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"What the mind can conceive and believe, the mind can achieve"

- W. Clement Stone

*"When I was child, my mother said to me - 'If you become a soldier
you'll be a general. if you become a monk you'll end up as the pope.
Instead, I become a painter and wound up as Picasso."*

- Pablo Picasso

*"The best way to secure future happiness is to be as happy
as is rightfully possible to day"*

- Charles W. Eliot

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PREFACE



Dr. Hervé Laberthe
Managing Director
Intervet India Pvt. Ltd.

Dear Readers,

First of all, I would like to wish you, your family and friends a wonderful and prosperous year 2003. We are extremely happy to inform you that '*The Blue Cross Book*' is entering into the 10th year of its continuous publication. We hope this is a purposeful service to the veterinarians of the country. We could achieve this exclusively due to the continued patronage from the Readers of '*The Blue Cross Book*'.

We continue to provide the Readers' column / News & Abstracts / Book review. As far as the information on the New Publication (veterinary) is concerned, poultry / livestock sciences, has been included in this issue. I hope it will be helpful to you all.

We would like to take this opportunity to inform you that there is a new consortium to connect animal scientists and veterinarians. The Animal Health Consortium is a new resource available to the veterinarians, pharmacologists, and other professionals in the animal health sciences.

The consortium and its Web site were officially launched in the month of June last year to provide a Web-based forum where scientists and practitioners from all over the world can share ideas, set up collaborations, and track the latest developments in the animal health sciences.

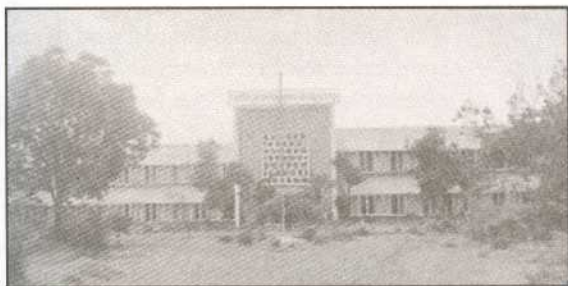
For more information about the Animal Health Consortium, you may kindly visit the web site, <http://www.controlledrelease.org/ahc>.

We hope you will find useful articles and case reports in this issue.

Best regards,

A handwritten signature in black ink, appearing to be 'H. Laberthe', written in a cursive style.

Dr. Hervé Laberthe



THE VETERINARY COLLEGE IN INDIA

VETERINARY COLLEGE, MHOW, MP

Veterinary College, MHOW was started on 12th July 1955, but it was shifted to its present site on 12th November, 1959 after being inaugurated by Late Shri Jawaharlal Nehru, the first Prime Minister of India. After inception of Jawaharlal Nehru Krishi Vishwa Vidyalaya at Jabalpur on 2nd October' 1964, the college became a constituent unit of the Vishwa Vidyalaya.

The main campus of the college is on 257 acres of land, situated on the Bombay Agra national highway No.3, approximately 5 km from Mhow cantonment and 18 km by road from Indore.

To commensurate with its objectives, MHOW Veterinary College is currently engaged in the field of teaching, research and extension, catering to the need of animal scientists, farmers and students alike.

Objectives :

1. To impart practical and theoretical knowledge to the students leading to B.V.Sc. & A.H., and M.V.Sc. degrees.
2. To enable students to attain a strong practical grip in animal production and health maintenance.
3. To lay emphasis on practical aspects and village extension service.
4. To impart short term, and long term training to the farmers and departmental officers.

5. To develop aptitude in students' mind- a spirit of true service to livestock farmers so that they increase their standard of living and to raise the national economy.

Building and Other Facilities:

MHOW Veterinary College has centrally located two storied spacious administrative block, teaching and research units, equipped with modern facilities. The college is fully residential and having 3 boys' hostels and a girls' hostel, having accommodation of 400 students. Independent auditorium with a sitting arrangement of 500 people is also available.

Library :

The college has separate central library with a full time librarian. At present, it is having a stock of 11,026 technical books and 2,822 periodicals.

Farm Facilities, Land, etc.:

The college is having 257 acres of land at main campus and 457 acres of land at Simrol, 22 km away from the college on Indore-Khandwa road. Both farms grow fodder and cereal crops and runs on revolving fund.

Achievements:

- A. **Education:** MHOW Veterinary College is offering a five year under-graduate course in veterinary science leading to the award

of B.V.Sc. & A.H. degree. The college is following the education pattern as recommended by the **Veterinary Council of India**. Since its inception, seven students have obtained their Ph.D. degree from this college.

B. Research:

1. Nearly 1500 research papers, so far, have been published by the faculty members in various national and international journals.
2. 172 research theses in various disciplines have been submitted for M.V.Sc. and Ph.D. degrees.
3. 15 research projects / schemes / AICRP in various disciplines sponsored by various agencies like ICAR, MP COST, Govt. of MP, etc. were successfully completed.
4. A new vaccine CDF-66 against New Castle disease of poultry was developed for which, the prestigious ICAR Hari Om Ashram Trust award was awarded to the workers in 1975.

5. A number of teachers have been awarded with different national awards, medals and certificates for their contributions in their respective fields.

C. Extension:

1. From time to time short term training of 7 days, 10 days and 90 days duration are being organized for the benefits of farmers field staff, departmental officers.
2. Radio talks and TV talks are being regularly delivered by the teachers on AIR, Indore and Doordashan, Bhopal for the benefits of livestock farmers.
3. In different villages, veterinary camps are being organized regularly for treatment and AI of animals.
4. Ambulatory clinics are being arranged in 3 days in a week in 3 different villages where final year students and staff are involved.

*"Just as clouds are blown away by the wind so the thirst
for material pleasure will be driven away by
the utterance of the Lord's name"*

- The Holy Mother, Saradamani

Foot and Mouth Disease Outbreaks in Vaccinated and Unvaccinated Cattle Herds

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Introduction:

Foot and Mouth Disease (FMD) is one of the most devastating diseases of farm animals. Although the disease rarely leads to death, but high morbidity causes loss in productivity to the extent of 25 per cent. The disease is endemic in India and virus types O, A, C and Asia-1 were identified in various outbreaks throughout the country. To contain the disease, in our country, regular vaccination is the only option. However, in spite of regular vaccination, FMD outbreaks were recorded in immunized cattle herds (Goel & Rai, 1984 and Sarma & Hazarika, 1996). The present study was, therefore, designed to identify the virus associated with FMD outbreaks in vaccinated as well as in unvaccinated cattle. Further, immune status of the susceptible animal was evaluated.

Materials and Methods:

FMD Outbreaks:

A total of 34 outbreaks occurred in organized and un-organized cattle herds were attended. Outbreaks were categorised on the basis of vaccination history as vaccinated infected (10 Nos.) and un-vaccinated infected (24 Nos.). In vaccinated groups, cattle were vaccinated at 4 months interval and last vaccination was done 2-4 months earlier. Feet as well as tongue epithelia were collected from affected animals in 50% phosphate glycerine buffer (pH 7.6) and preserved at 4°C until further processed. Paired serum samples were collected at an interval of 21 days to estimate antibody titre.

Detection of Virus:

Approximately, 10% tissue suspension was

prepared in phosphate buffer saline (PBS) and treated with chloroform. Sample was finally centrifuged at 3000 rpm for 30 minutes and supernatant was used to detect the antigen as well as to isolate the virus. Micro-complement fixation test (micro-CFT) following the method of Rai & Rao (1977) and sandwich ELISA (Crowther & Abu Elzein, 1979) were used to detect viral antigens.

Isolation of Virus:

FMD virus was isolated from the field sample in suckling swiss albino mice as well as in calf kidney cell monolayer. For each sample a litter of mice was used and 0.1 ml of inoculum was given intra-muscularly in the back muscle. Healthy cell monolayer grown in the bottle was inoculated with 1ml of inoculum. The presence of virus in infected mice and in cell culture fluid was confirmed by sandwich ELISA.

Assay of Antibody:

Virus specific antibody response was studied in vaccinated infected, un-vaccinated infected and vaccinated un-affected cattle. Randomly, 10 animals from each group were selected for this study. Virus specific antibody titre in the paired serum samples was determined by the method of Abu Elzein & Crowther (1981) with slight modification. Viral antigen was added to the wells coated with rabbit anti-FMD antibody. Test cattle sera, diluted serially were added to the wells and followed by rabbit anti-bovine peroxidase conjugate. Colour reaction was read by adding substrate solution (OPD + H₂O₂). The corrected OD value of the highest dilution of the serum ≥ 0.1 was considered as titre.

Results and Discussion:

A total of 34 FMD outbreaks were attended and FMD virus types O was identified both in vaccinated and un-vaccinated cattle. Out of 53 tissue samples (tongue epithelia-23 Nos. & 30 Nos. feet epithelia), viral antigen was detected by micro-CFT in 38 (71.7%) samples and by ELISA in 43(81.13) samples. The per cent positive by ELISA in tongue epithelia and in feet epithelia was 73.91% and 86.66% respectively. The results of the typing of the samples, clearly indicated that the prevalent type O virus was involved in all outbreaks. However, it is essential to characterize the antigenic make-up of type O virus involved in vaccinated as well as in un-vaccinated herds. Comparing the tests for detection of viral antigens in clinical samples, ELISA was found more sensitive (Oliver *et al.*, 1988). Further, the present findings showed that viral antigen could be detected in feet epithelia, collected

ELISA titre in affected cattle was quite low (~80.0) than that of vaccinated un-affected cattle (360.0). In the second serum samples, antibody titre increased ~4 fold in both the infected groups. Outbreaks of FMD in regularly vaccinated herds were reported by other workers (Goel & Rai, 1984 and Sarma & Hazarika 1996).

The breakdown of immunity was not only due to poor antigenic mass but also attributed to other factors associated with the hosts (Jana & Maity, 1997). However, to ascertain the actual cause of poor yield of antibody titre in vaccinated animals is required elaborative study.

Acknowledgements:

Authors are grateful to the Dean, Faculty of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati for providing necessary facilities and to Central FMD Virus Typing Laboratory, IVRI, Mukteswar, Kumaon for providing antisera and reference vaccine virus.

Table: Mean (\pm SE) ELISA Antibody Titre Against FMDV Type O in Paired Sera of Vaccinated and Un-vaccinated Cattle

Day Post-infection	Mean ELISA Antibody Titre		
	Vaccinated Infected	Un-vaccinated Infected	Vaccinated Un-affected
1	80 \pm 10.95	70 \pm 10.95	360 \pm 35.78
21	80 \pm 10.95	70 \pm 10.95	360 \pm 35.78

even after end of their disease course. Scott *et al.* (1966) mentioned in their findings that FMD virus persisted for long period in foot epithelia. For isolation of the virus, a total of 15 clinical samples were processed. The rate of recovery of virus type O was 40% (6/15) in mice and 60% (9/15) in primary calf-kidney cell culture. Primary cell culture provided uniform physiological condition *in-vitro* and thus, facilitated rapid propagation of the virus (Rai & Rao, 1977 and Anon, 1995).

Type O virus specific antibody titres in affected animals are presented in the Table. The mean

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Effect of Fertagyl® (GnRH) Administration at the Time of Insemination on Conception Rate in Prostaglandin Induced Oestrus in Cows

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Department of Gynaecology & Obstetrics, College of Veterinary & Animals Sciences, MAU,
Parbani-431 402, MS

Abstract :

PGF₂ alpha effectively induced oestrus in post-partum sub-oestrus cow. GnRH was found to be effective in timely ovulation and for increased conception rate in PGF₂ alpha induced oestrus.

