

GOLDEN JUBILEE
YEAR OF
INDEPENDENCE

1947 - 1997



XXI ANNUAL CONGRESS
OF
INDIAN SOCIETY FOR VETERINARY SURGERY
AND

NATIONAL SYMPOSIUM
ON
"EMERGING TRENDS IN MANAGEMENT
OF
SURGICAL TRAUMA IN ANIMALS"

OCTOBER 17 - 19, 1997

SOUVENIR & ABSTRACTS



DEPARTMENT OF SURGERY & RADIOLOGY
COLLEGE OF VETERINARY & ANIMAL SCIENCES
H.P.K.V., PALAMPUR (H.P.) - 176 062

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**XXI ANNUAL CONGRESS OF INDIAN SOCIETY FOR VETERINARY SURGERY
AND NATIONAL SYMPOSIUM
ON
" EMERGING TRENDS IN MANAGEMENT OF SURGICAL TRAUMA IN ANIMALS "**

OCTOBER 17-19, 1997

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S.Narendra
Information Advisor to PM

सत्यमेव जयते

प्रधान मंत्री कार्यालय
नई दिल्ली - 110 011
PRIME MINISTER'S OFFICE
NEW DELHI - 110 011

MESSAGE

Prime Minister is glad to know that the College of Veterinary and Animal Sciences, Palampur, Himachal Pradesh is organising XXI Annual Congress of India Society for Veterinary Surgery and National Symposium on "Emerging Trends in Management of Surgical Trauma in Animals" during October 17 - 19, 1997 at Palampur.

The Prime Minister wishes the Conference a success.


(S. Narendra)

New Delhi
September 10, 1997



RAJ BHAVAN
SHIMLA-171002

MESSAGE

It gives me immense pleasure to know that College of Veterinary and Animal Sciences, Palampur is organising a National Conference of Veterinary Surgeons and is holding a Symposium on "Emerging Trends in Management of Surgical Trauma in Animals" at H.P. Krishi Vishvavidyalaya under the aegis of Indian Society for Veterinary Surgery from 17-19 October, 1997.

The livestock plays the most vital role in the economy of the state and also the country. I am happy that the practice of Veterinary Surgery has undergone a sea change in the last few decades. I hope the experts from different parts of the country attending the conference will deliberate on the problem of increasing the productivity of our livestock so as to benefit our farm folk in our country, especially in this hilly state.

I wish the convention and symposium a grand success.

(V.S. Rama Devi)
Governor,
Himachal Pradesh.



CHIEF MINISTER



ELLERSLIE,
SHIMLA - 171 002

MESSAGE

I am happy to learn that College of Veterinary and Animal Sciences, Palampur is holding the XXI Annual Congress of Indian Society for Veterinary Surgery and National Symposium on "Emerging Trends in Management of Surgical Trauma in Animals" from 17-19 October, 1997.

Himachal Pradesh has the agrarian economy which depends on the livestock production to a great extent and is solely dependent on the good health of animals.

The State Government during last three years has given special attention for the vital sector of Animal Husbandry and Himachal Pradesh will have one veterinary institution in every two panchayats by the end of this financial year.

In the recent past the veterinary surgery has made tremendous progress in handling and management of several fatal diseases and productivity of the animals has increased drastically. I am sure the delegates attending the congress will exchange their views, and update their knowledge on the recent advances in the management of surgical trauma in animals which will immensely benefit the farmers of the state.

I wish the congress and the symposium a grand success.

(Virbhadra Singh)



Kaul Singh Thakur

Speaker



LEGISLATIVE ASSEMBLY
HIMACHAL PRADESH
COUNCIL CHAMBER
SHIMLA - 171 004
(INDIA)

August 8, 1997

MESSAGE

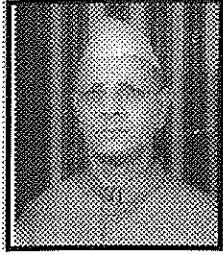
It gives me immense pleasure to know that College of Veterinary and Animal Sciences, Palampur is holding the XXI Congress of Indian Society for Veterinary Surgery alongwith the National Symposium on "Emerging Trends in Management of Surgical Trauma in Animals" at its campus w.e.f. 17-19 Oct., 1997.

The country has seen a green revolution and is about to see the white revolution which has changed the scenario of country's population in respect of their health and longevity. The farmers have definitely become prosperous when we look behind their status one or two decades back. The land holding of the farmers in the state is too small and there fore, the productivity of the land has reached almost its plateau. There is lot of scope in development of the farm livestock which is a ready source of income to our farmers. The Veterinarians engaged at College of Veterinary and Animal Sciences are striving hard to improve the potential of production of the livestock of our state.

