Laboratories Ltd. (Enrofloxacin, @ 8 mg/kg) with supportive therapy as described in group I dogs, were given for 3 days at 24 hours interval. All the affected dogs were speedily recovered within 2-3 days. Hirsh & Jang (1994) reported Enrofloxacin was effective treatment in all enterobacteriaceae family. In group III, Gentamycin (4 ml/kg) was used with supportive therapy of DNS 5% (40-60ml/kg), Maxeron (1ml/kg), Belamyl (0.25 to 1 ml) and astringent mixture were given. The complete recovery was observed in 3-4 days. Boop *et al.*, (1985) reported, Gentamicin was efficacious against canine gastroenteritis. The group IV dogs were suffering from parasitic gastroenteritis, therefore, **Panacur**[®] of Intervet Laboratories Ltd. (Fenbendazole @ 30 mg/kg) was given with Gentamicin (4 ml/kg), DNS 5% (40-60 ml/kg) and Belamyl (0.25 ml). The recovery was achieved in 3-5 days as indicated by normalcy of faecal consistency and absence of parasitic ova in faeces. Singh *et al.*, (1985) reported that **Panacur**[®] (Intervet Laboratories Ltd.) was 100% effective against all gastrointestinal parasites.

Summary :

The therapeutic management of canine gastroenteritis was studied using four different treatment regime. The clinico-pathological parameters studied, were serum/plasma Sodium, Potassium, Calcium,

Magnesium, Glucose, BUN, and total serum proteins, identification of parasites and isolation of micro-organisms from faecal samples. On the basis of observations and data collected, it may be concluded that 2-3 treatment of Ciprofloxacin and Injection **Floxidin**[®] (Group I and II) with additional supportive therapy are the most effective therapeutic agent in early recovery against clinical gastroenteritis in dogs.

References :

Atkin, O. E. and Jhonson, R. K. (1975). *Vet. Clin. North Amer.*, **5**:623.

Brumley, O. V. (1945). A text book of the diseases of the small domestic animals, 4th edn., *Lea & Febiger*, Philadelphia.

Balu, P. A. and Thangaraj, T. M. (1981). *Ind. J. Vet. Med.*, **1**:11.

Boop, C. A., Birkness, K. A. and Wachsmuth, I. K. (1985), *J. Cli. Microbiol.*, **21**(1) : 4.

Cornelius, L. M. and Wingfield, W. E. (1975). *Vet. Internal Med.* Ettinger,

Philadelphia.

Davis, L. E. (1985). Fluid and electrolyte disorders in : Handbook of small animal Therapeutics. *Churchill Livingstone*, New York, P. 21.

Dhanapalan, P., Srinivasan, S. P. and Gangaprakasam, V. (1993). *Ind. J. Vet. Med.*, **13**(1):9.

Hirsh, D. C. and Jang, S.S. (1994). *Vet. Bull. Abstr.*, **65**:1037.

Jani, R. G. , Dave, M. R. and Jani, B. M. (1992). *Ind. J. Vet. Med.*, **12**(1):36.

Keng, K. and Wanner, M. (1994). *Vet. Bull. Abstr.*, **65**:3375.

Nair, G. B., Sarkar, R. K. and Chaudhary, S. (1985). *Vet. Rec.*, **116**(9):237.

Patra, P. C. and Tripathy, S. B. (1986). *Ind. Vet. J.*, **63**(11):940-943.

Paul, O. Brien and William, S. (1973). *Gastroenterology*, **64**:246.

Singh, B., Khosa, S. L. and Singh, R. P. (1983). *Ind. J. Vet. Med.*, **3**(1):89-90.

*“Enemies of yesterday could be friends of today
if they ceased relation in words or deeds”*

- Mahatma Gandhi



WEST BENGAL UNIVERSITY OF ANIMAL AND FISHERY SCIENCES

68, KSHUDIRAM BOSE SARANI, BELGACHIA, CALCUTTA 700 037. PHONE OFF : 556-3450 RES :
GRAM : VETUNIV, FAX : 091-033-5571986



Dr. A. K. Battacharya
Vice-Chancellor

Dear Dr. Datta,

I have gone through the “All India Veterinarians Guide 1997”.

In this edition the names of eminent veterinarians and also their bio-data have been depicted nicely along with publications of few scientific articles. I think, this will be a ready reconer for professionals of the country and will develop the mutual interaction to enrich the scientists of the discipline as a whole.

It is hoped that further efforts will be initiated to publish popular articles on scientific topics along with names of registered Veterinary Doctors and Scientists of the country in the next editions.

The publication is indeed, a worthy one.

With best wishes,

Yours Sincerely,

A. K. Battacharya

To,

Dr. A. K. Datta,

Editor, “The Blue Cross Book”,

Intervet Laboratories Ltd.

412, Thakur Mansion Lane, Somajiguda,

Hyderabad -500 082.



**ALL INDIA
VETERINARIANS
GUIDE
1997**



MAJOR SPONSOR : INTERVET INTERNATIONAL bv, THE NETHERLANDS



Anand Sikka Veterinarians Foundation (India)

Flat 3A, DL-225, Sector II, Salt Lake City
Calcutta - 700 064.

"For further information, you may kindly contact Dr. R. C. Sikka, the founder member of Anand Sikka Veterinarians foundation (India), at his below mentioned address : 81, Moorthy Mansion, Chikoti Garden, Begumpet, Hyderabad - 500 016."

- Editor

Case Report : An Extensive Case of Seminoma in a Buffalo Bull and its Surgical Management

S. K. Tiwari and M. K. Awasthi

Department of Surgery and Radiology, College of Veterinary Sciences & Animal Husbandry, Anjora - 491 001, Durg, M.P.

Primary testicular tumours are rare in most domestic animals except, dogs and possibly old bulls (Roberts, 1971). Unilateral castration and unilateral cryptorchidism, some times leads to development of testicular tumours in bulls. In large animals, relatively few uncastrated males are kept until they reach an advanced age which later on may suffer form testicular tumours (Bhagwat *et al.*, 1972). The present study records a rare and an extensive large size seminoma in a buffalo bull which was removed surgically.

Case History :

A nine years old uncastrated buffalo was presented to the department with the complaint of testicular swelling since last six months. The case was earlier treated, using antibiotics, cortisones and dressing. On clinical examination, the swelling was found very hard, involving both testicles which were enlarged. It was ulcerated and had irregular bulges on its surface (Fig.). Exploratory puncture revealed neither escape of fluid nor pus from it. The grey lobulated tumour was bulging from *tunica albuginea* after ulceration. The physical condition of

animal was good and clinical parameters viz. temperature, heart rate and respiration were normal. Hence, it was decided to perform radical operation to remove the tumour.