Introduction:

The reproductive performance of cows which are primarily located in rural areas is poor. They are confronted to a great extent with delayed maturity, prolonged post-partum anoestrus, post-partum sub-oestrus, repeat breeding and prolonged calving interval. In Indian cows, post-partum sub-oestrus appears to be more aggravated probably due to several stress factors. To treat such cases of sub-oestrus, various drugs of hormonal and non-hormonal origin are being used. In hormonal drugs PGF₂ alpha is most commonly used to treat cases of sub-oestrus (Cooper, 1974).

However, some workers reported low conception rate, inspite of following proper dose and route of administration of PGF₂ alpha (Ott & Gustafsson, 1981). The low conception rate may be due to unovulatory heat, late ovulation, weak oestrus, low progesterone level and endocrine profile of cow. For increasing conception rate in PGF₂ alpha induced oestrus cows, GnRH was tried by many workers (Straaten *et al.*, 1997 and Tandle *et al.*, 2000). GnRH given at the time of insemination may modify the function of pre and post-ovulatory ovarian follicle, thus ensures ovulation (Taponen, 1999). It also recruits good quality of large luteal cells which results in increased P4 level and

increase the conception rate (Mee *et al.*, 1993). GnRH also resulted in increased progesterone secretion by corpus luteum (Kittok *et al.*, 1973). The present investigation was, therefore, aimed to study the effect of GnRH administration on improvement of conception rate in PGF₂ alpha induced oestrus in cows.

Materials and Methods :

Twenty cows with post-partum sub-oestrus condition and having palpable corpus luteum on either of ovaries were selected for the present study from veterinary dispensary at Mardasgaon villages of Gangakhed taluka in Parbhani district. These cows were divided into two groups i.e. treatment group A and treatment group B. All these 20 cows were treated with 25 mg of PGF₂ alpha intramuscularly. All these treated cows were examined per rectally for recording ovarian activity at an interval of 12 hours for 5 days from start of treatment. The visual observation was carried out daily morning and evening for detection of heat. Those cows which were exhibiting oestrus from treatment group A and B were inseminated 12 hours after the onset of oestrus and also injection of 2.5ml of GnRH (Fertagyl® from Intervet India Pvt. Ltd.) was given intramuscularly to those cows which were exhibiting oestrus in treatment Group B at the time of insemination.

Results and Discussion :

In treatment group A, all 10 cows (100%) exhibited induced oestrus. The mean time interval between treatment and onset of oestrus was 81.6 ± 5.31 hours, average

duration of oestrus was 16.2 ± 0.86 hours and the percentage of cows exhibiting intense, moderate and weak oestrus were 30, 40, 30 per cent respectively. These cows were examined for pregnancy diagnosis after 90 days from insemination. The conception rate in treatment group A was 50%.

In treatment group B, 9 cows (90%) exhibited induced oestrus. The mean time interval between treatment and onset of oestrus was 74.66 ± 6.25 hours, average duration was 16.88 ± 0.77 hours and the percentage of cows exhibiting intense, moderate and weak oestrus were 20, 50, 20 per cent respectively. Injection of GnRH was given at the time of insemination

Table : Showing Details of PGF₂ Alpha Treatment for Induction of Oestrus, Mean Time Interval and Duration of Oestrus in Treatment Group A and B and GnRH Therapy in Treatment Group B

Sr. No.	Groups	No. of cows	No. of cows exhibited oestrus	Time required for on set of oestrus (hours)	Duration of oestrus (hours)	Conception rate (%)
1	Group A	10	10	81.6 ± 5.31	16.2 ± 0.86	50
2	Group B	10	09	74.66 ± 6.25	16.88 ± 0.77	66

to those cows which had exhibited oestrus. The conception rate in treatment group B was 66%.

The conception rate in PGF₂ alpha treated cows i.e. in treatment group A are in close agreement with Vukovic *et al.* (1987) reported 51.8 per cent, Chatterjee *et al.* (1989) reported 50%, Kozicki (1994) reported 55.5 per cent and Mughal *et al.* (1998) reported 50 per cent conception rate.

The conception rate in PGF₂ alpha with GnRH treated cows i.e. in treatment group B are in close agreement with Lajili *et al.* (1991)

reported 62 per cent, where as Goley & Kadu (1995) reported 57 per cent conception rates. Some workers reported higher conception rate than present findings: Monge Vega *et al.* (1994) reported 78.95 per cent and Mehdikhani & Salmanoglu (1998) reported 80 percent conception rate.

However, some scientists have reported very low conception rate than present findings: Gupta *et al.* (1978) reported 37 per cent, Ott & Gustafsson (1981) reported 20 per cent and Alan *et al.* (1993) reported 30 per cent conception rate.

Conclusions :

On the basis of observation of the present study, it may be concluded that PGF₂ alpha effectively induced oestrus in post-partum sub-oestrus cows. GnRH was found to be effective in timely ovulation and for increasing conception rate in PGF₂ alpha induced oestrus. The results were effective and economically viable in dairy cows.

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"If you seek your own salvation, you will go to hell. It is the salvation of others that you must seek : and even if you have to go hell in working for others, that is worth more in working for others, that is worth more than to gain heaven by seeking your own salvation."

- Swami Vivekananda

" Even the impossible becomes possible through devotion"

- The Holy Mother, Saradamani

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Comparative Efficacy of Deltamethrin (butox[®]) at Different Concentrations Against Ixodid Tick Infestation in Cattle

A.J. Pathan, Y.V. Raote and G.P.Bharkad

Department of Veterinary Parasitology, College of Veterinary & Animal Sciences, Udgir, Latur-413517, MS

Abstract:

Deltamethrin (**butox[®]**) at the concentration of 0.25 per cent was highly effective against naturally infested ixodid ticks in cattle as compared with other lower concentrations i.e. 0.125 per cent & 0.065 per cent. To prevent reinfestation of tick, it is very much essential to control hidden tick swarms from the animal houses by spraying **butox[®]** (Intervet India Pvt. Ltd.) at regular intervals.

Introduction :

Ecto-parasites play an important role in the development of various ill effects in animal production as well as reproduction. Tick infestation is one of the important factors, which cause direct as well as indirect losses to the production. Many of them are heavy blood suckers and may cause death due to anaemia. Some species cause tick paralysis. Heavy tick burden causes worry which interfere with feeding and may lead to heavy loss of production and weight gain (Blood & Radostits, 1989). Ticks are also responsible for transmitting protozoal diseases like Babesiosis (Soulsby, 1982). By considering resistance development against various acaricides, a study on Deltamethrin (**butox[®]** from Intervet India Pvt. Ltd.) has been undertaken to assess its efficacy against ixodid ticks infestation in the cattle.

Materials and Methods:

Animals of local farmers, irrespective of age, sex and breed, reared on green pasture, maintained at houses made of stones and mud, with walls full of cracks and crevices, were screened for heavy tick infestation.

Thirty six heavily infested animals were selected for this study. While 6 animals were kept as untreated control (G-IV), 30 animals were equally divided into three groups (G-I, G-II & G-III), having 10 animals each. The total numbers of ticks present on various body parts of all 10 animals in each group were counted. Ticks were collected in 10% formalin for morphological identification and examined grossly by stereo zoom microscope. Permanent mount were prepared by standard procedure. Ticks were identified on the basis of keys given by scientists (Kaiser & Hogstraal, 1964; Arthur, 1962 and Dhandra, 1983).

The group I, II and III were sprayed with 0.25, 0.125 and 0.065% of Deltamethrin (**butox[®]**) respectively and decrease in the total number of ticks was recorded. The data were analysed statistically (Snedecor & Cochran, 1967) by using the completely randomised design.

Results :

The ticks recovered from various animals were identified as *Hylomma anatolicum anatolicum*, *Boophilus microplus* and *Rhipicephalus haemophysaloides*.

Totally, before spraying of **butox[®]**, 3571 ticks were counted on the body of the animals of Group – I. The number of ticks reduced to 115 on the 5th day post-treatment and gradually increased to 401 and 836 on the 10th and 20th day respectively. The efficacy was 96.78, 86.77 and 76.59 per cent on the 5th, 10th and 20th day post-spraying respectively.

In group – II, 921 ticks were found on the body before spraying which were reduced to 64 on day 5th, increased to 187 on day 10th and to

359 on the 20th day post-spraying. Thus, the efficacy was 93.05, 79.70 and 61.02 per cent on the 5th, 10th and 20th day post-spraying respectively.

In Group-III, 1233 ticks were initially found on the body of the animals which were reduced to 107 on the 5th day; increased to 225 on the 10th day and to 378 on the 20th day of post-spraying. The efficacy percentage respectively were 91.33, 81.76 and 69.35.

Discussion:

Deltamethrin (**butox**[®]) is a synthetic pyrethroid commonly used for the control of ticks with concentrations of 0.25 per cent. The comparative study proved that 0.25 per cent dilution to be the most effective (96.78%) as compared to 0.125 per cent in group - II (93.05%) and 0.065 per cent in group - III (91.33%) on the 5th day post-spraying. The efficacy in group-I was significantly higher than other two groups on the 10th and 20th day post-spraying.

But the increase in the number of ticks on day 10th and 20th may be due to decrease in the efficacy of acaricide. The animal houses were full of cracks and crevices, which acted as ideal breeding sites, hiding places and shelters for the ticks. The swarms of stages of ticks hidden might have attacked the animals when efficacy of the drug was gradually reduced.

Deltamethrin (**butox**[®]) at the dose rate of 0.25 per cent was found to be superior than other two concentrations. These records of the present study were well supported by the observations of Deshpande *et al.* (1993), Maske *et al.* (1993), Mohanty *et al.* (1993) and Kinjavdekar & Parai (1995). Residual effect of Deltamethrin (**butox**[®]) was observed upto 20th day post-treatment, confirms the observations of Kinjavdekar & Parai (1995).

Acknowledgement:

The authors are grateful to Dr. P.D. Deshpande, Professor and Head, Department of

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Effect of Valathamate Bromide and Dexamethasone on Cervical Dilatation

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Abstract:

Corticosteroids both in foetal and maternal circulation play a vital role in induction of parturition. The present study in the treatment of dystocia cases in cows and buffaloes, records efficacy of Dexamethasone and Valathamate bromide in clinical cases of incomplete cervical dilatation.

Introduction:

Incidence of dystocia due to insufficient or partial dilatation of cervix is reported in cows and buffaloes (Arthur *et al.*, 1982). Corticosteroids both in foetal and maternal circulation play an important role in induction of parturition. Neurotropic and papaverine like effect of Valathamate bromide on smooth muscles along with elevated oestradiol and oxytocin profiles appears to accelerate cervical dilatation process during the first stage of parturition. Present study records clinical efficacy of Valathamate bromide and Dexamethasone in clinical cases of incomplete cervical dilatation.

Materials and Methods:

Present study was conducted on cases, reported to the Veterinary Polyclinic, Latur (MS). Animals with optimum health scores and with history of successful completion of full term pregnancy were only included under the trial. Eight cows and eight buffaloes with history of initiation of labour pains and failure of parturition even after 18

hours of continuous straining were examined per rectally and per vaginally and failure of cervical dilatation was diagnosed in each case.

The animals were divided into two groups, each consisting of four cows and four buffaloes. Initially, all the animals were injected with 20 mg of Dexamethasone and 150 mg of Valathamate bromide intra-muscularly. Similar treatment was adopted after 12 hours in all the animals, except injection of Valathamate bromide in group I. Treated animals were examined continuously at an interval of 2 hours, till full dilatation of cervix. Deliveries were effected by slight assistance and the details of post-partum events like placental expulsion and uterine involution were recorded.