I understand the scientists converging at Palampur will deliberate thoroughly and recommend the ways and means to improve the livestock production of our state.

I send my best wishes to the organisers on this occasion.


(Kaul Singh Thakur)



Sant Ram

वन मंत्री
हिमाचल प्रदेश
शिमला - 171 002

PS-FM/97-11570
Date : 27/8/97

MESSAGE

It gives me immense pleasure to know that College of Veterinary and Animal Science, HPKV, Palampur has been selected by the Indian Society for Veterinary Surgery for organising its 21st Annual Congress for the first time. It is a matter of great pride for Himachal Pradesh that on the occasion, National Symposium on "Emerging Trends in Management of Surgical Trauma in Animals" would also be held in the University Complex from 17th to 19th October, 1997.

Agriculture University, Palampur has done commendable work in the various field, resulting in transformation of the socio-economic life of the farmers. I hope that during the Symposium, a suitable strategy for increasing the productivity of the animals will emerge and farmers would be benefited from it.

My heartiest congratulations and good wishes on the occasion.


(Sant Ram)



Jai Bihari Lal Khachi
Public Works, Local Self Government
& Housing Minister.



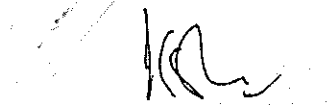
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MESSAGE

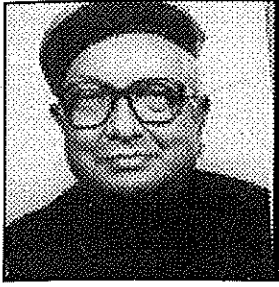
I am extremely happy to learn that Indian Society for Veterinary Surgery is holding its XXI Convention alongwith National Symposium on "Emerging Trends in Management of Surgical Trauma in Animals" at College of Veterinary and Animal Sciences, H.P. Krishi Vishvavidyalaya, Palampur on 17-19 Oct., 1997.

The livestock population of the State plays the pivotal role in the Agricultural Economy of the State. The veterinarians at College of Veterinary and Animal Sciences have been doing excellent job for improving the health status and production of our animals since the inception of the College. The National Convention and the Symposium being organised at Palampur will provide a unique opportunity to the veterinarians of the State in general and that of the HPKV in particular in exchanging the ideas on development and improvement in the technology of treating surgical maladies in order to improve the farmers economy of the State.

I send my best wishes to the organisers.



(J.B.L. Khachi)



Brij Behari Lal Butail



मुख्य संसदीय सचिव,
हिमाचल प्रदेश सरकार
शिमला - 171 002

Message

I am extremely happy to know that Department of Veterinary Surgery and Radiology is organising a National Symposium on "Emerging Trends in Management of Surgical Trauma in Animals" under the aegis of Indian Society for Veterinary Surgery on 17-19 October, 1997 at College of Veterinary and Animal Science, H.P. Krishi Vishvavidyalaya, Palampur. On this occasion a National Convention of ISVS is also being held which has its member throughout the country and even abroad.

It is a matter of great pride for all of us that this type of congregation of elite surgeons of different parts of the country and abroad is going to be held for the first time in this University.

I am sure that the deliberations of the scientists will be extremely useful to the farmers of the State.

I send my greetings and best wishes to the organisers and the delegates.

(B.B.L.BUTAIL)



रघुराज



राज्य मंत्री,
(पशुपालन)
हिमाचल प्रदेश
शिमला - 171 002

MESSAGE

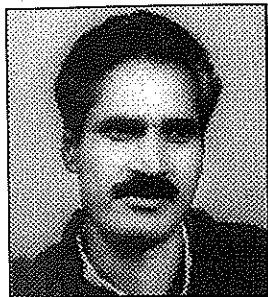
I am happy to know that Department of Surgery and Radiology is organising a National Symposium on "Emerging Trends in Management of Surgical Trauma in Animals" alongwith the XXI Congress of Indian Society for Veterinary Surgery at College of Veterinary and Animal Sciences, Palampur on 17-19 Oct. 1997.

While ninety percent of population is dependent on agriculture, the animal rearing is simply the way of life of Himachal folk. Animals provide food textile cash and above all employment to the farmer including pastime to the family members. A healthy animal produces better and gives a great psychological satisfaction besides the financial prosperity to owner. Surgeons have great role to play in keeping the animals in better health and production.