Fig. : Showing the extensive enlarged testicular ulcerated mass with irrregular bulge.

Operative Technique :

The animal was sedated with xylazine hydrochloride (20 mg) intra-muscularly. The operation site was prepared for aseptic surgery. Anterior epidural anaesthesia was given using Lignocaine Hydrochloride (90 ml) to achieve analgesia. Elliptical incision was given around the tumour and by blunt dissection, the skin was separated from underlying tumour tissue. There was heavy vascularity around the tumour. The blood vessels were ligated with chromic catgut No. 1. After perfect haemostasis, the tumour was excised from the body. The underlying tissue was sutured using chromic catgut No.1 in simple continuous pattern in two rows. The skin was approximated using thick silk thread in simple interrupted pattern with 3 stay sutures to retain the gauge impregnated with Wisprec cream at the site of operation.

Post-operatively, dextrose saline was given (4 litres) intra-venously along with

dexamethasone (25mg) to recoup the blood and fluid loss. Diclofenec sodium intramuscularly (20 ml) and **FloxiDin**[®] (Intervet Laboratories Ltd.) @15 ml intra-muscularly was given for 6 days post-operatively. Daily dressing was done with Povidone Iodine and Wisprec cream for 12 days. The skin sutures were removed on 12th day. The owner was advised to provide rest to the animal, avoid licking by animal and not to allow the animal to go in to water for 12 days. The growth was preserved in 10% formalin for histopathological examination.

Results and Discussions :

The animal got recovered in 12 days without any complication. The tumour was 28 cm in diameter and weighing 3.5 Kg. The histopathological examination of the tumour tissue revealed vascular stroma with haemorrhagic spots and the neoplastic cells were arranged as island separated by connective tissue. The neoplastic cells were large, round with granular cytoplasm having hyperchromatic nuclei. The testicular tissue showed degenerative changes due to compressing effect of the tumour on adjacent seminiferous tubules. Thus on the basis of

morphology and histopathological findings, it was confirmed to be a case of seminoma. Similar observations have been reported by Theilen & Madewell (1979) in cases of seminoma in bulls. The incidence of seminoma is rare in bulls. Pandit & Pandey (1991) however, reported a case of sertoli cell tumour due to unilateral castration in intact testis of a buffalo. In the present case, the buffalo bull was used for carting and was devoid of breeding. So continuous production of spermatozoa might have resulted in development of seminoma.

References :

- Bhagwat, S. S., Deshpande, K. S. and Purohit, B.L. (1972). *Ind. Vet. J.*, **49**(11): 1084.
- Pandit, R. K. and Pandey, S. K.(1991). *Ind. J. Anim. Reprod.*, **12** (2): 211-212.
- Roberts, S. J.(1971). Veterinary Obstetrics and Genital Diseases. *CBS Publishers and Distributors*, New Delhi pp. 675-677.
- Theilen, G. H. and Madewell, B. R. (1979). Veterinary Cancer Medicine. *Lee and Febiger Philadelphia* pp. 375-381.

“Evolution is not the force but a process, not a cause a law”

- Lord Morley

“Waste of time is the most extravagant and costly of all expenses”

- Theophratus

“The author himself is the best judge for his performance”

- Gibbson

Case Report : Clinical Efficacy of Enrofloxacin (Floxadin®) along with Amnovit® to Control Infertility and Abortion due to Infectious Pustular Valvo - vaginitis

A. Rai

Veterinary Hospital, Khujimore, Jaunpur, U.P.

Case History:

During the year 1998-99 at Veterinary Hospital Khujimore, Jaunpur, more than twenty crossbred cows were brought for artificial insemination on different occasions with complaint of not conceiving since one year after calving, although they are coming to heat regularly within normal period after AI. Few farmers reported that their cows became pregnant after artificially insemination by deep frozen semen, but had abortion at 5th or 8th month of pregnancy.

Clinical examination revealed inflammation of valvo-vaginal mucosa and also intense red pustular inflammation throughout vaginal cavity upto cervix i.e. Infectious Postular Valvo-vaginitis (IPV). The pH of vaginal discharge varies between 7.5 to 9. Through per-rectum examination, it was observed that body of uterus, ovary and fallopian tubes were normal in size and shape.

Clinical Management :

Following treatment were given to all twenty cows. Injection **Floxadin**® (Intervet Laboratories Ltd.) @ 15ml, Injection **Avil**® (Intervet Laboratories Ltd.) @ 30ml for 4 days with **Amnovit**® (Intervet Laboratories Ltd.) @ 25 gm per day for 20 days. Fresh lime juice @ 20ml was given as vaginal douch for two consecutive days to neutralize the pH. On the second day few hours after

douch, artificial insemination was done twice at 12 to 18 hours of interval.

Out of twenty cows, eleven cows did not come to heat after 21 days of AI and their pregnancy confirmed after two months. Pregnant cows were advised for injection Duraprogen @ 2 ml and Injection **Floxadin**® @ 15ml for two days in every month till 8th month of pregnancy.

Remaining five cows again came to heat after 20 days of AI with mild symptoms of IPV with normal pH. They were inseminated again for three consecutive days with same previous treatment along with injection Duraprogen on third days of AI. Three out of five cows confirmed pregnant after two month of AI. Remaining cows were not brought to hospital for further follow up. Because IPV has no specific treatment, but the above treatment could clinically check secondary infection and strengthen the uterus for pregnancy and minimise the embryonic death and abortion.

Acknowledgement :

The author is thankful to Pradeep Goenka, Sales officer (Intervet Laboratories Ltd.), Varanasi for providing sample. It is learnt that Intervet Laboratories Ltd. is introducing vaccine against Bovine Herpes Virus (BHV) in the name of **Ibrivax**®.

Case Report : An Unusual Case of Ascites in Dog

D. N. Pandey

Alok Dog & Cat Clinic, 71-Gurudham, Varanasi, U.P.

An unusual case of ascites in a five year old female spitz was presented for treatment in the last week of January, 1999.

Case History :

The pet was already under treatment for last one month. The owner of the dog reported that within a period of 3 weeks, about 1 litre straw coloured fluid was aspirated each time by needle puncture in the lower abdomen on two occasions. The previous prescription indicated the treatment with injections of Gentamicin and Perinorm along with oral administration of Digene Gel but there was no improvement at all.