Results and Discussion:

The details of the clinical response recorded after combination treatment of Dexamethasone and Valathamate bromide has been shown in the Table. Cervical dilatation was effected in all the animals with a range of 10 to 14 hours in both the groups. Mean time required for complete cervical dilatation was found to be 12.00 ± 1.41 hours in cows and 11.50 ± 0.86 hours in buffaloes in group I, whereas 11.50 ± 0.86 hours in cows and 11.00 ± 1.00 hours in buffaloes in group II.

The difference in clinical response for cervical dilatation in cows and buffaloes in both the groups was negligible. The placental expulsion was found normal and within physiological range in both the groups. The course of labour

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Table. Details of Clinical Response for Cervical Dilatation and Parturition in Farm Animals after Valathamate Bromide and Dexamethasone Treatment.

Sl.No.	Parameters	Group-I		Group-II	
		Cows(4)	Buffaloes(4)	Cows(4)	Buffaloes(4)
1	Animals				
2	Initiation of cervical dilatation (hours)	07.50±0.86	07.00±1.00	05.50±0.86	06.50±1.65
3.	Completion of cervical dilatation (hours)	12.00±1.41	11.50±0.86	11.50±0.86	11.00±1.00
4.	Placental expulsion (hours)	07.25±1.08	06.25±1.78	06.00±0.70	06.75±0.43
5.	Post-partum prolapse	00	00	01	02
6.	Uterine involution (days)	35.00±4.75	29.00±5.50	37.50±0.86	33.00±3.65

Number in parenthesis, denote – Numbers of animal treated

was transient and weak in all the animals, which may be due to very long period of straining and exhaustion of the cases.

Uterine prolapse was recorded within 24 hours of foetal delivery in a cow and two buffaloes from group II. The necessary treatment was undertaken in prolapse cases. The uterine involution was found to be normal and speedy in all the cases.

Exogenous administration of Dexamethasone and Stilboesterol simultaneously leads to production of prostaglandins and subsequent parturitions as recommended by Morrow (1986). Markandeya *et al.* (1993) reported successful treatment with Dexamethasone and Valathamate bromide therapy in cervical dilatation in

induction of parturition.

It was concluded that Dexamethasone and Valathamate bromide therapy could bring better clinical response in cases of cervical dilatation.

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" Think big. A little confidence breeds more confidence, and the more you stand up to things the more you will."

- James Alexander.

" When you go to bed at night have for your pillow three things - Love, Hope and Forgiveness. And you will be awoken in the morning with a song in your heart "

- Victor Hugo

FMD Outbreaks and Virus Types in Assam and NE States, India During 1998 – 2001

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Abstract:

Because of the high incidence of FMD, more particularly due to the virus type O, it is imperative to establish a strong immunity of the susceptible animals against the virus type. Vaccination of the animals with a vaccine containing the virus type of Indian origin and sufficient antigenic mass may reduce the incidence of the disease.

Introduction:

Foot and Mouth Disease (FMD), the most important disease of cloven footed animals of domestic and wild is enzootic in Assam and the other North Eastern (NE) states of India. The epidemiology of the disease in Assam is continuously monitored by the All India Coordinated Research Project for Epidemiological Studies on FMD, Regional Research Centre, Guwahati. The disease in the neighbouring NE States is also reported and samples were sent to the centre for typing of FMD virus. The paper reported the outbreaks of FMD and virus types in Assam and other NE states during 1998 – 2001.

Materials and Methods :

The clinical samples mostly in the form of tongue and feet epithelia of FMD affected animals were collected / received in phosphate buffer saline (PBS) with glycerol. One sample was considered for one outbreak. Besides the clinical samples, the epidemiological data particularly the number and species of animal affected, and number of animal at risk etc. were collected from each of the FMD outbreak. The collected samples were processed and tested

for FMD virus types using Sandwich ELISA as per the method of Crowther & Abu-Elzein (1979). The reference FMD virus type, viz. O, A, C, and Asia-1 specific antisera raised in rabbits and guineapigs were received from the Central FMD Virus Typing Laboratory, IVRI, Mukteswar.

Results and Discussion :

A total of 183 outbreaks of FMD were studied in Assam and other N.E. states, the highest number (153) of outbreaks was in Assam followed by 13 outbreaks in Meghalaya (Table-1). The number of animals of different species affected and the animals at risk in the FMD outbreaks are shown in Table (II). Cattle was the predominant species affected in the FMD outbreaks and out of the 19,484 cattle affected, 2477 (12.71%) were calves, 3781(19.41%) heifers, 9661(49.58%) cows and 3565(18.30%) were bullocks. Besides cattle, the involvement of buffaloes, goats, pigs and yaks in some of the outbreaks were also observed. Occurrence of the disease in yaks was recorded only in Arunachal Pradesh in the present study. There are earlier reports about the occurrence of the disease in yaks and other semidomesticated animals like mithun of some of the NE states (Barman *et al.*, 1999 and Verma & Sarma, 1997). Out of the 183 clinical samples processed, the FMD viral antigen could be detected in 165(89.67%) samples. From the remaining 18 (10.33%) samples, the FMD viral antigen could not be detected by the test. FMD virus type O is predominant and could be detected in 104(63.03%) samples. Other FMD virus types viz. A and Asia-1 were found in 53(32.12%) and 8(4.85%) samples respectively.

Table – I: FMD Outbreaks and Virus Types in Assam and Other N.E. States During 1998 – 2001.

Name of the state	Nos. of samples collected	Nos. of samples positive	FMD virus type identified			
			O	A	Asia-1	C
Assam	153	137	82	50	5	-
Meghalaya	13	13	8	2	3	-
Tripura	7	6	6	-	-	-
Sikkim	5	3	3	-	-	-
Mizoram	3	4	3	1	-	-
Arunachal Pradesh	1	1	1	-	-	-
Nagaland	1	1	1	-	-	-
Total	183	165 (89.67)	104 (63.03)	53 (32.12)	8 (4.85)	-

Figures in the parenthesis, indicate percentage

Table – II: FMD Outbreaks in Different Species of Animal in NE States During 1998 - 2001.

Species/ Categories of animals	No. of animals affected/No. at risk		
	1998-99	1999-2000	2000-2001
Calf	617/2151 (28.68)	1280/3704 (30.45)	580/1299 (44.65)
Heifer	1001/3518 (28.45)	2034/5165 (39.36)	746/1578 (47.28)
Cow	2100/7932 (26.48)	4495/12407 (36.23)	3066/6085 (50.39)
Bullock	480/2565 (18.71)	2472/5682 (43.51)	613/1182 (51.86)
Buffalo	27/172 (15.70)	251/3021 (8.31)	-/112
Goat	78/188 (37.23)	367/3500 (10.49)	7/230 (3.04)
Pig	258/775 (33.29)	456/2443 (18.66)	-/601
Yak	10/45 (22.22)	-	-

Figures in the parenthesis, indicate percentage.

Table III : FMD Outbreaks in Government and Private Farms During 1998-2001

Year	No. of outbreaks studied	Location	Species affected	No. of animals affected/at risk	No. of animals died	Vaccination status	Virus type
1998-1999	1	Upper Shillong, Meghalaya	Pig	26/28 (92.86)	4	UV	O
	1	Cattle Farm, CVSc, AAU, Khanapara, Guwahati.	Cattle	7/38 (18.42)	Nil	V	O
	2	Pig Farms, Khanapara Guwahati, Assam.	Pig	229/258	159	UV	O
1999-2000	1	Nirjuli, Arunachal Pradesh	Cattle	41/77 (53.25)	Nil	V	O
	1	Khetri, Dist. Kamrup Assam	Cattle	61/113 (53.97)	1	V	O
2000-2001	1	Urniam, Meghalaya	Cattle	17/17 (100.00)	7	UV	O

Figures in the parenthesis, indicate percentage; UV: Unvaccinated; V: Vaccinated

FMD virus type C was not found in any of the sample. Predominance of FMD virus type O in NE states and other parts of the country has been reported by earlier workers (Barman *et al.*, 1990, Kumar *et al.*, 1994 and Sen & Saha, 1992). Involvement of the FMD virus type O in all the 7 FMD outbreaks in animals of organized farm was also found in the present study (Table III). Out of the 7 outbreaks, 3 outbreaks were in cattle having the history of FMD vaccination within 6 months from the onset of the disease and other 4 outbreaks were in animals not vaccinated against FMD. Heavy mortality in piglets due to the disease in two organized pig farms was recorded.

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Efficacy of Panacur® (Fenbendazole) Against Gastro-intestinal Nematodes in Axis Deer (*Axis axis*)

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Abstract:

Twelve Kashmiri deer (*Axis axis*) having heavy infestation with *Strongyle* sp., *Strongyloides* sp. and *Trichuris* sp. were treated with Panacur® (from Intervet India Pvt. Ltd.). There was significant difference in the pre - and post-treatment EPG count. Panacur® was found 100% efficacious in zoo animals.

Introduction:

The spectrum of parasitic disease in wild animals is of great importance both to human and veterinary science. Helminthic infections are considered to be the major problem in wild and captive animals. There are number of anthelmintics available and few of them were tried in the wild animals. The present study would be an attempt to study the Fenbendazole

(Panacur®) as an antiparasitic drug in Indian deer (*Axis axis*).

Materials and Methods:

Twelve deer at Maharaj Bagh Zoo, having maximum parasitic load, were selected for the present study. Fenbendazole (Panacur® from Intervet India Pvt. Ltd.), at the dose rate of 7.5mg/kg body weight was administered to deer in concentrate feed in powder form, orally once. For assessment of worm burden, the eggs per gram (EPG) of collected faeces were determined in each case before medication i.e. on the 0 day and subsequently on the 3rd, 7th, 11th, and 14th day post-treatment by using *Stoll's* egg counting techniques (Soulsby, 1982). The percentage EPG reduction was calculated by using formula as described by Akhtar *et al.* (1985).

Table : Mean \pm SE EPG Counts and Percentage Reduction of EPG Counts After Treatment in Indian Deer (*Axis axis*).

Observation Schedule	Faecal EPG Count	Post-treatment Faecal EPG Reduction (%)
0 Day (Pre-treatment)	950.00 \pm 70.17	-
3rd Day	316.00 \pm 54.26	86.39 \pm 4.60
7th Day	0.00 \pm 0.00	100.00 \pm 0.00
11th Day	0.00 \pm 0.00	100.00 \pm 0.00
14th Day	0.00 \pm 0.00	100.00 \pm 0.00

Results and Discussion:

The helminthic species recovered from naturally parasitized deer were *Stongyloides* sp., *Strongyle* sp. and *Trichuris* sp. Average EPG values and per cent reduction in EPG post-treatment at different period of interval is projected in the Table.

It is apparent from the table that pre-treatment EPG count was 950 ± 70.17 which was declined to 316 ± 54.26 on the 3rd day and was 0.00 on the day 7th and persistently remained same on the 11th, 14th day post-treatment. There was significant difference in the pre-treatment and post-treatment EPG values of 0 and 3rd day ($P < 0.01$) with resultant comparatively higher per centages EPG reduction of 86.39 ± 4.6 on the 3rd day and 100% on the 7th, 11th, 14th day. The faecal samples of animals were again screened on the 30th, 45th and 60th day post-treatment and were found negative for any helminthic infection. The faecal samples of these animals did not reveal any parasitic ova.

When animals were treated with **Panacur**[®] (Fenbendazole), significant difference was recorded in EPG count value between 0 day and 3rd day. On the 7th, 11th and 14th day post-treatment, animals were found 100% free from parasites.

Similar observations were also recorded by Shahardar *et al.* (1995) when fenbendazole was evaluated at the dose rate of 7.5 mg/kg body weight which revealed 100% efficacy against common gastro-intestinal nematodes of Kashmiri deer.