I hope the scientists converging at the conference will come out with suitable recommendations for maintaining the animals in better health and production.

I wish the organisers every success in this venture.

(Raghu Raj)



Chander Kumar



Irrigation - *cum* - Public Health
Minister Himachal Pradesh
Shimla - 171 002

MESSAGE

I am glad to learn that Indian Society for Veterinary Surgery is holding its XXI congress at College of Veterinary and Animal Sciences, H.P. Krishi Vishavavidalaya, Palampur concurrently with a National Symposium on "Emerging Trends in Management of Surgical Trauma in Animals" w.e.f. 17th to 19th October, 1997.

The Veterinary Surgeons play a decisive role in improving the health and productivity of our farm animals. The livestock plays vital role in determining the fiscal policies of the state. I hope the delegates attending the conference will recommend suitable technologies to the farmers to improve their livestock economy.

I extend my best wishes to the organizers of the convention and symposium.


(Chander Kumar)



Dr. R.P.S. Tyagi
Vice Chancellor

हिमाचल प्रदेश कृषि विश्वविद्यालय पालमपुर
HIMACHAL PRADESH KRISHI VISHVAVIDYALAYA
PALAMPUR - 176062 (H.P.) INDIA



MESSAGE


I am extremely happy to learn that the XXI Congress of Indian Society for Veterinary Surgery and National Symposium on "Advances in Surgical Management of Trauma in Animals" are being held at this University in the College Of Veterinary & Animal Sciences during 17-19 October, 1997.

There has been tremendous advancement in the field of Veterinary Surgery in the last few decades due to refinement in techniques of diagnosis and repair. The complicated operations like that of diaphragmatic hernia, pulmonary lobectomy, pericardiectomy and caesarian sections have become manageable at the hands of trained Veterinary Surgeons at polyclinics and other such well equipped hospitals of the states. The organizers have chosen a highly pertinent topic on "Management of Trauma" which can range from a minor skin wound to severe deformities into the body, the surgical management of which may involve the use of advanced and sophisticated techniques.

I am sure the scientists converging at Palampur will deliberate seriously on the alleviation of the traumatic disorders by refinement of their techniques which will go a long way in relieving the sufferings of our animals.

I extend my good wishes and warm greeting to all the delegates and wish the organizers of the symposium a grand success.

October 4, 1997


(R.P.S. Tyagi)
Vice Chancellor



COLLEGE OF VETERINARY AND ANIMAL SCIENCES
HIMACHAL PRADESH KRISHI VISHVAVIDYALAYA
PALAMPUR - 176062 (H.P.) INDIA



Prof. J. M. Nigam

M.V.Sc. Ph.D. F.R.V.A.C. (Denmark)

Dean

MESSAGE

I am happy that the XXI Congress of Indian Society for Veterinary Surgery and National Symposium on "Emerging Trends in Management of Surgical Trauma in Animals" is being held at this institution on 17-19th October, 1997. Indian Society for Veterinary Surgery has a glorious past. It has been organizing the congress and national symposium every year in various parts of the country. It is my pleasure that the society has provided this opportunity to this college in 1997 when the nation is celebrating Golden Jubilee of its independence. This Congress will provide a platform to the scientists to exchange their knowledge in various fields of surgery to relieve the sufferings of the dumb animals at one end; and to increase their production capacity on the other, so as to provide the country freedom from sick and unproductive animals, thereby adding to its prosperity.

Department of Surgery and Radiology at Palampur over the years has developed into one of the best departments in the country in terms of teaching, research and clinical facilities. The scientists of this department have achieved laurels in the field of clinical surgery.

I am sure that deliberations in the symposium will be extremely beneficial to the teachers, clinicians and farmers.

Warm greetings and hearty welcome to all the delegates.

October 4, 1997

HIMACHAL PRADESH KRISHI VISHVAVIDYALAYA

(A Flash View)

GEOGRAPHY

Geographically, Himachal Pradesh, a North-Western hill state of India, lies between $30^{\circ} 22''$ to $33^{\circ} 12''$ latitude and $75^{\circ} 45''$ to $79^{\circ} 04''$ E longitude. Its altitude ranges from 350 m to 6,975 m above mean sea level. It is bound by four states viz. Jammu & Kashmir in the north, Punjab in the West, Haryana in the south and Uttar Pradesh in the south-east. The state has a deeply dissected topography with mountain ranges and valleys of varying slopes and sizes of different altitudes, complex geographical formation and diversity of flora. Palampur is a beautiful Valley located in the Kangra District of the Pradesh and occupies a pre eminent location in the mid hill zone, with the Krishi Vishvavidyalaya at Holta village.