Observations :

The pet was having complete loss of appetite, dull and emaciated look, confined to bed with sticky half closed red eyes. The abdomen was thrice enlarged with drum-shaped appearance due to presence of fluid inside. Examination by Stethoscope (auscultation) did not reveal any abnormality of heart or lungs.

Tentative Diagnosis :

As revealed by observations and clinical symptoms it appeared to be a case of ascites (abdominal dropsy) due to liver and kidney dysfunction.

Treatment Schedule :

1. Rapid acting new generation broad spectrum antibiotic **Floxidin**[®] Vet injection (Intervet Laboratories Ltd.) by intra-muscular route @ 0.5ml daily for 5 days.
2. Antihistamine **Pheniramine maleate** injection (Intervet Laboratories Ltd.) @ 1ml daily for 5 days by intra-muscular route.
3. **Prednisolone acetate** : injection (Intervet Laboratories Ltd.) @ 1.5ml daily by intra-muscular route for 5 days.
4. Injection (**Lasix**) @ 1ml daily intramuscularly for 5 days along with 10ml Potklor oral solution well diluted with water by oral route as a drench.
5. Injection Boviplex-C, containing Vitamin B Complex with liver extract @ 1ml daily intra-muscularly for 5 days.

Thereafter these injections were repeated once after the next at an interval 5, 10 and 15 days. The follow up was carried out by homeopathy treatment orally as under :

Nux Vomica-30 : 6 globules in morning for 4 weeks.

Lycopodium-30 : 6 globules in evening for 4 weeks.

Apis Mel-200 : 6 drops with 15 ml water twice a week for two weeks and thereafter once a week for another 4 weeks.

Nux Vomica is a key remedy of abdominal distension, liver dysfunction and retention of urine in pets.

Lycopodium provides effective treatment against liver trouble, swollen or enlarged abdomen and can be prescribed alternately with Nux Vomica.

Apis Mel is long acting in action and very useful in all kinds of oedematous watery swelling which does not pit on pressure.

Results :

The pet responded well to the treatment with disappearance of clinical symptoms within 10 days and resumed appetite gradually with complete alertness and interest in surroundings. These findings may be helpful to canine practitioners for treating such cases in the field.

Case Report : A Typical Case of Dumb Form of Rabies in a Dog

Umesh Dimri and M. C. Sharma

Division of Medicine, IVRI, Izatnagar (Bareilly) – 243 122, U.P

Rabies is a highly fatal zoonotic viral disease occurring in all warm – blooded animals. It involves the central nervous system and is manifested by motor irritation with clinical signs of mania and an attack complex, and by an ascending paralysis. The main transmission is through the bite of affected animals (Radostits *et al.*, 1994; Choi-Chulsoon *et al.*, 1994 and Kopcha *et al.*, 1997).

The virus, causes lesions only in nervous tissue, is susceptible to most standard disinfectants and dies in dried saliva in few hours. There is a variation in susceptibility between species and as such, Foxes, Cotton Rats and Coyotes are extremely susceptible; Cattle, Rabbits and Cats are highly susceptible; Dogs, Sheep and Goats are moderately susceptible.

Case History :

A dog, one and a half year old, was brought to the clinic with the history of bite by a rabid street dog 1 month back (OPD NO. 2816, Dated 11-01-2000, Referral Veterinary Polyclinic, IVRI, Izatnagar). The dog was not vaccinated against rabies. Six days back the animal had become furious, exhibiting salivation, severe mania, excitement, convulsions, inability to swallow, indigestion, aggression, pica, frequent urination and defecation. This stage remained for a short duration, after which the animal slowly became dumb and was brought to the clinic in a paralytic state which was in the ascending form. Normally the stage of excitement remains for 4-5 days. The owner revealed that after bite by a rabid street dog, the wound was not even washed. The owner

was not aware of the paralytic form of rabies and thought that in rabies the animal only exhibits excitement and aggression throughout the course of the disease. It was diagnosed to be a case of rabies, based on history and clinical observations. The dog was kept under observation and it died in 4 hours. Under field conditions, diagnosis of rabies based on clinical observations has been used by many workers and is highly important due to the fatality of the disease for animals (Rakotomalala, *et al.*, 1988). The human infections may be fatal (Al-Qudah, *et al.*, 1997).

The spread of the disease is often seasonal with higher incidence in late summer and autumn because of more movement of wild animals at mating time and in pursuit of food.

Following virus introduction at the site of bite, initial virus multiplication is in striated muscle cells at the site. Then the virus enters neuro-muscular spindles and into nervous system, then to spinal cord and later into brain. Incubation period varies with site of the bite. The more is the distance of the bite site from the brain, the longer is the incubation period. The two extreme forms are the furious and paralytic or dumb form. Many cases lie somewhere between the two. The irritation may be followed by quite severe mania, excitement and convulsions. Death is usually due to the respiratory paralysis. Clinical signs include salivation, indigestion, pica, paralysis of bladder and anus and increased libido. The street virus (that is isolated from naturally infected warm blooded animals) more commonly causes the furious form of the disease. In this case it

was excitement followed by paralysis. In paralytic form, hind fetlocks is there. Death usually occurs 48 hours after recumbency develops and a total course takes 6-7 days.

Confirmation is made by examination of the fresh brain on necropsy. Diagnosis is based on :

- (1) History
- (2) Fluorescent Antibody Test (FAT) on impression smears from the brain.
- (3) Presence of Negri bodies in tissue sections of brain.

Intra-cerebral inoculation of weaned mice with brain tissue results into development of symptoms in 3 weeks or less.

The treatment includes washing of the bitten wound with 20% soft soap or a solution of Zephiran.

The main method to control include the prevention of exposure and vaccination. Immunization against rabies with plant-derived antigen is under trial (Modelska, *et al*, 1998).

References :

- Al-Qudah, K. M., Al-Rawashdeh, O. F., Abdul, Majeed, M. and AL-Ani-F.K. (1997). *Acta- Veterinaria-Beograd.*, **47**: 2-3.
- Choi-Chulsoon, Shin-Kwangsoon, Choi-C.S. and Shin, (1996). *J. Korean Soc. Microbiology*, **31(3)**:235-271.
- Kopcha, M. and Bartlett, P.C. (1997). *Vet. Med.*, **92(4)**:370-374.
- Modelska, A.; Dietzchold, B., Sleysh, N.; Fu-Zhen Fang; Steplewski, K., Hooper, D.C.; Koprowski, H., Yusibov, V. and Fu, Z.F. (1998). *Proceedings of the National Academy of Sciences of the United States of America*. **95(5)**:2481-24885.
- Radostits, O. M., Blood, D. C. and Gay, C. C. (1994). *Veterinary Medicine*, 8th Edition, *ELBS with Bailliere Tindall*.
- Rakotomalala, W., Rakotonjanabelo, A. L., Rakoto-Andrianarivelo, M., Roux, J. F. and Zeller, H.G. (1998). *Archivesde-L' Institut-Pasteur-de-Madagascar*. **64(1-2)**:77-80.