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"We think our fathers are fools, so wise we grow; our wiser sons will, no doubt, think about us so."

- Pope

"It is a wise father that knows his own child"

- William Shakespeare

*"All happy families resemble one another :
every unhappy family in its own way"*

- Tolstoy

"Clever men are good, but they are not the best"

- Carlyle

Case Report: Efficacy of Panacur® (Fenbendazole) Along with Diethyl Carbamizine Citrate in Case of Lumbar Paralysis in Goat

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Abstract:

The efficacy of **Panacur**® (From Intervet India Pvt. Ltd.) is synergistically increased when given along with Diethyl carbamizine citrate against immature nematode infestation, causing lumbar paralysis in goat.

Introduction:

Goat keeping is a valuable resource in India and contributes significantly to total income of a farmer. Lumbar paralysis in goat is a very common disease in Uttar Pradesh, resulting in great economic loss to the poor farmers.

History and Clinical Examination:

The incidence of lumbar paralysis in goats is high in winter season especially, in local breeds in the month of November and December. The incidence is higher in female than male. The disease is chiefly caused by filarid worms of the genus *Setaria*, commonly found in the peritoneal cavity of most domestic animals. One of them is *Setaria digitata*, which causes cerebro-spinal nematodiasis in cattle. It can infest abnormal hosts especially, horse, sheep, goat and even man in which it migrates in an abnormal manner, causing epizootic cerebro-spinal nematodiasis, commonly known as lumbar paralysis. At the veterinary hospital, Bhadohi, eleven such cases were brought for treatment during November and December 2001.

Treatment:

Two treatment schedules were followed to the

affected goats, reported at the hospital from time to time. Group I was consisted of six animal and group II was having five animals.

Group I:

Treatment was given to each animal as follows: **Panacur**® 150mg tablet (from Intervet India Pvt. Ltd.) four tablets once, Diethyl carbamizine citrate at the dose rate of 50 mg per kg body weight once and Vitamin B1, B6 and B12 injection intra-muscularly (5ml) for two days.

Group II:

Animals were treated with Diethyl carbamizine citrate at the dose rate 50 mg per kg body weight and Vitamin B1, B6, B12 injection intra-muscularly (5ml) for two days.

Result and Discussion:

Treatment given to group I (**Panacur**® along with Diethyl carbamizine citrate to all six goats) responded very fast and became normal within two days. Whereas, treatment given to group II consisted of five goats, with only Diethyl carbamizine citrate, recovery was very poor and it took a week long treatment of further vitamin therapy along with other supportive medicines.

Acknowledgment:

Author is highly thankful to Pradeep Goenka (Sr. Sales Executive, Intervet India Pvt. Ltd., H.Q. at Varanasi) for providing samples for conducting this trial.

"Leadership - is acting when you see the need without waiting for one someone else to suggest it"

- Martin Rhodes

Case Report: Efficacy of Taktic® 12.5% (Amitraz) Against Dog Flea Infestation

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Abstract :

A Doberman dog infested with fleas, treated with Amitraz (Taktic® 12.5% from Intervet India Pvt. Ltd.) at the dose rate of 5ml per litre of water. The dog was found completely cured. After two weeks skin condition was improved.

Case History :

A Doberman dog was brought to the clinic with a complaint of ectoparasitic infestation. The owner said that there were small insects moving from one side to another on the skin of the dog. It was further informed that the dog was suffering for the last fortnight and it was not taking feed and condition was slowly going down.

On examination, the skin was found to be shabby, having small patches of congestion over it. Fleas were moving over the body. Temperature, pulse rate and respiration rates were found to be normal. Blood picture was also normal with slight elevation of Eosinophils (6%). The skin lesions were examined grossly and there were no flakes over it. The skin scrappings were taken (Satish Kumar *et al.*, 2000) and treated with 10% KOH and examined under microscope. It revealed small insects having head, thorax and abdomen with three pairs of legs. The head had two large compound eyes and piercing mouth parts. No fungal infection could be identified.

Chandrapuria *et al.* (2000) reported efficacy of

Taktic® 5% (Amitraz from Intervet India Pvt. Ltd.), used at the rate of 10 ml per litre of water against domestic mange and non-specific dermatitis in different species of dogs.

In the present study, the dog was treated with Taktic® 12.5% (Amitraz from Intervet India Pvt. Ltd.) solution at the dose rate of 5ml per litre of water. The dog was brought back after a week. After two weeks of treatment, the dog was found completely cured and skin condition was also improved.

Meanwhile, the attendant and the owner got infested with the same ectoparasites. Small patches of congestion were found on the skin. At some places, small nodular elevations were observed on the congested sites, when pressed, the insects came out from them. They were collected and mounted on a slide and examined under the microscope. It revealed same type of insects. These slides were sent to Zoological Survey of India, Kolkata for identification.

Acknowledgement:

The author is thankful to the Director of Animal Husbandry, Government of Andhra Pradesh, Hyderabad for providing facilities.

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Case Report: Palatoschisis in a Cow-calf

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Abstract:

Palatoschisis (cleft palate) is seen more often in piglets and rarely in calves. Since it is mal development of hereditary origin, the incidence may vary in different species and localities (Oehme, 1982). The present communication deals with a case of palatoschisis in a non-descript cow-calf.

History and Clinical Examination:

A newborn cow-calf was brought to the clinics with the history of returning of milk through nostrils and difficulty in sucking. The mouth of animal was opened for examination of oral cavity. It was observed that there was a large fissure in the soft palate (Fig.). The fissure was connecting oral and nasal cavity. There was evidence of soiling of nostrils with milk. The physiological parameters like heart rate, respi-

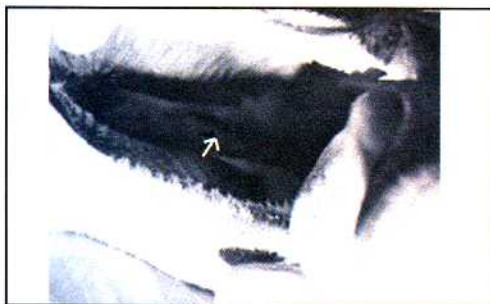


Fig. Arrow Showing Cleft in the Soft Palate

ration and rectal temperature were in the normal range. The surgical treatment was advised but the owner was not convinced. The calf remained alive for two days and died on the 3rd day due to aspiration of milk in lungs.

Discussion:

Although palatoschisis (cleft palate) is usually associated with digestive system, it also involves respiratory system and thus, respiratory infections ensue. In the present case, cleft was there by birth. Roberts (1970) mentioned that the cleft palate might be due to mal development of hereditary origin. The signs shown by the animal were due to fissure in soft palate connecting the oral and nasal cavity. Similar signs were reported by Oehme (1982). Further, O'Connor (1980) reported that if the affected animal is not treated then gradually succumbed to death.

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*" It is easy to utter " Do, Re, Mi, Fa, So, La, Si, Do"
by mouth, but not so easy to play them
on an instrument, so it is easy to talk religion
but difficult to practice it "*

- Sri Rana Krishna Paramahansa

Case Report: Pharyngeal Obstruction in a Buffalo-calf

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Abstract:

Obstruction of foreign bodies in the pharynx is a rare condition in bovines, particularly in calves. Many times the obstruction of pharynx result in pharyngitis. The present paper deals with a case of pharyngeal obstruction and its successful treatment in a buffalo-calf.

Case Report:

One month old buffalo-calf was presented to veterinary polyclinic, Udgir with the history of inability to suckle milk and drink water. Profuse salivation, difficulty in respiration and restlessness, since morning was also noticed.

Clinical examination revealed heart rate (84 / minute), respirations (36 per minute) and rectal temperature (100.8°F) in normal range. There was open mouth breathing, head of animal was extended. Dryness of oral mucosa and tongue were observed. The animal was unable to close the mouth and there was visible and palpable swelling in the pharyngeal region.

The oral cavity of animal was opened and on thorough examination, foreign body was found embedded in the pharynx.

In order to remove the foreign body, the animal was sedated with diazepam at the dose rate of 0.5 mg / kg body weight. After sufficient sedation, the oral cavity of the animal was opened and tongue was held at one side. Then foreign body removing forcep was passed through the oral cavity and the foreign body was removed completely (Fig.). It was a cotton socks, which was heavily packed into the pharynx. After removing the foreign body, the

signs of restlessness and open mouth breathing disappeared and animal took one litre of water without any further problem. Animal was given oxytetracycline 3 ml and **Novalgin**[®] (from Intervet India Pvt. Ltd.) 2 ml intra-muscularly for 3 days. Animal recovered uneventfully and suckled its mother normally. Similar treatment was also advised by Bhikane & Kawitkar (2000).



Fig. Showing Removal of the Foreign Body

In bovines, rough & dry feed, grass, feed stuffs and foreign bodies may lodge in pharynx during their ingestion (Chakrabarti, 1994). But in the present case, obstruction was due to cotton socks ingested by a buffalo-calf aging, one month which was totally fed on mother's milk.

Tyagi & Singh (1993) had also reported similar signs in ruminants as observed in this case of pharyngeal obstruction by a foreign body.

The animal was sedated with diazepam to reduce struggling and for easy handling and restraint. After removal of foreign body animal got immediate relief. Treatment with oxytetracycline helped to combat the bacterial infection and administration of **Novalgin**[®] reduced the pain and inflammation at the site of obstruction. Similar treatment had been advised by Bhikane

& kawitkar (2000) in pharyngeal obstruction.

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Atresia ani - Surgical Correction in Different Animals

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Abstract:

Atresia ani is a congenital abnormality having absence of or agenesis of anal opening. In the present study, 11 such cases of different species are reported. Dilatation of anal opening under caudal epidural anaesthesia in these animals led to resolution of the clinical problem. Out of eleven cases reported, one animal (female kid) died before surgical correction could be attempted, others were healed uneventfully with good continuance during defecation.

Introduction:

The condition *Atresia ani* is known as absence of or agenesis of anal opening. It is a congenital defect of the lower intestinal tract. Among all the congenital defects, it is the most common one found in this region. This condition is reported to be most frequently encountered in calves and pig as a hereditary defect (Jubb *et al.*, 1985). Most commonly *Atresia ani* consists only of failure of perforation of the membrane separating the hindgut of endodermal origin from anus of ectodermal origin. Alternatively, agenesis of rectum and anus, both may co-exist.

Atresia ani may be an isolated abnormality or it may be associated with other malformations especially, of the distal vertebral column and the genito-urinary tract. In the latter case, the terminal portion of the intestine may empty into the vagina or urinary bladder.

Siyam *et al.* (1999) reported *Atresia ani* with congenital anomalies of scrotum, penis and prepuce in a calf. Generally, livestock owners are not aware about this condition and the defect is usually diagnosed 3-4 days post-

naturally when the calf stops suckling and becomes dull. Attention is paid when a discrete swelling or bulge appears at the place of anal opening while straining during a futile attempt to defecate.

Materials and Methods:

Eleven cases with clinical signs of absence of anal opening were reported to the department of Surgery & Radiology, College of Veterinary Sciences & AH, Mathura, UP, during January, 2000 to January 2001, constituted the study material. The pertinent details of the cases were shown in the Table I

Surgical correction was done under caudal epidural anaesthesia, induced by epidural deposition of 2.0 ml of lignocaine hydrochloride via the sacro-coccygeal space. Ischio-rectal fossa, caudal thighs and perineum were prepared for aseptic surgical procedure.