THE UNIVERSITY AND CAMPUS

The Himachal Pradesh Krishi Vishvavidyalaya was incorporated under the Himachal Pradesh Krishi Vishvavidyalaya Act, 1978 and formally inaugurated and dedicated by the President of India, Shree Neelam Sanjeeva Reddy on November 1, 1978 for the development of agriculture including horticulture and allied sciences in the state of Himachal Pradesh.

The campus of the University is located at a distance of 3 Kms from the Palampur town at an elevation of 1300 Mts. It is linked with road at National Highway No 20, Connecting Jammu-Pathankot and Manali. The Railway Station is known as Palampur (Himachal) which is about 6 Kms from the University Campus. Its 398 hectare farm dotted with imposing beautiful building against the back-drop of Dhauladhar makes a picturesque scene.

CONSTITUENT COLLEGES

- College of Agriculture,
- College of Veterinary and Animal Sciences,
- College of Home Science and
- College of Basic Science.

OBJECTIVES:

The object of the university is to impart education in agriculture which includes basic and applied sciences of soil and water management, crop production, home science, food science, agricultural engineering and technology, animal husbandary including veterinary and dairy science, fisheries, mushroom growing, bee keeping, tea cultivation, sericulture, vegetables, social sciences, agricultural marketing, processing, co-operation, land use and management and economic and social upliftment of the rural people. Besides teaching, the University is furthering advancement of learning by research and undertaking extension of such sciences to the rural people of the state.

Himachal Pradesh Krishi Vishvavidyalaya is a residential University with all the Colleges located at Palampur. All students are required to reside in the Hostels unless otherwise permitted.

COLLEGE OF VETERINARY AND ANIMAL SCIENCES

The College of Veterinary and Animal Sciences was established by the State Government after it was duly approved by the Board of management of the University. It is duly accredited by the Indian Council of Agricultural Research and Veterinary Council of India. The first batch of 25 students was admitted in July 1986 and graduated in January 1991.

After the approval of the Academic Council, authorities of the University and the State Government, the College has 19 departments including a well equipped clinics with all modern facilities and ambulatory services.

From 1994-95 academic session, regulations of the Veterinary Council of India-Minimum standards of Veterinary Education and Minimum Standard requirements for a Veterinary College as approved by the Government of India under the provisions of section 22 read with section 21 of the Indian Veterinary Council Act, 1984 have been adopted in the Himachal Pradesh Krishi Vishvavidyalaya *in toto*.

SHORT - TERM TRAINING PROGRAMMES

Updating the knowledge and skills of the Veterinarians employed by the State Department of Animal Husbandry and Fisheries is an important responsibility of University. Short-term-courses in clinical and para clinical subjects are being regularly imparted to the Veterinarians whereby they gain the information of the latest know how in theory as well as practice in medicine and Surgery. Refresher courses offer them opportunity for updating their knowledge in farm operations, reproduction and production aspects also.

Short term trainings have been imparted to the S.S.G. of ministry of home affairs and farmers of the state.

STAFF PATTERN

After re-organisation and establishment of 19 departments, as at present, seven Professors, 12 Associate Professor and 26 Assistant Professors are in position.

POST-GRADUATE PROGRAMMES:

At present post-graduate degrees (leading to Master's) are awarded in the subjects of Animal Breeding & Genetics, Animal Nutrition, Veterinary Medicine, Veterinary Surgery and Radiology, Veterinary Physiology, Veterinary Anatomy and Histology and Veterinary Microbiology, Ph. D. degrees are also awarded in the subjects of Animal Breeding and Genetics and Animal Nutrition.

DEPARTMENT OF VETERINARY SURGERY & RADIOLOGY (THE HOST DEPARTMENT)

The discipline of Surgery and Radiology came into existence in July, 1986 as one of the sections of the erstwhile department of Surgery and Gynaecology, however, it became a full-fledged department only in 1991. The department, over the years has developed into one of the best components of the college; by virtue of its excellent teaching, research, extension and clinical facilities. Following are the teachers of the department :

Dr. A.C. Varshney, Professor Clinics & Head Deptt. of Surgery and Radiology

Dr. S.K. Sharma, Associate Professor, Clinics

Dr. M.S. Kanwar, Assistant Professor Surgery and Radiology

Besides offering undergraduate courses, the department also offers courses leading to the award of M.V.Sc. degree with specialization in the fields of general and operative surgery, anaesthesiology, orthopaedic surgery and radiology. The faculty members of the department also offer clinical courses and other various multi-disciplinary courses. Five students have completed their M.V.Sc. degree, whereas 5 students are continuing.