*"The life is short, the varieties of the world are transient,
but they alone live for others, the rest are more dead than alive"*

- Swami Vivekananda

*"Some books are to be tasted, others to be swallowed,
and some few to be chewed and digested"*

- Bacon

Case Report : Efficacy of Receptal® Treatment on Pregnancy Rate in Repeat Breeding Cows

P. R. Pandey

Sumul Dairy Farm, U. M. Vasava, Sumul, Surat

The reproductive function is governed and regulated by endocrine hormones. The deficiency, inadequate secretion, delayed secretion and irregular secretion of these hormones will cause infertility. (i.e. Anestrous, Anovulation, Delayed ovulation, Cystic-ovaries etc.)

In this study, 40 crossbred cows which were presented for AI for more than 4 services after normal parturition, from village Pishad. Taluka - Palsana, District - Surat, Gujarat state, were selected after careful gynaecological examination by trained staff. All the selected animals were disease free without gross anatomical abnormality or inflammation of genital organs.

The selected crossbred cows were given injection of **Receptal®** (Intervet Laboratories Ltd.) @ 2.5ml intra-muscularly at the time of AI. The second AI was done 6-10 hours after the first AI.

Results and Discussion :

Out of 40 crossbred cows, 38 crossbred cows were found pregnant and 2 cows were found empty.

The administration of injection **Receptal®** at the time of AI creates physiological changes resulting in higher conception rate.

It could be concluded that injection of **Receptal®** @ 2.5 ml intra-muscularly at the time of AI is most effective in increasing the conception rate in cows.

"The integrity of men is to be measured by their conduct, not by their professions"

- Anon

"The great hope of society is individual character"

- Ganning

Case Report : Squamous Metaplasia in a Dog

J. P. Varshney and O. P. Paliwal

Division of Medicine, IVRI, Izatnagar – 243 122, U.P.

Squamous cell carcinoma and oral papillomatosis are among the common neoplasms encountered day-to-day canine practice. The present case deals with the squamous cell metaplasia in the oral cavity of a dog.

Case History :

A male non-descript dog of eight months of age was referred to Referral Polyclinic of the Institute (OPD no. 1131 dated 10.8.99) from Moradabad with the complaint of small nodular over growth on buccal mucosa, mouth commissures and lips for last two months. The owner further reported that the size of the growth had increased since detected.

Detailed clinical examination of the dog revealed normal temperature (101°F), pulse (88/minute) and respiration (20/minute), alertness, normal appetite but small whitish nodular masses on buccal mucosa, mouth commissures and lips. There was no oral bleeding but ptyalism was evident. Haemogram was almost normal (Hb. 9.8 g/dl, TLC 8350 per mm³, Neutrophils (50%), Leucocyte (32%), Monocyte (2%) except, Eosinophils (16%).

Histopathological examination of the biopsied lesion revealed keratinization of epidermis. The underlying epithelium exhibited hyperplastic changes of squamous appearance and at places squamous metaplasia was evident.

Based on histopathology, these overgrowth were diagnosed as squamous metaplasia.

Treatment Schedule :

The animal was given homeopathic drug i.e.

Thuja (200 X, 5-6 globules thrice daily) for six weeks.

The clinical features of small whitish nodular overgrowth on mouth commissures, buccal mucosa and lips resembled with that of oral papillomatosis as described by other workers (Potter, 1992) and was, therefore, tentatively diagnosed as papillomatosis on clinical examination. Neoplasms like squamous cell carcinoma and fibromatous epulis are also seen in oral cavity of dogs/ cats and are difficult to differentiate clinically from oral papillomatosis. Hence, releasing the fact that the clinical diagnosis could be illusive, biopsy of the lesions was subjected to histopathological examination. It revealed that these overgrowths were neither papillomatosis nor squamous cell carcinoma but squamous metaplasia. Such changes are usually reversible in nature and may function as a protective mechanism if the cause is removed. Nevertheless, metaplastic tissue is always potentially malignant. The influences that induced metaplasia if persistent, may induce cancer transformation in metaplastic epithelium. With three weeks of therapy with Thuja (200 X), over-growth started regressing as is seen in cases of papillomatosis also.

A case of squamous metaplasia in buccal cavity in a non-descript male young dog is reported, described and discussed.

Reference :

Potter, K. A. (1992). In. Hand Book of Small Animal Practice. Morgan, R. V. 2nd edn. W. B. Saunders Company, Philadelphia. p.340.

Case Report : Post-partum Hysterectomy in a She-Bufferalo

T. Umakanthan

Veterinary Dispensary, Uthamapalayam, Theni - 625 533.

This paper describes about a 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 repositioned with vaginal retention tape suture by a paraveterinarian 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 examination, 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 lakhs i.u., Penicillin G sodium 15 lakhs i.u. 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% dextrose sodium chloride 5 litre and Rintose 2 litre with 20 ml of multi-vitamin injection intra-venously.

Epidural anaesthesia was produced by 10ml of 2% Lignocain Hydrochloride. The prolapsed mass was cleaned and antiseptic

applied. The she-buffalo was placed in left lateral recumbancy. 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 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 - 1.5 cm long and while suturing interspace between the mattress sutures in each row is minimised 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 non absorbable catgut. The cervix was gently and carefully replaced. After removing maggots and debridement simple sutures

were placed through both vulvar lips.

Post-operative treatment from second day onwards included, the administration of Rintose one litre intra-venously, Procain Penicillin 45 lakhs i.u., Penicillin G sodium 15 lakhs i.u. and Streptomycin 7.5 gm x 2 vials, **Pheniramine maleate (Avil®)** 227.5mg and liver extract with B complex @ 10ml intra-muscularly daily for 7 days. **Prednisolone acetate** @ 100 mg was given intra-muscularly daily for the first three days. Vulvar wound was cleaned and dressed with antiseptic ointment.

From the second day onward 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.