A cruciate incision was made below the tail at a place where the bulge was most prominent. Cutaneous incisions were undermined and the caudal end of the blind rectal pouch was identified. Blunt dissection in the retroperitoneal region was done to free the pouch, which was then grasped and pulled by the tissue forceps. After maximally exteriorizing the pouch, a small nick incision was made and an elliptical piece of rectal wall was removed to make an opening, which led to voiding of muconium. Enema and rectal lavaging was performed to maximally clean the interior of rectum using an antiseptic lavage solution. Muco-cutaneous apposition was done in such a manner that the rectal mucosa remained slightly everted over the skin on the finished suture line. Placing horizontal

Table I: Showing Different Kinds of Animals Reporting *Atresia ani* Cases

Kind of Animals	Number of Animals	Remarks
Cow-calf(male)	4	Age: 1-5 days
Cow-calf(female)	3	Age: 1, 5 and 7 days; two with RVF
Buffalo-calf(male)	1	Age: 1 day
Buffalo-calf(female)	1	Age: 3 days
Kid(male)	1	Age: 1 day; with partial <i>Atresia recti</i>
Kid(female)	1	Age: 1 day
Total	11	

RVF : Recto Vaginal Fistula

on the finished suture line. It was done by placing horizontal mattress sutures using nylon as suture material.

The operative procedure remained largely identical for all the animals, except in female cow calves, where the condition was complicated with a co-existing recto-vaginal fistula (RVF). The fistulous opening (large enough to permit the tip of little finger in one case and permitting the mosquito haemostat tip in other) located at

distance of approximately 1 and 3 cm cranial to the dorsal commissure of vulva. Its closure was done after making the opening in the rectum and removal of muconium. The edges of the fistula were made fresh by incising a circular piece of tissue in its full thickness. The vaginal mucosa and rectal mucosa were apposed separately using synthetic absorbable suture material.

Results and Discussion :

Out of the 11 cases under report, one animal (female kid) died before surgical correction could

Table II: Showing Clinical Results of 11 *Atresia ani* Cases

Kind of Animals	Number of Animals	Remarks
Cow-calf(male)	4	Event-less healing in 3, anal stricture in 1
Cow-calf(female)	3	Event-less healing in all animals
Buffalo-calf(male)	1	Event-less healing
Buffalo-calf(female)	1	Event-less healing
Kid(male)	1	Anal stricture developed
Kid(female)	1	Died before correction could be attempted
Total	11	

be attempted. One case of male cow-calf and one male kid developed anal stricture. Dilatation of anal opening under caudal epidural anaesthesia in these animals led to resolution of the clinical problem. Other cases healed uneventfully with good continuance during defecation.

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Case Report: A Rare Incidence of Abomasal Phytobezoars in Sheep

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Abstract:

Phytobezoars are food-balls that arise from the plant fibers and awns, which are impregnated with triple phosphate and rolled into balls as reported by Sastry (1983). Reports on phytobezoars in small ruminants are very scanty. Hence, this report is presented.

Case History:

The ewe was brought back from grazing area of livestock research station in the afternoon with a complaint of off feed. On clinical examination of the ewe, temperature and pulse was within normal range but slight increase in respiratory rate was noticed. Dilatation of left flank (Fig.1), bloat was observed. Dung was hard in consistency.



Fig.1. Dilatation of Left Flank

Results and Discussion:

The animal was treated for bloat condition with bloatosil at the dose rate of 30ml orally. Next day, the animal was restless and struggled to death. A post-mortem was conducted to find out the possible cause of death. On post-mortem examination, congestion of lung, liver and pericardium was observed. Accumulation of fodder resulting in ruminal stasis and distension of abomasum was noticed. Opening

of abomasum revealed a total of seven ball-like structures obstructing pylorus. The balls were brown in color, light in weight, round to oval in shape having a velvety surface and thus, confirmed as phytobezoars (Fig.2). These features are in agreement with findings of Bath & Bergh (1979) who reported abomasal phytobezoars in sheep of South Africa. The average diameter of the balls was 1.8 cm and weighed on an average 1.5 g. The undigested plant fibres of fodder may be rolled during ruminal contractions into balls called phytobezoars and such animals consumed little concentrate fed in comparison to other sheep in the flock. This is in agreement with Runnels *et al.* (1976) and Osborne (1976) who reported trichobezoars.



Fig.2. Round Oval Velvety Surfaced Phytobezoars

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Case Report: Tenorrhaphy in a Bullock

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Abstract:

Due to laborious work with harrow blade, there is a recurrent accident to bullocks in the field. A case of an accident was reported where the flexor tendons of bullock was cut off. Their surgical repair and regain of capacity is reported.

History and Clinical Findings:

A bullock of about six years of age got cut wound with a sharp blade of harrow. The wound was sutured so as to have skin to skin closing and applied bandage with aseptic precautions as reported by the owner.

After 15 days of the initial surgical correction, the owner approached the veterinary dispensary where it was found that there was sepsis with the upward movement of the hoof and fetlock which was touching the surface of the land. Similar observations were reported by Prem Singh *et al.* (1989) and Simrat & Bansal (1996). After the observation of movement of fetlock there was no confusion that the flexor tendons found cut. To regain the capacity of bullock, it was necessary to perform the tenorrhaphy.

Operation Technique:

The sedation was induced with Xylazine hydrochloride at the dose rate of 0.75 ml per 100 kg body weight. In lateral recumbency the operation was performed. As it was right hind leg, this was kept above. The wound was opened up and washed with normal saline solution. Broad incision was made with the

blade with all aseptic precautions to locate both the end of flexor tendons. The wound was washed with DNS solution. By the movements of hoof, the tendons brought closer and sutured with No.1 synthetic absorbable surgical suture. Both the tendons i.e., superficial and deep flexor tendons were sutured separately. The wound was closed with all aseptic precautions with nylon thread. Before closing the wound, antibiotic powder sprinkled. Post-operatively the animal owner was advised for injection of amoxicillin and cloxacillin at the dose rate of 3 g twice daily i.m. for 7 days. To minimize the cost of post-operative treatment, analgesic drug (twice daily) was used for three days. Nylon suture was removed after 14 days of operation, mean-while dressing the wound performed with betadine ointment regularly.



Fig. showing Normal Hind Leg
After the Tenorrhaphy

After a month, the wound got healed up and normal movement of the bullock got restored (Fig.). Bullock was found with corrected wound

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and its capacity of fetlock with normal movement. Prem Singh *et al.* (1989) also reported similar case of bullock which recovered within a month. The bullock was advised to be walked for 2 - 3 months. In the next season the bullock was performing usual routine work of the farm.

Discussion:


Superficial and deep flexor tendons of the bullock cut off in an accident, could not flex the hoof. On reunion, the normal strength of the tendons could be regained and the bullock got restored its ability to perform the normal work.

It also indicated that there might have been an adhesion of tendons, without which the bullock could not be in a position to perform normal work. Similar observations were reported by Saikia & Nigam (1980).

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Case Report: Uterine Torsion in Holstein x Deoni Cross-bred Cow

B. K. Pugashetti, M. C. Shivakumar, V.S Kulkarni and K. R. Laxmaiah

Main Research Station, Dairy Unit, University of Agricultural Science, Dharwad – 580 005

Abstract:

Torsion of uterus may occur in cows of closed herd without the history of falling or fighting and no practice of grazing. Modified Schaffer's method gave a satisfactory result in correction of torsion case.

Introduction:

Among dystocia, uterine torsion is one of the most common causes. Roberts (1971) defined uterine torsion as the twisting of gravid uterus on its long axis. Shivaprasad *et al.* (2000) reported 56.88 % uterine torsions were the common causes for dystocia. Heavy economical loss could be observed due to uterine torsion resulting in death of calf or dam or some times both (Sharma *et al.*, 1995).

Case History:

Main Research Station, Dairy Unit, University of Agricultural Sciences, Dharwad has a herd strength of 220 animals, consisting of Holstein X Deoni, Jersey & Surti buffaloes. Cows are stall fed and they are not let loose except for light exercise for one hour in the open paddock and for drinking water.

Holstein x Deoni cross bred cow (Brand No. 244), aged 6 years 11 months in third parity with left horn pregnancy was due for calving in January (AI was done in April previous year). On the due day, it was noticed that the cow was straining with lifted tail, restlessness, arched back and frequent defecation with slight vaginal discharge. Similar signs were observed during torsion by Kolla *et al.* (1999) in buffaloes. Calvings of this cow were normal in earlier

parturitions. Animal had no history of falling or fighting with other animals. Parturition signs were not observed even after waiting for two hours for normal delivery. Then it was doubted for some complication in the birth canal. Cervix could not be located and no foetal parts were felt per rectal examination ; only tensed broad ligament was felt and suspected for torsion. The torsion was towards the left side. To confirm further per vaginal examination was done. There was no entry into the cervix. A rotation of 180° towards left was noticed. The tension of right side broad ligament was towards left. Only little space was felt while examination of the cervix. It was diagnosed as post-cervical torsion.

Treatment :

Calcium magnesium 540 ml i.v. injection was given for cervical relaxation. And left for one and half hour for normal parturition to occur. No improvement was observed and signs were still persisting. Per vaginal examination did not reveal much relaxation. To relieve the torsion a modified Schaffer's method was followed i.e., rolling of dam on its back (Shivaprasad *et al.*, 2000). Animal was made to roll from right to left side for 5 complete rotation to relieve the torsion. Per vaginal examination revealed opening of cervix. A period of one hour was given for normal parturition, since head of the foetus was at pelvic-brim with normal presentation. Even then water bag did not appear. Only weak abdominal contractions were seen. There was not much space to manipulate. Traction was applied on both limbs and foetus was delivered with great difficulty. Live healthy male calf was born and soon after the (calving) traction, a big ball of blood clot discharged from the vagina.

This might have been due to handling and manipulation during traction. Animal was treated with Carbozochrome salicylate (5ml) , Ampicillin + Cloxacillin combination (4g) , Pheniramine maleate (20 ml) and Analgin (10g) through intra - muscular route.

Cow started eating balanced ration and silage. Calf was weaned and milk drenched slowly. During night hours placenta was expelled. Animal recovered uneventfully inspite of damage to the vaginal wall during traction.

Discussion:

Shivprasad *et al.* (2000) has reported 70 % recovery by rolling of dam during uterine torsion in buffaloes. Kolla *et al.*(1999) observed 180 –

270° uterine torsion in 64.6 % and 58.3 % buffaloes in third and above calving respectively.

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Case Report : Oesophageal Atresia in Deshi-calf and its Surgical Management in Field Condition

C.Ch. Sethi *and P.C. Mishra

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Abstract:

Different types of oesophageal affections are very often encountered. But the stenosis or atresia of oesophagus especially, at pharyngeal end is of rare occurrence. Therefore, a case of oesophageal atresia in male indigenous calf and its surgical correction by cervical oesophagotomy approach is presented below.

Case History and Preparation:

An eight day old male deshi- calf with the problem of regurgitation on suckling but without any aspiration was attended at the door of the owner. After physical examination it was noticed that the oesophageal opening at pharyngeal end was absent. No abnormality other than this congenital defect was seen in oral cavity and surgical intervention was decided for establishment of oesophageal opening. One litre of DNS 5% with 4 mg of betamethasone was administered intra-venously a day before operation.

To perform this critical operation in field condition, two instruments were designed. One was wooden mouth gag of one inch thick, two inch width and eight inch long with a hole at center and the other was a twelve inch long nickel coated aluminum tube of quarter inch diameter made into 'L' shape at the middle with a sharpened end.