The department has the facilities of modern sophisticated equipments viz. Bird's respirator, Boyle's apparatus, electrocardiographic machine, large animal anaesthetic machine, multi-channel polyphysiograph, flame photometer, X-ray machines (500 mA and 60 mA), blood auto-analyser, close circuit television system, deep freeze, computers, autoclaves, refrigerators, and various instruments required for general, orthopaedic, teat, ophthalmic and dental surgery etc.

The department is actively engaged in problem-oriented, need based research programmes with special emphasis on to the local, regional, state and national problems; with integrated inter disciplinary approach. The department has recently completed the research project entitled "Cardio-Pulmonary, biochemical and sedative effects of various preanaesthetics and general anaesthetics in yaks (*Bos grunniens*)" which was funded by ICAR as an adhoc research project. Another adhoc research project of ICAR entitled "Studies on early diagnosis and treatment of induced traumatic arthritis in bovines and equines with special references to synovial fluid transfusion" is in progress. One state financed research project entitled "Study of Foot Affections in Bovine, Ovine and Caprine of Himachal Pradesh" is also in progress. Besides several departmental research projects are also running concurrently.

The department has been able to standardize the pre-anaesthetic, regional, retrograde and general anaesthetic techniques in yaks and cattle. Based on extensive research, treatment of arthritis by intra-articular transfusion of synovia with and without anti-inflammatory drugs have been advocated. Researchers have recorded enhancement of wound healing by using various biostimulators. Studies on lacrimal function in Yak and Gaddi goat, lymphangiography in dogs; neonatal anaesthesia in bovine; anaesthetic techniques for hepatopathic dogs; hydroxyapatite fibrillar collagen implant for improving osteogenesis and standardization of normal radiographic techniques of different parts of yak, sheep and goat have also been conducted.

The Surgery and Radiology department extends its regular services in terms of diagnosis and treatment to clinics, ambulatory clinics, university livestock farm and Gopalpur wildlife centre including emergency services. Regular clinical camps are organised at different places including in remote areas of the state.

PROGRAMME

Date	:	17.10.1997 (Friday)
7.00 to 8.30 A.M.	:	Break fast
8.30 to 10.00 A.M.	:	Registration
10.00 to 11.30 A.M.	:	Inauguration
12.00 to 1.30 P.M.	:	Technical Session I - Theme Papers
		Chairman : Dr. R.P.S. Tyagi
		Rapporteur : Dr. S.K. Pandey
		Speakers : 1. Dr. Amresh Kumar
		2. Dr. T.N. Ganesh
		3. Dr. Gaj Raj Singh
1.30 to 2.45 P.M.	:	Lunch (Host : Vice-chancellor, HPKV)
2.45 to 4.00 P.M.	:	Technical Session II
		Large Animal Surgery-I
		Chairman : Dr. P.E. Kulkarni
		Rapporteur : Dr. B.M. Jani
4.00 to 4.30 P.M.	:	Tea and Poster Session
4.30 to 6.00 P.M.	:	Technical Session III
		Large Animal Surgery-II
		Chairman : Dr. Lal Krishana
		Rapporteur : Dr. Amar Pal
6.00 to 7.00 P.M.	:	Award Session (Young Surgeon Award)
7.00 to 8.30 P.M.	:	CULTURAL PROGRAMME
8.30 P.M.	:	Dinner (Host : M/s Growmed, New Delhi)
Date	:	18.10.1997 (Saturday)
7.00 to 8.30 A.M.	:	Break fast
9.30 to 10.30 A.M.	:	Technical Session IV -Lead Papers
		Chairman : Dr. O. Ramakrishna
		Rapporteur : Dr. S.S. Marudwar
		Speakers : 1. Dr. K.K. Mirakhur
		2. Dr. S. Thilegar
10.30 to 11.00 A.M.	:	Tea and Poster Session
11.00 to 1.00 P.M.	:	Technical Session V
		Anaesthesiology
		Chairman : Dr. Amresh Kumar
		Rapporteur : Dr. S. Thilegar