Acknowledgement :

The author is thankful to Capt. Dr. D. Ebenezer, Director, Department of Animal Husbandry, Tamilnadu for the facility provided, Dr. Arvind of Penta Dairy Pvt. Ltd. and Dr. Pitchaimurugan, Malanadu Development Society of Cumbum Mettu, Kerala for their sincere and valuable suggestions.

Reference :

Roberts. S. J. (1982). Veterinary obstetrics and Genital diseases (Theriogenology), Second Edition, *CBS Publishers and Distributors*, Delhi, P : 312-313.

Berenil

Time Tested Berenil Used -
For Cure!!
Even Protects "Animals in Incubation"
For Sure!!

The Original



Intervet Laboratories Ltd.
412, Thakur Mansion Lane, Somajiguda, Hyderabad - 500 082.

Floxidin

A True Broad Spectrum And
Fast Acting Antimicrobial Drug



The Sure Way To Cure Acute
Mastitis & Respiratory Infections

intervet

Case Report : Organochlor Insecticide Poisoning in Horses and Cattle

Rajesh Kapoor, D. K. Sharma and R. K. Raina

Disease Investigation Laboratory, Animal Husbandry Department, Jammu, J&K

Case History :

In January (29/1/99 and 30/1/99), Disease Investigation Laboratory, Jammu had conducted an official survey in the matter relating to sudden death of 22 animals (19 equines and 3 bovines) in Bari-brahmina industrial area. It was informed by the local inhabitants that after consuming some food stuff from the same area, animals immediately developed symptoms like -

- excitement
- incoordination
- staggering gait
- paralysis

Most of the animals died within 3-4 hours except, one which died after 24 hours.

Observations :

The morphological examination revealed bulged eye balls, anus protruded and carcasses highly bloated. Most of the pregnant females had miscarriages.

Post-mortem examination revealed petechial haemorrhages in visceral organs, acute gastritis, enteritis and other erratic changes. Kidneys, spleen and lungs were highly congested. Endocardial haemorrhages were seen in heart. Brain and spinal cord were

congested and oedematous. In bovines, abomasum was intensely haemorrhagic.

Laboratories Examination :

On chemical analysis of viscera (parts of liver, spleen, kidneys, intestine & stomach and rumen with contents) – an organochlor insecticide was detected by Forensic Science Laboratory, Jammu.

Summary :

An organochlor insecticide (excepted to be Thiodan) poisoning deaths in 19 equines and 3 bovines were being reported from Industrial area where waste material was being improperly disposed off.

Acknowledge :

The authors thank Dr. M. L. Sharma, Director, Animal Husbandry Department, Jammu and Dr. N. S. Jaswal, Chief Animal Husbandry Officer, Jammu for providing necessary help and facilities during the investigation.

The authors also acknowledge the help rendered by the Director, Forensic Science Laboratory, Jammu for conducting chemical analysis.

“ Pray to Him in any way you will. He is sure to hear you, for He hears even the footfall of an ant”

- Sree Ramakrishna Paramahansa

Case Report : Anaplasmosis in a Cattle Heifer

J. L. Singh, M. C. Sharma*, G. C. Gupta, and Shiv Prasad

College of Veterinary Sciences, G.B. Pant University of Agriculture & Technology, Pantnagar- 263145, U. P.

Case History and Clinical Findings :

A cattle heifer two and half years old was brought to College Veterinary Hospital with a history of persistent fever, complete cessation of appetite, weakness, panting, respiratory distress, icteric mucosae, rough and dry skin coat since last 7 days and severe ticks infestation about a month.

Clinical Observations :

Clinical examination revealed temperature (106°F), bilateral lacrymation and nasal discharge, ruminal atony, coughing, moderate degree of dehydration, icteric mucous membrane, dry rough body coat, dyspnoea and enlargement of pre-scapular and pre-femoral lymph nodes.

Laboratory Finding :

Haematological examination (Jain, 1996) revealed decrease in Hb (55 gm/l) and TEC (2.5×10^{12} /l) and normal range values of ESR (0mm/hr) TLC-7300/ul and DLC (Neutrophils - 38%, Lymphocytes - 58%, Monocytes - 1%, Basophils - Nil and Eosinophils - 3%). Giemsa stained blood smear examination showed presence of small bodies discerning at the periphery of about 42% of erythrocytes.

Therapeutic Management :

The case was treated with following line of medication.

1. Oxytetracyclin injection @ 10 mg/kg body weight Intra-muscularly b.i.d. for 10 days.
2. Iron Dextran injection @10 ml Intra-

muscularly alternate Day x 3 injection as a haematinic.

3. Paracetamol injection @ 10 ml Intra-muscularly b.i.d. x 3 days was given as an antipyretic.
4. Vitamin-A, D3 & E injections was given @ 10 ml Intra-muscularly on alternate day x 3 injections for repairment of skin coat.
5. Pestoban, diluted with water (1:20), was applied over the body except, around eye, nose and mouth on alternate day x 3 applications.

After 10 days of treatment symptoms subsided and there was marked reduction in the swelling of superficial lymph nodes. There was significant elevation in levels of Hb (86 gm/l), TEC (3.8×10^{12} /l) and significant decrease in degree of parasitaemia (7%). These observations are in accordance with other studies (Magonile, 1975 and Radostits *et al.*, 1994).

Acknowledgement :

Authors are thankful to the Dean, College of Veterinary Sciences for Providing necessary facilities.

References :

- Radostitis, O. M., Blood, D. C. and Gay C. C. (1994). *Veterinary Medicine: 8th edn, Bailliere Tindall, London*
- Magonile, A. A. *et al.* (1975). *J. Am. Vet. Med. Assoc.*, **167**:1080
- Booth, H. S. Mc Donald, D. (1985) *Johnes Veterinary Pharmacology & Therapeutic, 6th edn. Iowa state University press/AMES.*

* Present Address : IVRI, Izatnagar , (Bareilly) - 243122, U.P.

Case Report : Humpsore in Cattle

C. K. Singha and Indu Borah

District Animal Husbandry and Veterinary Office, Jorhat, Assam

Introduction :

Humpsore is a kind of dermatitis at the hump region of cattle caused by filarial parasite – *Stephanofilaria assamensis*, mechanically transmitted by the housefly, *Musca domestica*. The filarial larvae by its constant nocturnal migratory movement cause much irritation and discomfort to the animal, leading to a stressful condition.

Humpsore is widely prevalent in the state of Assam and is usually observed in bulls and bullocks after ploughing. The injury caused by the yoke and the subsequent invasion of the injury by the housefly is the main predisposing factor (Sastry Ganti, 1975).