Treatment:

The animal was administered 0.65 mg of atropine sulphate intra-muscularly, followed by 15mg triflupromazine hydrochloride along with 150 mg

of adenochrome monosemicarbazone intra-venously. The operation was taken up with slow intra-venous infusion of 5% DNS and 8 mg of betamethasone. The animal was placed in right lateral recumbency with its head kept down ward. The wooden mouth gag was put in between two jaws and it was anchored behind the poll. The left side cervical area was prepared for surgery under local infiltration anaesthesia. Oesophagotomy was performed by following standard procedure and tissue forceps anchored both longitudinal edges. The inner side of the atretic aperture was painted with xylocaine ointment. The specially made sterilized 'L' shaped instruments with the sharpened end was gently introduced into the lumen of oesophagus anteriorly and pushed sufficiently to reach the targeted site. A wooden rod of slightly larger circumference than that of 'L' shaped tube with xylocaine ointment painted on its top was also introduced from oral cavity through the hole of the mouth gag and brought in opposition with the blind oesophageal end. A circular opening at the blind end was made by gently rotating the tube against the rod with slight pressure.

The aperture site was painted with tincture ferrichloride to avoid possible bleeding. A nasal feeding tube was introduced through the nostril into oesophagus and placed unanchored beyond the incision site at the oesophagus. The external end of the tube was anchored with skin over nasal bone. The surgical site was closed following standard method.

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Injection of ampicillin and cloxacillin, 500 mg twice daily intra-muscularly and diclofenac sodium 2 ml once daily for three days was continued with intra-venous administration along with 1 litre of DNS 5% and 2 ml of polybion for two consecutive days. The owner was advised to feed the calf 500 ml of milk four times daily through the nasal tube and keep the calf isolated from its mother for a week. The calf was reported dead on the 4th day post-operation, probably due to aspiration pneumonia as it was later revealed that the calf had been allowed to suckle from its mother and the cow might have removed the tube by licking.

Results and Discussions :

Oesophageal defects like complete absence, mucosal defects or diverticuli are fairly common due to incomplete fusion of outpouching of pharyngeal portion growing in posterior in direction and that of midgut in anterior direction (Runnells *et al.*, 1965).

According to Mc Ewen (1957) during development stage, a portion of fore-gut between future glottis and the opening of bile-duct elongates and anterior part becomes oesophagus. The aperture between oesophagus and pharynx remains closed for a brief time the mouth opens. In the present case,

no apparent abnormality could be observed in rest of the part of oesophagus. The cause of atresia at the pharyngeal end may be attributed to failure of the aperture to open during differentiation phase as opined by Mc Ewen (1957). Analyzing the cause of the death, it is well presumed that inability on the part of the calf to engulf milk comfortably due to inflammation and pain still persisting at oesophageal opening site, might have resulted in aspiration into the lungs leading to death. The symptom presented by the calf, as described by the owner, immediately before death, did strengthen the possible cause of death by aspiration pneumonia.

Acknowledgement :

The authors are obliged to the Chief District Veterinary Officer, Ganjam, Berhampur for his guidance in preparation of this manuscript.

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Case Report: Incidence of Trypanosomiasis in a Dairy Farm

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Abstract:

Trypanosomiasis is one of the most important haemo-protozoan diseases of the domestic animals in tropical and sub-tropical regions, causing great economic losses due to reduction in productivity and mortality. In India, *Trypanosoma evansi* is found in domestic animals. A case of trypanosomiasis in crossbred cattle of a private dairy farm in Trichur district of Kerala, is presented and discussed.

Case History and Observation:

The owner of the dairy farm reported that eight crossbred cows in lactation, were showing drastic reduction in feed intake and milk production for last two months. Milk yield was reduced to 20% following illness. Initially, some of the animals started showing intermittent pyrexia, anorexia, weakness, reduction in milk yield and emaciation. Two pregnant animals aborted during this period. The animals were previously treated with different antibiotics, fluids and supportive therapy for last two months, but there was no response. Detailed examination of animals revealed, severe anaemia. Peripheral blood smears and whole blood were collected from these animals and examined. Microscopic examination of blood smears, stained with Giemsa revealed presence of *Trypanosoma evansi* in two animals. Blood smears from all others were negative for blood parasites and micro-organisms. Haematological examination revealed low levels of haemoglobin, packed cell volume, erythrocyte count and thrombocyte count in all affected animals. The animals were treated with a single dose of **Berenil**[®] from Intervet India Pvt. Ltd., at the dose rate of 7.5mg per kg body weight by deep

intra-muscular route. There was noticeable improvement in the condition of the animals from the second day of treatment. Peripheral smears of the two positive animals were negative for *Trypanosoma evansi* on the 7th day post-treatment.

Discussion:

Trypanosomiasis is generally latent or sub-clinical in cattle and epizootics occur due to stress from adverse climatic condition, work or the presence of intercurrent diseases (Mohan, 1968). There were no pathognomonic signs of trypanosomiasis in domestic animals, but clinical evidence of anaemia was reported (Hornby, 1931), as found in this study. Diminazine aceturate (**Berenil**[®]) is used widely as a curative drug at the dose rate of 3.5-7 mg per kg body weight and is one of the recommended drugs for bovine trypanosomiasis (Radostits *et al.*,2000). The present case under discussion was also treated with same dose rate with success. Diagnosis of trypanosomiasis by examination of peripheral blood is satisfactory in animals with acute infection, but inconsistent in chronic or latent disease, when parasitaemia may be very low in the peripheral circulation and detects only 50% of infected animals by blood smear examination (Godfrey & Killick-Keendrick,1962).This explains the negative result in some of the affected animals in this study.

Increasing reports of occurrence of animal trypanosomiasis in Kerala stresses the need for control of the disease by detection and treatment of infected animals, and also option for chemo-prophylactic measures in

susceptible animals and their prevention of exposure to biting flies.

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Case Report: Successful Management of Canine Babesiosis with Berenil® Vet 7% RTU

Rakesh Ranjan and Ram Naresh

Division of Medicine, Indian Veterinary Research Institute (IVRI), Izatnagar-243 122, UP

Abstract:

The present study reports a successful management of canine babesiosis with **Berenil®** Vet 7% RTU (from Intervet India Pvt. Ltd.) along with supportive treatment. Favourable response was observed on the 3rd day post-treatment and the dog was clinically cured on the 7th day.

Introduction:

Canine babesiosis is an important tick-borne haemo-protozoan disease occurring throughout the world, particularly in tropical, sub-tropical and temperate zones (Soulsby, 1982). Several clinical cases of canine babesiosis have been reported from different parts of India (Bansal & Gautam, 1981; Kalra & Singh, 1984 and Mitra *et al.*, 1987). The present communication deals with successful management of a clinical case of canine babesiosis.

Case History:

A three-year old, male German Shepherd dog was presented to the referral veterinary poly-clinic of the institute (OPD No. 2864/Dated, 18.04.2002) with a week old history of depression, lethargy, pyrexia and anorexia. At the onset of illness, the dog was treated with injection of Enrofloxacin at the dose rate of 100 mg i.m. once a day for four days, Vitamin B complex syrup (two teaspoonful twice daily for seven days) and injection of Betamethasone (1 ml i.m. once a day for four days) without any improvement.

The owner noticed gradual development of swelling of various body parts. Urination and defecation was apparently normal.

Clinical and Laboratory Examination:

Clinical examination revealed fever (Temperature 104°F). There was congestion and petechiation of mucous membrane, and presence of ticks in hair coat. Animal was reluctant to move and nasal cavity was stained with bloody discharges. Palpation revealed slight enlargement of liver. However, there was no evidence of icterus. Examination of Giemsa stained blood smear revealed intra-erythrocytic piroplasms of *Babesia gibsoni*. Platelet count was less than 20,000/ μ l and haemoglobin was 9%.

Treatment:

The dog was treated with Diminazene aceturate (**Berenil®** Vet 7% RTU from Intervet India Pvt. Ltd.) at the dose rate of 1 ml intra-muscularly Liv 52 drops (10 drops *per os* twice daily for seven days) and Frusemide (Injection Lasix, 1 ml i.m., once a day for three days). Pheniramine maleate (**Avil®** Vet from Intervet India Pvt. Ltd.) was also given 1ml intra-muscularly, 15 minutes before administration of **Berenil®** Vet 7% RTU. Favourable response was observed after three days and the dog was clinically cured by the 7th day. Blood smear was again examined, one month after recovery and no piroplasm was detected.

Discussion:

The clinical symptoms and laboratory findings in this case were similar to those reported by Mitra *et al.* (1987) and Verma *et al.* (1989). Haemo-globinurea and icterus was not evident at any stage of the disease. Haemo-globinurea and icterus is rarely observed in *B. gibsoni*

infection (Jain, 1986). Oedematous swelling, suggestive of liver or kidney damage in *B. gibsoni* infection was also observed by Farwell *et al.* (1982). Petechiae of mucous membrane and epistaxis can be correlated with thrombocytopenia.

Diminazene aceturate, Phenamidine isothionate and Imidocarb dipropionate are effective therapeutic agents for canine babesiasis (Greene, 1984). Trypan blue has also been tried with good response (Verma *et al.*, 1989). Diminazene aceturate has been used successfully in clinical cases of canine babesiasis by several workers (Mitra *et al.*, 1987 and Abdullahi *et al.*, 1990). Farwell *et al.* (1982) reported that clinical relapses are common in *Babesia gibsoni* infected dog after treatment with Diminazene aceturate. No such relapse was, however, observed in the present case, even after one month.

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*"Starting out to make money is the greatest mistake in life.
Do what you feel or have a flair for doing, and if you are good
enough at it money will come "*

- Sir William Rooter

*" Pray to Him in any way you will. He is sure to hear you, for He hears
even the foot fall of an ant"*

- Sri Ramakrishna Paramhansa

*" Do not complain that the rose bush has thorns. Rejoice that the thorn
bush bears roses "*

- Arabian Proverb

Case Report: Subtotal Penectomy in a Dog

N.K.Singh, Raghvendra Singh, K.K.Mishra, Bharat Singh and R.P. Pandey

Department of Surgery & Radiology, College of Veterinary Science & A.H., Uttar Pradesh Pandit Deen Dayal Upadhyay Pashu-chikitsa Vigyan Vishwavidyalaya, Evam Gau-anusandhan, Mathura – 281001,UP

Abstract:

A case of urethral obstruction in a dog leading to paraphimosis and necrosis of the penis requiring subtotal penectomy is described and discussed.

Introduction:

Urinary obstructive urolithiasis is common in male dog. It occurs mostly due to cystitis and urethral calculi (Stone & Barsanti, 1992). The incidence of obstructive urolithiasis is much more in male dogs due to greater length and narrow diameter of urethra and presence of os-penis. Obstructive urolithiasis is the most common cause of urethral obstruction in dogs (Weaver, 1970, Brown *et al.*, 1997 and Ling & Ruby, 1986).

Commonest site of obstruction was found to be posterior to os-penis (Archibald & Omen, 1974, Murthy *et al.*, 1997 and Thilagar *et al.*, 1996). This paper reports the successful surgical management of urethral calculi in a male dog.

Case History:

A Doberman male, dog (Case No. 208) aged 3 years, weighing 20 kg, was presented to the Department of Surgery & Radiology with history of urinary inconsistency last one month. The dog did not pass any urine for last two days hence, was brought for treatment. Animal was also dull and off feed. During clinical examination, apart from palpation, urethral catheterization was also performed to ascertain the location of urethral obstruction. Abdomen was fully distended and protrusion of necrosed cold penis from prepuce was noticed.

Surgical Treatment:

After routine pre-operative and anaesthetic considerations, the animal was anaesthetized with the injection of atropine sulphate (0.02 mg/kg) and xylazine hydrochloride (0.05 mg/kg) intra-muscularly. Diazepam (1mg/kg) and ketamine hydrochloride (5 mg/kg) were administered intra-venously, both given after an interval of ten minutes. The animal was placed in dorsal recumbency. Hydro-repulsion of urethral calculi was tried without any success. Hence, prescrotal urethrotomy, just caudal to os-penis at the site of obstruction was performed and about 20 stones of 1-2 mm of diameter were removed and catheter was passed into the urinary bladder. Urethrotomy site was left open. Longitudinal incision about 1.5 cm long was given over the penile urethra.

Partial penectomy was performed at the junction of necrosed and healthy penile tissue by circular incision and os-penis was cut by bone cutter. The loose tissue and urethra were fixed with penile stump in a triangular fashion with 3-0 chromic cat gut with simple interrupted sutures. Catheter was retained inside the urethra and anchored with prepuce.

The post-operative treatment comprised of daily antiseptic dressing of urethrotomy wound and administration of disquin 250 mg tablet twice daily, Lasix 100 mg one tablet daily for seven days and Nise 100 mg tablet once a day for three days. The animal owner was advised to give water *ad lib.* and free movement of the dog for urination. Urethral catheter was kept in position for one week post-operatively. Sutures of the penile stump were removed after 10 days.

Result and Discussion :

In routine clinical cases of urolithiasis, one or two calculi are generally found lodged just behind the os-penis. In this case, urinary calculi were lodged in large numbers. Saini *et al.* (2000) also reported successful surgical management of multiple urethral and urinary bladder calculi in two male dogs. The necrosed and paraphimotic penis prompted partial penectomy in the present case. Penile amputation, preputial ablation was described for a similar case (Hardie, 1984). The cause of the para-phimosis and necrosis of the penis can be attributed to the impacted urethra with uroliths and repeated attempt to urinate and extrude the penis with compromise circulation due to presence of the uroliths. Severe damage to the penis and damage to penile urethra requiring amputation has been reported with para-phimosis (Stone, 1990). The present case got cured without any complication with the above line of treatment adopted.

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*"If you have faith in the three hundred and thirty millions
of your mythological Gods, and is all Gods
which foreigners have introduced into your midst
and still have no faith in yourselves,
there is no salvation for you.*

Have faith in yourselves and stand up for that faith "

- Swami Vivekananda

Case Report: Rabid Bull-calf in a Closed Herd

M.C.Shivakumar, B.K.Pugashetti, V.S. Kulkarni, K.R.Laxmaiah and Anil Kumar Mugati

Main Research Station, Dairy Unit, University of Agricultural Sciences, Dharwad - 580005

Abstract:

Rabies case was seen in a closed herd and affected animal died within 3 days even though no rabid dog was seen except, more stray dogs in the surrounding area.

Introduction:

Rabies is a fatal disease, which affects all warm – blooded animals. The disease is manifested by motor irritation with clinical signs of mania and an attack complex followed by ascending paralysis (Blood & Radostits,1989).Disease may occur from an infected animal through bite, contamination of skin wound and even by ingestion of virus. Present case was reported in a closed herd without a case of rabies in other animals or a rabid dog or a carrier bat in the vicinity. However, many stray dogs do stay near the shed.

Case History:

University of Agricultural Sciences, Dharwad, Dairy Unit of Main Research Station is having a closed herd of HF x Deoni, Jersey cross breeds and pure Deoni cattle breed. Since its establishment, there was no report of rabies in this herd.



Fig. : Bull-calf Showing Rabies Symptoms

Male calf (No. M-490), aged 2 years, which was very healthy started rubbing its head to the manger. Wound was noticed and externally ointment was applied. Next day, it was observed that the right side eye lids were bulged and the entire hair loss was seen. This may be due to the rubbing of its poll and head to a hard object. On the third day, the bull-calf became very alert, restless and started attacking object and animal attendants. Peculiar bellowing and drooling of saliva was observed. Animal did not allow to touch and was charging human beings and not animals. The look of the animal was very anxious and alert with dilated red eyes (Fig.). The bull-calf did not accept water. Subsequently, the animal became recumbent and incoordination of limbs was observed. Hence, animal failed to get up indicating that paralysis was set in. During recumbency, paddling of limbs and lot of salivation was observed and finally animal died. Animal died within 3 days after onset of symptoms. The symptoms clearly suggested the rabies attack. It may be the paralytic form of rabies (Blood & Radostits, 1989).

Case was diagnosed as a case of rabies since the symptoms were pathognomonic. Differential diagnosis was ruled out since the clinical symptoms were suggestive of rabies. The post-mortem was not conducted and the animal carcass was burnt. Vicinity area of the animal was also burnt and washed with phenyle solution.

In the present report, the symptoms were similar as described by Blood & Radostits (1989). Similarly, Tanwar (1996) also reported that death occurred within 5 days after the onset in furious form of the rabies in buffaloes. Symptoms like

rubbing of poll region and changed behavior were also observed by Tanwar (1996) but no salivation was observed.

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News**Dr. Satish Kumar from IVRI, Awarded ASSAR Fellowship**

During *XVIII Annual Convention of Indian Society for Studies of Animal Reproduction (ISSAR)* held at Indian Veterinary Research Institute, Izatnagar, Dr. Satish Kumar was awarded the fellowship of the society – ASSAR in recognition of his valuable services to the society and meritorious contribution in the field of animal reproduction.

His work has been published as a monograph on the reproduction of rural bovines, which provides a highly required information on the basic problems and solutions to the bovine reproduction and the work is liked by all field veterinarians, researchers and animal husbandry workers.

**Dr. Satish Kumar****Dr. Kafil Hussain Received ISSAR Young Scientist Award**

Dr. Kafil Hussain has been awarded the prestigious young scientist award by ISSAR on 16th November 2002. The award was given to Dr. Hussain at *XVIII Annual Convention and National Symposium of Animal Reproduction*, held at IVRI (Izatnagar), by Dr. S.N. Maurya, President of the ISSAR, for his research work entitled, 'Prevalence of Mineral Deficiency in Buffalo of Some Areas of Bareilly'.

**Dr. Kafil Hussain****Dr. G.S. Bedi and Dr. M.P.S. Bedi Veterinary Experts from Jalandhar, Awarded for the Best – Field Clinicians Award.**

Two Jalandhar based veterinary experts, Dr. G.S. Bedi and his brother Dr. M.P.S. Bedi have been awarded gold medal for the best field clinicians award. The award was presented by the Indian Society of Veterinary Surgery in a function, held at Bombay Veterinary College, Mumbai. An official release of the society said that the Jalandhar based experts have been chosen for this award for their paper, entitled on 'Gastrotomy and Enterotomy in a Bitch - A Case of Repeated Choke-chain Swallowing Habit'.

**Dr. G. S. Bedi****Dr. M. P. S. Bedi**

News

"Remembering - Dr.S.C. Dutt - The Eminent Parasitologist in the Veterinary Field"

BIOGRAPHY - RELEASED

It is an immense pleasure to inform that the above book has been published by the Department of Parasitology, College of Veterinary Science & A H, JNKVV., Jabalpur. The book was released by the Vice-chancellor, Dr. A. Bhattacharya at the inaugural session of XIII *National Congress of Veterinary Parasitology* on 14th December 2002 at West Bengal University of Fishery Sciences, Belgachia, Kolkata.

The book was distributed free of cost to all the delegates and will be sent to the libraries of veterinary colleges as well as collaborators and some interested persons from abroad.

This is, perhaps, the first attempt to highlight the biography of a parasitologist. This publication, '**Remembering Dr. S.C. Dutt – The Parasitologist**' incited great interest among delegates who expressed the view that more such publications should come forward for the sake of history of parasitologists in India which would benefit our younger generation of parasitologists.

Dr. M.C. Agrawal
Professor & Head
Department of Parasitology
College of Veterinary Science & AH
Jabalpur, MP



Dr S.C. Dutt

Abstracts

Investigation on the Safety and Efficacy of Chloramine-T in the Treatment of External Fluke Infestations

Jill V. Spangenberg, DVM, Ph.D. (Pharmacology and Toxicology)
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Abstract:

Chloramine-T (n-chloro-para-toluene sulfonamide sodium salt) was investigated in the search for an effective and safe flukicide for goldfish and koi. Use of Chloramine-T for this purpose has been previously described, but details were not readily available. Fingerling koi maintained at U.C. Davis were exposed to concentrations of Chloramine-T between 5-20 mg/L (ppm) for four hour static bath treatment. These exposures were not associated with any mortality or histological evidence of toxic effect. Furthermore, successful treatments of infested koi, goldfish and tilapia were achieved with no mortality or untoward effects, following two four-hour bath exposures to 20 mg/L Chloramine-T. Treatments were administered every other day for a total of two times. Water hardness, pH and temperature need to be considered when calculating a dosage for Chloramine-T; hard water and high pH is associated with a wider margin of safety.

Source: www.fishdoc.co.uk/treatment/Chloramine-T.htm

Chloramine-T: A Useful Anti-parasitic Treatment

Chloramine-T and Fish Disease

As Chloramine-T dissolves, it slowly breaks down to produce hypochlorous acid (HOCL) which in turn release chlorine and oxygen. There is some uncertainty as to the active species of the breakdown products. Certainly, any chlorine present is liable to have an effect against flukes and parasites such as *Costia*, *Chilodonella*, white spot and *Trichodina*, as well as bacteria. However, it is now believed that the Chloramine-T ion is the major active factor. It breaks down fairly rapidly and treatments can be repeated on a daily basis without the need for major water changes.

Source: www.fishdoc.co.uk/treatment/Chloramine-T.htm

Abstracts**Employment and Income Generation Through Family Poultry in Low-income Food-deficit Countries**

E. F. Gueye

Senegalese Institute of Agricultural Research (ISRA), B.P.2057, Dakar-Hann, Senegal,
e-mail: efgueye@refer.sn

Family poultry (FP) production, which is still important in low-income food-deficit countries, is an appropriate system to supply the fast-growing human population with high quality protein. It can also provide additional income to the generally resource-poor small farmers, especially women. Although requiring low levels of inputs, FP contributes significantly to food security, poverty alleviation and ecologically sound management of natural resources. FP is also a source of employment for underprivileged groups in many local communities. However, constraints facing FP production systems include poor management conditions and poorly developed marketing structures for the products. The skills of small farmers in all aspects of poultry management must be improved through training and education. Poultry farmers should also be provided with credits or loans, taking into account the economic circumstances and socio-cultural context in which the beneficiaries live. In addition, the marketing system must be improved, for the benefit of both FP keepers and consumers.

Source: *World's Poultry Science*, Vol. 58, December 2002

Selenium (Se) in Poultry Nutrition, Reproduction, Egg and Meat Quality & Practical Applications

P. F. Surai

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In the first part of this review (Surai, 2002), the antioxidant properties and prooxidant activity of Se have been described. In spite of a long history, our knowledge of the molecular mechanism of Se action in human and animals are still in their initial stages. Indeed Se is an integral part of various selenoproteins with glutathione peroxidase (GSH-Px) being the first selenoprotein identified in 1973. Se's participation in antioxidant defence and in the regulation of redox status of the cell could explain its importance to various physiological functions, especially to reproduction. Chicken embryo tissues and spermatozoa are rich in long chain polyunsaturated fatty acids (PUFA) and as a result are very vulnerable to lipid peroxidation. Therefore, Se is a crucial factor in maintaining appropriate antioxidant defence during embryonic development and spermatogenesis. In condition of stress in commercial poultry production, the beneficial effects of Se are difficult to overestimate. From egg storage before incubation, when lipid peroxidation can occur, to the final day of egg production, Se participates in preventing the damaging effects of free radicals and toxic products of their metabolism. Dietary antioxidant supplementation in general and organic Se supplementation in particular are considered to be major protective measures for maintaining high productive and reproductive characteristics in poultry.