History and Clinical Examinations :

The condition of humpsore was recorded in 19 cattle. The animals were earlier treated for dermatitis with minimum curative success. The history was taken in regards to feeding, duration of illness, general behaviour and treatment adopted. The skin lesions present at the hump region were large circular dry area, about twelve centimeters in diameter and raised above the surrounding area. In some cases, there was oozing of blood due to rubbing of the area on hard surface or due to pecking by birds. In few cases the affected area showed varying degree of hyperkeratosis.

Treatment and Control Measures :

The animals were properly restrained. The scab formed on the hump region was scraped off with a serrated surface after proper sterilization, till the lesion become haemorrhagic. The above process was carried out at evening time, as the causative filarial parasite is nocturnal in nature. The following formulation was applied liberally over the lesion, twice daily i.e. morning and evening, till complete recovery.

(i)	Levamisole Hydrochloride	200gm
(ii)	Dermocept ointment	75gm
(iii)	Oil of turpentine	50ml
(iv)	Naphthalene	30gm
(v)	Malathion	60gm
(vi)	Zinc Oxide	50gm
(vii)	Boric Acid	50gm
(viii)	Vaseline	q.s.

A dose of Levamisole Hydrochloride orally @ 5g/100kg body weight was administered. Advice regarding the application of the ointment and prevention of licking of the lesion by the animal was given to the owner. Follow up of all the cases were done. The animals responded to the treatment fully and no recurrence was observed.

Reference :

Sastry Ganti. A. (1975). Veterinary Pathology. 4th Edn. Ganti. A. Sastry published. Tirupati.

"Beauty is a short-lived reign"

- Socrates

Mounting of Blood Film - Cellophane Tape the Candidate for Alteration.

S. S. Das

Department of Parasitology, Rajiv Gandhi College of Veterinary & Animal Sciences,
Kurumbapet, Pondicherry - 605 009

Introduction :

Mounting a blood film is a routine practice to make the blood film permanent from time to time use. It is preferred to avoid destaining and direct injury to blood films by repeated use of immersion oil and its removal by tissue paper and Xylene. To mount a blood film, thin coverslip is particularly used along with DPX or Canadabalsam as mountant. However, DPX has destaining property in long run and thus Canadabalsam is preferred but mountants are comparatively costlier. Moreover, removal of already fixed dried up coverslip is very difficult until it is dipped in Xylene to dissolve the mountant. This further causes destaining. Trapping of air bubble is another problem during mounting of coverslip along with mountant on the slide. Above all, coverslip is undoubtedly costly and dangerous for causing injury by accidentally broken pieces of coverslip. Sometimes, mounted coverslip breaks if oil immersion lens (100 X) is pressed hardly on it even though the spring type lens is used.

To overcome these problems of coverslip for mounting the blood films, an alternative approach was attempted over the conventional method to make the mounting more simple and easy.

Materials and Methods :

The cellophane tape which is easily available in role in market was tried in place of coverslip for mounting the blood films. Different blood protozoa infected blood films

viz. *Babesia* sp. and *Theileria* sp. and *Trypanosoma* sp. each of 10 slides, were taken into account. Eight films of each were mounted with cellophane tape of width 1.8 cm or above, as requirement, so that sticky glue of that remains in contact with the upper surface of blood films. After removing the cellophane tape from the role, mounting was done immediately, touching one corner of the film and then spreaded over the whole length of blood film in single stroke. The cellophane tape could be made into pieces after or before the covering of blood films, according to need. Remaining two slides of each infected group were conventionally mounted by coverslip and DPX for comparison of contrast, resolution and visibility. Every time after using the cedar wood oil slides were cleaned by Xylene.

All the mounted films were routinely examined at an interval at 15-30 days for a year to observe the destaining property or any change in morphology of cells or parasites etc. observations were compared every time with conventionally mounted blood films by coverslip and mountant. After 3-4 months of mounting by cellophane tape or even immediately after mounting, the cellophane tape was removed partially or completely to observe whether stain sticks to glue or cellophane tape. Many times, after removing the 2/3rd part of cellophane tape, it was sticking again on same slide or sometime sit was replaced by new one to notice whether quality of visibility of the slide differed.

Results and Discussion :

The cellophane tape was found very convenient to mount the blood films in very simple way without any need of any mountant. It did not destain the slides for year or so and visibility, clarity were significantly comparable with coverslips and technique, without any change of breaking unlike coverslips and thus cellophane tape gave freedom to users. Moreover, on replacing or resetting the same cellophane tape was found very resistant to Xylene. Delayed mounting or mounting the blood film after cutting into pieces and then spreading by tow edges of cellophane tape piece, however sometimes traps air bubbles in between the film and cellophane tape. This could be overcome by routine practice and quick processing just by holding the tape on corner of a table and quickly fixing the blood film by touch from below while holding the role straight. Air bubbles could even be removed, by remounting new or same cellophane tape after removing the tape as and when required and then re-fixing.

Undoubtedly, the cellophane tape is a suitable substitute for coverslip in routine use for mounting the blood films and results

were comparable with the conventional mounting by coverslip with mountant as regard to resolution and visibility. The cellophane tape is very cheap in comparison to coverslip and it does not require further addition of any mountant which involves additional expenditure towards mounting when coverslip is used. Cellophane tape is easily removable without spoiling the films unlike coverslip. The resistant nature of cellophane tape to Xylene is undoubtedly an advantage for repeated use of oil immersion lens.

Summary :

A comparison was made between the conventional mounting of blood films by coverslip with mountant and ordinary cellophane tape. No difference in resolution, visibility and clarity were observed. Cellophane tape does not cause any destaining of blood films when immediately possible without help of any chemicals like Xylene unlike coverslip for old mounted slide. Sometimes air bubbles may trap, but could be avoided by quick processing. Moreover, cellophane tape was very resistant to Xylene.

"Better is living bigger than a buried emperor"

- Burton

"If a man is worth knowing at all, he is worthy knowing well"

- Alexander Smith

Oil Immersion Microscopy - An Alternative Easy Approach

S. S. Das, D. Kumar and R. Sreekrishnan

Department of Parasitology, Rajiv Gandhi College of Veterinary & Animal Sciences, Kurumbapet, Pondicherry - 605 009.