Source: *World's Poultry Science*, Vol. 58, December 2002

Abstracts**Duck Farming in North – Eastern India (Assam)**

R. Islam, J. D. Mahanta, N. Barua and G. Zaman
Department of Poultry Science, College of Veterinary Science, Assam Agricultural University,
Khanapara, Guwahati – 781022, India
E-mail: rafiqul@sify.com

A study was undertaken on duck farming in a north-eastern part of India (Assam), representing almost all the agro-climate zones. Five districts were selected, one from each agro-climate zone except for the hill area. Twenty-five duck farmers from each district, a total of 125 in all, were selected on the basis of flock size. Results of the study in respect of socio-economic status of the farmer, demographic distribution, husbandry and pattern and health protection programmes, marketing finance, and costs and returns from the flocks are highlighted.

Source: *World's Poultry Science*, Vol. 58, December 2002

Feed additives to control *Salmonella* in poultry

F. Van Immerseel, K. Cauwerts, L.A. Devriese, F. Haesebrouck and R. Ducatelle

Department of Pathology, Bacteriology and Avian Diseases, Faculty of Veterinary Medicine,
Ghent University, Salisburylaan 133, B-9820 Merelbeke, Belgium

Poultry meat and eggs are important sources of human pathogens. *Salmonella* is a major cause of human foodborne infection following consumption of poultry products. The original ambition of the EU to eradicate zoonotic agents from the animal production chain has been tempered to reducing the infection pressure of specified zoonotic agents at all levels of the production chain. This can be done by a combination of pre-harvest, harvest and post-harvest measures. Feed additives constitute an important group of pre-harvest measures which can help in controlling *Salmonella* on the farm. Feed additives used for the control of *Salmonella* can be of different types, including antibiotics, prebiotics, probiotics and synbiotics. Public concerns regarding possible antibiotic resistance transfer lead to the ban of antibiotics as growth promoters in monogastric diets within the EU. Experimental and practical use of pre-, pro- and synbiotics, as well as volatile fatty acids as feed additives are discussed in this review. The effects of these additives on resistance to infection, on the extent of excretion and on the persistence of infection are reviewed. Attention is paid also to possible undesirable effects of some of these products. Taking into consideration the underestimated high level of contamination of poultry, the feed additives reviewed in this article can certainly play a valuable part in control strategies during the pre-harvest phase aiming at reducing the infection pressure and thus limiting the risk of contamination of poultry products.

Source: *World's Poultry Science*, Vol. 58, December 2002

New Publication

Practical Aspects of Commercial Incubation in Poultry

Edited by D. C. Deeming

Ratite Conference Books ©2002

This new book contains various chapters that describe the practical aspects of fertilisation, incubation and hatchery operation. The text is written by the leaders in their field from, The UK, France, The Netherlands, Israel, The USA and Canada and is aimed at the managers of breeder and hatchery operations, although the book would also provide useful introduction to commercial incubation for students studying poultry science.

Contents:

Assessment and significance of fertility in commercial poultry production (Graham J. Wishart)

Practical aspects of fertility in poultry (Jean Pierre Brillard)

Shell formation and function and its role in incubation (Nick H.C. Sparks)

The critical importance of temperature in incubation (Nick A. French)

Roles of water and gas exchange in determining hatchability success (Amos Ar & D. Charles Deeming)

The role of egg turning during incubation (D. Charles Deeming)

How long-term hatching egg storage affects the egg, the embryo, and the chick (Gaylene M. Fassenko, Frank E. Robinson & Vern L. Christensen)

Design and operation of commercial incubators (Ron Meijerhof)

Hatchery and microbiological control in hatcheries (Paul F. McMullin)

Chick transport and welfare (Malcolm A. Mitchell)

Copies of "Practical Aspects of Commercial Incubation in Poultry" can be obtained from Dr. D. C. Deeming, Ratite Conference books, 9 Eagle Drive, Welton, Lincoln, LN2 3LP, UK, charlie@deemingdc.freemove.co.uk (ISBN 09527584-6-6 paperback at £ 15.00 per copy. Postage per book: UK – £ 1.50; Europe – £ 3.00; World – £ 4.50).

Source:

World's Poultry Science Journal, Vol. 58, December 2002

Comments / Suggestions on 'The Blue Cross Book' - 19 and Expected Articles for 'The Blue Cross Book' - 21

1. Dr. Ashish Sharma

Veterinary Officer, Bokari, Gautam Budhha Nagar, UP
Tel. No. 0120-2663825

"Field oriented articles in this issue are useful for practicing vets. Articles like Ovarian Cyclic Failure in Cattle & Buffalo and Ready Reckoner for Mastitis Treatment are really interesting. I also agree with Dr. M.K.Awasthi that use of **Iliren**[®] in the foetal mummification is very efficacious. I think, there is a need for new review articles on the clinical problem and recent medicines, launched by Intervet".

2. Dr. K.Radhakrishnan

Assistant Director, Animal Husbandry Directorate, Vikash Bham, Trivandrum-695033
Tel. No. 0472-303683

"Case reports on Cataract Extraction and Peritoneal Dialysis in Canines are much informative and useful. *The Blue Cross Book* will be much appreciated if such canine cases are reported in the future issues also".

3. Dr. D.N.Sabharwal

Ex.C.V.O., Kanpur Zoo, 112/354, Swaroop Nagar, Kanpur-208002
Tel. No. 210742/541782

"Articles on treatment of Trypanosomiasis in Dog is very useful and excellent. But more articles on canine practice are most welcome. Article on canine demodicosis would have been more useful if treatment schedule were to have been suggested.

4. Dr. Madhava Reddy

1-9-202/7/c/2 Ramnagar, Hyderabad-500048
Tel. No. 27610445

"With knowledge and ideas, '*The Blue Cross Book*' is most imaginative and having purposeful events for the veterinary profession in the country. I would request to include information regarding on going seminars or to be held in the country and various parts of the world under 'News & Abstracts' column.

5. Dr. Raya Chithambaram

Veterinary Practitioner
No. 4/24 Annanagar, Second Street, Sekkalai, Karaikudi- 635002
Mobile : 09842421185, Resi. Tel. Nos. : 04565/221185, 04565/237231 (Farm)

It is really good and it can be published monthly, if possible.

I am having a case report on Dystokia delivery of eight- legged; twin headed, twin tailed monster, delivered by natural passage in a she-buffalo, adopting a new technique.

I will mail to your office in a short period.

Comments / Suggestions on 'The Blue Cross Book' - 19 and Expected Articles for 'The Blue Cross Book' - 21

6. Dr. Abul Quasim

Associate Professor, Veterinary Public Health, Bihar Veterinary College, Patna-800014, Bihar.

Tel. No. 0612-2203810

Some spelling mistakes have been noticed in this issue. This must not be repeated in the next issue.

7. Dr. P. Pothi

A 8/5 M. I. G. Block, Anna Nagar Madurai - 625020

Tel. No. 2535307

Evaluation of **Berenil**[®] 7% vet RTU Against Trypanosomiasis in Dogs' is a good article. I have also tried **Berenil**[®] 7% vet RTU injection in few cases of Trypanosomiasis and Babesiasis with success in dogs.

8. Dr. P. Dhanavel

Veterinary Assistant Surgeon, Veterinary Dispensary, Bikkal, Nagapattinam - 611108, Tamilnadu - 611108.

Tel. No. 04365 - 242467

Thanks for your prompt supply of the issue. The article "A Probable Ready Reckoner for Mastitis Treatment" by Dr. Umakanthan has given an outstanding information and practical guide for mastitis treatment at the farmers' door. Thanks for this and go ahead with this ever lasting new creative steps.

9. Dr. N. Muhindro Singh

C/o N. Dhakasana Singh, Lawangsangbam (Near Godown), P. O. Mantripukitri - 795002, Imphal, Manipur

Tel. No. 0385 - 226677(R)

I thank you very much for sending the issue No. 19 of 'The Blue Cross Book'. The article on "Evaluation of **Berenil**[®] 7% Vet RTU against Trypanosomiasis in Dogs" by Maske *et. al.* page Nos. 14-15. *The Blue Cross Book* impressed me a lot. I request you to publish such clinical articles.

10. Dr. A. P. Galhot

Professor of Veterinary Medicine, 105, Kairom Kisan Ghar, P A U, Ludhiana-141004

Tel. No. 0161-2402284.

Many congratulations for bringing your publication to be enlisted in CAB International, The UK. Yes, credit goes to publisher, contributors & readers. I wish you many more laurels in the year 2003. Your efforts to accommodate field oriented papers more so on reproductive disorders, not only highlighted nation's priority but need of the hour as well. This is really helpful to field vets who are accountable to the rural masses. Keep it up.

Comments / Suggestions on 'The Blue Cross Book' - 19 and Expected Articles for 'The Blue Cross Book' - 21

11. Dr. P. N. Mahanta

Professor of Medicine, Department of Medicine, Faculty of Veterinary Science ,
Assam Agricultural University, Assam - 781022

Tel. No.- 2332597

Thanks for sending the issue No. 19. The clinical articles published in '*The Blue Cross Book*' are more useful and informative for the field Veterinarians and research workers as well. Some articles on wild- life medicine may be invited.

12. Dr. M. U. Siddiqui

General Manager, Animal Breeding Centre, P.B.No. 1, Salon Dist. Rae Bareilly-229 127,
UP

Tel. No. 05311-274722(0), 0535-2206256 (R)

It is nice to note that '*The Blue Cross Book*' has been enlisted under CAB International, The UK . It's nice to see that more articles on breeding problems are being included. I hope, the article, "Efficacy of Pre-insemination GnRH Treatment on the Conception Rate in Repeat Breeder cows" will be of immense use for field veterinarians.

13. Dr. S. K. Sirmour

In-charge, District Veterinary Hospital, District Kanker – 494334, CG

Tel. No.: 07868 - 224232

The articles "Evaluation of **Berenil**®- 7% Vet RTU Against Trypanosomiasis in Dogs **Floxidin**® (Enrofloxacin) in the Treatment of Mastitis in Cows" and case report "Management of Incomplete Cervical Dilatation in a Cow" are very much informative and thanks for promoting such type of journal for veterinary profession.

14. Dr. Saraswat R. C.

Lecturer - RSLMTI, Jaipur

17. Shankar colony Gatore, Malviya Nagar, Jaipur – 302017, Rajasthan

Tel. No.: 0141-2546369

Thanks for the issue 19/2002. Field oriented information makes this issue par excellence. Availability of the issue to maximum number of veterinarians may revolutionise their routine, leading towards nation's socio-economic upliftment.

15. Dr. J. Selvaraj

M. V. Sc.

Assistant Professor, Department of Veterinary Pathology, Madras Veterinary College,
Chennai – 600007

Tel. No.: 04422242990

Dr. S. M. Mouniddin's comments on "High consumption of Chicken Meat vs Heart Ailment in India" are good. He has reviewed the views of many scientists and given them in a nutshell.

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 strictly 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 the 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, MS
- Materials and Methods** : In details.
- Results and Discussions** : With the help of tables/ figures etc.
- Reference/s** : For Periodical/s : Surname/s and initials/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**, **PP**: 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.
- Radostits, O.M., Blood, D.C. and Gray, C.C. (1994). *Veterinary Medicine, 8th Edn., English Language Book Society (ELBS)*, London
- Tables and Figures** : Tables are to be numbered in Roman numbers (I, II and so on). Each table should have a clear title. Figures should be of good quality and numbered in Arabic numbers (1, 2, 3 and so on).

For clinical articles and short communications, these should not exceed four 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 number with STD code etc.

We would appreciate if you kindly send us your manuscript (technical article) in Word File either by floppy disc or by e-mail : adatta@intervetindia.com, anupkdatta@yahoo.co.in

All manuscripts should be mailed to the following address :

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