Introduction :

Microscopy which works on the principle of optics, is a basic tool of diagnosis in Veterinary and Medical sciences, since the discovery of compound microscope by Robert Hook in 1695. In light microscope, dry objective (40 X) and wet or immersion (above 60 X) objective help to magnify the objects under the visible lights. Lenses with high resolving power and light gathering aperture (or numerical aperture) produce a clear image of degree of resolution. The maximum numerical aperture is equal to one, as long as the space between the lens and object is occupied by air, which can be increased to 1.2 - 1.4 by using an oil contact between the objects and lens (Tauro *et al.*, 1991).

It is very conventional to use the cedar wood oil for oil immersion objectives because it has the same refractive index as that of glass and disperse least rays of light (Sachdev, 1991). However, many times, this oil becomes too thick and mostly it is discarded or even sometimes xylene or acetone is added to make it thin for reuse - but it works well till xylene or acetone is not evaporated. Secondly, it is very difficult to remove the cedar wood oil from the stained blood films after microscopy simply by using tissue papers, till it is cleaned by xylene. During this process the blood films particularly, get destained when xylene or acetone is added to make the cedar wood oil thin. Fungal growth of lens is another vital problem for cedar wood oil, if lenses are not properly

cleaned and above all, the cedar wood oil is undoubtedly very costly.

To overcome these problems of cedar wood oil, an attempt was made as an alternative approach.

Materials and Methods :

Easily available in market, the filtered refined oil (Sunflower) and filtered mustard oil and coconut oil were tried as substitutes of cedar wood oil. To make the oils germ free, if any, the oils were heated to boiling point in a container for protection of lens and then cooled to room temperature. Both the boiled and unboiled oils of all types were used routinely for the diagnosis of blood films under oil immersion for blood protozoan parasites, along with cedar wood oil for comparison.

Results and Discussion :

The results revealed that the filtered refined oil (Sunflower), mustard and coconut oil were very ideal. Resolution and contrast are much more clear for refined oil and coconut oil in comparison to cedar wood oil and are undoubtedly very transparent and provide a very clean field for blood films focused under the oil immersion lens. The mustard oil also provides very good resolution and since it is very light yellowish, this provides beautiful background of light yellow colour for blood films. All erythrocytes, leukocytes and presence of intra and extra cellular parasites were clearly visible in these oils and there was no difference in visibility when

compared to cedar wood oil, between the boiled and unboiled nature of these oils. The oils were easily removed from slides simply by tissue papers or butter papers, and mostly found no need to use xylene. However, compared to unboiled oil, boiled oil were easily removable.

Undoubtedly, the refined oil, coconut oil or mustard oil can substitute the cedar wood oil for routine use. Moreover, these oils are cheaper in comparison to cedar wood oil and they do not require further dilution by xylene etc. They never become thick on coming in contact with air, unlike cedar wood oil.

Summary :

A comparison was made among the conventional cedar wood oil and refined

ordinary edible oils (sunflower, mustard and coconut oils). No difference in resolution and visibility were observed with refined oils than cedar wood oil. The oils are easily removable by tissue and butter papers and any further dilution by xylene is not required, unlike cedar wood oil.

References :

Sachdev, K. N (1991). Clinical pathology and bacteriology. 8th Edn. Jaypee Brothers Medical Publisher (P) Ltd., New Delhi pp-7.

Tauro P, Kapoor, K. K. and Yadav, K. S. (1986). An introduction to microbiology, Wiley Eastern Ltd., Publication, Lucknow pp- 27.

butox[®]



Highly safe & effective Ectoparasiticide



Intervet Laboratories Ltd.
412, Thakur Mansion Lane, Somajiguda, Hyderabad - 500 082.

 Intervet

READERS' COLUMN

Comments / Suggestion on 'The Blue Cross Book - 14'

- 1. Dr. Swapan Kumar Sur**
Jhorhati Rath Tala, P. O. Bhadreswar, Hooghly-712124

"I liked this issue because of the various articles published. Please mention your e-mail address in every published issue."
- 2. Dr. Bharat Singh**
Veterinary Surgeon, Hazipur, Vaishali - 844 101.

"I would like to suggest that more of clinical cases may kindly be published."
- 3. Dr. Rajendra Pal**
Veterinary Assistant Surgeon, In-charge, District Veterinary Hospital, Durg, Dist.-Durg M.P.

"I liked this book because, it is much informative and provides valuable information for canine practitioners in field condition."
- 4. Dr. B. Benny**
Veterinary Officer, Veterinary Hospital, Hospet - 583201

"I would like to have all the old issues of 'The Blue Cross Book'".
- 5. Dr. Rachhpal Singh**
C/o S. H. Charan Singh., House No. 32, Ward No. 13, Moh. Tikhawal, Mukerian, Punjab - 144221

"I liked this book because, articles on Veterinary Emblem, Efficacy of Tonophosphon, Vaginal rupture & management and Ascitis in dogs are especially very useful. Please publish articles on repeat breeding & surgical cases."
- 6. Dr. D. P. Singh**
Lecturer, Veterinary Field Assistant Training Institute, P. O. Mediphema - 7970106, Nagaland

"I liked this book very much because, it is very informative and provides the latest information in veterinary medicine. This book clears our doubts on diagnosis / treatments. This book is a boon to field vets, working in remote areas where contact with teachers is impossible."

READERS' COLUMN

Comments / Suggestion on 'The Blue Cross Book - 14'

7. Dr. K. N. Muraleedharan Nayar

The XXIV Annual Congress of the Indian Society for Veterinary Surgery and Symposium on Bio-prosthesis-current trends in small animals is being hosted by Kerala Agricultural University, Mannuthy from 10-12th November 2000.

"I request, the below mentioned information on XXIV Annual Congress of Indian Society for Veterinary Surgery may kindly be published in your esteemed journal for circulation".

**ISVS ANNUAL CONGRESS ANNOUNCEMENT
NATIONAL SYMPOSIUM ON
BIO-PROSTHESIS-CURRENT STATUS IN SMALL ANIMAL
SURGERY
AND
XXIV ANNUAL CONGRESS OF INDIAN SOCIETY FOR
VETERINARY SURGERY**

**From 10th to 12th 2000, November
At College of Veterinary & Animal Sciences,
Kerala Agricultural University,
Mannuthy, Thrissur, Kerala.**

For further details, please contact :
Dr. K. N. Muraleedharan Nayar, Ph.D.
Professor & Head, Department of Surgery & Radiology,
College of Veterinary & Animal Sciences,
Mannuthy - 680 651. Thrissur, Kerala.

E-mail : knm_nayar@movemail.com

Fax : 91-0487-370388

Telephone : (Office) 91-0487-370344 / 370877 Extn. - 230

READERS' COLUMN

Comments / Suggestion on 'The Blue Cross Book - 14'

8. Dr. M. K. Tandle

Department of Animal Reproduction, Gynaecology & Obstetrics,
University of Agricultural Sciences, Dharwad Veterinary College, P. B.
No. 6, Bidar - 585 401, Karnataka

"I liked this book because, it is very useful to Clinicians, Veterinarians, Teachers and Students in treating dumb animals and also for research purpose. The paper quality is very good, printing and editing are also very good, thus help in preserving the book for a longer period."

9. Dr. M. K. Rai

Director, Royal Government of Bhutan, Ministry of Agriculture, Post
Box No. 252, THIMPU

"I liked this book because, as it contains a very important publication of today's emerging problem in cattle breeding -like 'Bovine Herpes Virus Infections in cattle' included in this issue."

10. Dr. S. K. Shukla

Department of Veterinary Medicine, G. B. Pant University of Agriculture
& Technology, Pantnagar, U.P

"Thank you very much for sending me a copy of 'The Blue Cross Book' - 13th issue. Enclosed please find herewith 2 copies of our article entitled, "Importance of Aflatoxins in Ruminants" for publication in the next issue of 'The Blue Cross Book'.

11. Dr. Bakul Lad

Government Breeding Farm, Ratona, Sagar.

"I liked this edition of 'The Blue Cross Book' -14. It includes good information regarding "Bovine" useful for our farm. Thanks to Dr. A. K. Datta for his tremendous efforts."

"Calm appears when storms are past : Love will have its hour at last"

- Dryden

NEXT ISSUE : *Expected Articles*

Expected Articles for 'The Blue Cross Book - 16'

- **P. E. D'Souza, H. Ddhanalakshmi and M. S. Jagannath.**
Veterinary College, UAS, Hebbal, Bangalore
*'Observations on the Incidence of Worm Infestation in Dogs and Efficacy of Different Methods in its Detection'.
- **K. P. Sinha, V. K. Singh and B. K. Roy**
Ranchi Veterinary College, Kanke, Ranchi - 7
*'Use of Prednisolone (Intervet Laboratories Ltd.) in Corneal Opacity of Bovine'.
- **P. Datta**
Institute of Animal Health & Veterinary Biologicals, Calcutta
*'Study of Lapinised Weybridge Strain While Tissue Culture Swine fever Vaccine is Urgent Demand for Eastern Zone of India'.
- **P. N. Attri and B. S. Negi**
Division of Virology, IVRI Campus, Mukteshwar, U.P.
*'A Micro-dot Enzyme Linked Immunosorbent Assay for the Detection of Antigen and Antibodies Against Goat Pox Virus'.
- **Siddaramanna, and Asha H. B.**
No. 830 (IX Cross Road), Indira Nagar (II Stage), Bangalore - 562 145
*'Performance of Paciflor® (Probiotic from Intervet Laboratories Ltd.) in Commercial Broilers'.
- **M. T. Nassef**
Department of Veterinary Surgery, Faculty of Veterinary Medicine
Assiut University, Assiut, Egypt
*1. 'Heterotopic Polyodontia in a Horse'.
*2. 'Cerebral Hernia in a New Born Calf'.
- **K. M. Jadhav and H. C. Chauhan**
Gujrat Agricultural University, Sardar, Krushinagar - 385 506
*'Clinical Observations and Practical Measures on Control of Naturally Occurring Johne's Disease in Sheep on an Organised Farm'.
- **S. K. Tiwari, O. P. Mishra and S. P. Ingole**
College of Veterinary Sciences & Animal Husbandry, Anjora,
Durg - 491 001, M.P.
*'Prolapses anti et recti in a Lhasa Apso Pup and its Successful Management'.
- **N. N. Barman**
Assam Agricultural University, Khanapara, Guwahati - 781 022.
*'*In-vitro* Sensitivity of Bacterial Pathogens to Enrofloxacin'.

GUIDELINES TO CONTRIBUTORS

"*The Blue Cross Book*" is published biannually. The contributions to the journal are accepted in the form of invited review articles, research articles (clinical / field studies), case reports, other information pertaining to animal health and production. The decision of the Editorial Board members will be final regarding acceptance of the article for publication. The manuscript should be typed on one side of the paper with double spacing except for footnotes and references for which single spacing be used. The style of reference citing should be stickly followed as shown below. The words to be printed in Italics should be underlined. The manuscript should be arranged in the following order :

- Title** : Note on Outbreak of Pox in Sheep
- Name/s of author/s** : K. Kumari, P. C. Chowdhri and P. K. Das
- Place of work** : Department of Pharmacology,
Bombay Veterinary College, Parel, Mumbai - 400 012.
- Materials and Methods** : In details.
- Results and Discussions** : With the help of tables / figures etc.
- Reference/s** : **For Periodical/s** : Surname/s and initial/s of author/s, year of publication in parenthesis, abbreviated title of journal (*Italic*), volume number (**Bold**), first and last page number/s.
e.g. Chhabra, D., Moghe, M. N. and Tiwari, S. K. (1996). *Ind. Vet. J.*, **82** : 1-3.
- : **For Books** : Name/s of author/s, year of publication in parenthesis, title of the book, edition (**Bold**), name of publishers (*Italic*) and place.
Radostitis, O. M., Blood, D. C. and Gray, C. C. (1994). *Vetarinary Medicine*, **8th Edn.**, *ELBS*, London
- Tables and Figures** : Tables are to be numbered in Roman numerals (I, II and so on). Each table should have a clear title. Figures should be good quality and numbered in Arabic numbers (1, 2, 3 and so on).

Abstracts and sub-headings are not necessary for clinical articles and short communications. These should not exceed three typed pages. For case reports, history, observation, tentative and confirmatory diagnosis, line of treatment and follow up on the case should be given.

Authors are requested to confirm that the paper has not been published elsewhere and also to indicate details of postal address for communication along with telephone / fax with STD Code etc.

All manuscripts should be mailed to the following address :

DR. A. K. DATTA, Editor, "*The Blue Cross Book*", Intervet Laboratories Ltd., 412, Thakur Mansion Lane, Somajiguda, Hyderabad - 500 082. Tel.: +91-40-6564400, 6564401 Direct Phone : +91-40-6564451 Mobile : 09849041787 Fax : +91-40-3316375 / 6564455

Intervet Laboratories Ltd.

412, Thakur Mansion Lane,
Somajiguda, Hyderabad - 500 082.