1.00 to 1.30 P.M.	:	Award Session (Dr. MR Patel Award for Best Field Veterinarian)
		Chairman : Dr. P.E. Deore
		Rapporteur : Dr. T.K. Gahlot
1.30 to 2.45 P.M.	:	Lunch (Host : Wockhardt, Mumbai)
2.45 to 4.00 P.M.	:	Technical Session VI
		Radiology and Allied
		Chairman : Dr. K.K. Mirakhur
		Rapporteur : Dr. M.S. Vasanth
4.00 to 4.30 P.M.	:	Tea and Poster Session
4.30 to 6.00 P.M.	:	Technical Session VII
		Small Animal Surgery
		Chairman : Dr. S.M. Jayadevappa
		Rapporteur : Dr. C.C. Wakankar
6.00 to 7.00 P.M.	:	Field Problems - Technical Discussion
		Chairman : Dr. S.S. Rathore
		Rapporteur : Dr. K.G. Avachat
7.00 to 8.30 P.M.	:	CULTURAL PROGRAMME
8.30 P.M.	:	Dinner (Host : Agrivet-Farmcare-Glaxo)
Date		19.10.1997 (Sunday)
7.30 to 8.30 A.M.	:	Break fast
8.30 to 9.30 A.M.	:	Technical Session VIII -Lead Papers
		Chairman : Dr. Harpal Singh
		Rapporteur : Dr. T. N. Ganesh
		Speakers : 1. Dr. C.C. Wakankar
		2. Dr. B.M. Jani
9.30 to 10.30 A.M.	:	Technical Session IX
		Orthopaedic Surgery
		Chairman : Dr. S.S. Mishra
		Rapporteur : Dr. S.C. Ojha
10.30 to 11.00 A.M.	:	Tea
11.00 to 12.00 A.M.	:	Plenary Session : Recommendations
		Chairman : Dr. J.M. Nigam
		Rapporteur : Dr. A.P. Singh
12.00 to 1.00 P.M.	:	General Body Meeting - Association activities
1.00 to 2.00 P.M.	:	Lunch (Host : Hoechst India Ltd)
2.00 to 7.00 P.M.	:	EXCURSION
8.30 P.M.	:	Dinner

TECHNICAL PROGRAMME

Technical Session I

THEME PAPERS :

Chairman : Dr. R. P. S. Tyagi

Rapporteur : Dr. S. K. Pandey

1. Anaesthetic Immunity - Dr. Amresh Kumar
2. Approach to management of critically traumatised pet animals - Dr. T. N. Ganesh
3. Role of Radiology in diagnosis of traumatised animals - Dr. Gaj Raj Singh

Technical Session II

LARGE ANIMAL SURGERY I

Chairman : Dr. P.E. Kulkarni

Rapporteur : Dr. B.M. Jani

1. EVALUATION OF THREE DIFFERENT TECHNIQUES FOR RELIEVING SPASTIC PARESIS IN BULLOCKS : A CLINICAL STUDY.
D.R.Barvalia and R.R. Parsania, College of Veterinary & Animal Husbandry, Anand
2. RECURRENT VAGINAL PROLAPSE IN A KANKREJ COW AND ITS MANAGEMENT
V.K.Sharma, S.C.Ojha and B.N.Surthar, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar
3. COMPARISON OF DMSO AND NORMAL SALINE LAVAGE IN CONJUNCTION WITH GENTAMICIN TREATMENT FOR *E.coli* INDUCED ARTHRITIS IN COW CALVES
A.D. Parendekar, R.R. Parsania, D.R.Barvalia, N.H.Kelawala and V.P. Parikh, College of Veterinary & Animal Husbandry, Anand
4. EFFICACY OF CRYOSURGERY IN TREATMENT OF BOVINE DIGITAL DERMATITIS
Kemparaja, Shivakumar and M.S.Vasanth, Veterinary College, U.A.S., Bangalore
5. TYMPANY AS A SEQUEL TO DIAPHRAGMATIC ABSCESS - A REPORT OF TWO CASES
R. Bhatia, P.S.Bansal and V.K.Sobti, Department of Veterinary Clinics and Continuing Education, PAU Ludhiana
6. HAEMATIC MUMMIFICATION IN CHURI
Sandeep Mishra, Veterinary Officer, Mobile Veterinary Dispensary, Palampur (H.P.)
7. LAPARO-RUMENOTOMY DURING G.I. TRACT DISORDERS IN BOVINE-A REPORT ON 30 CLINICAL CASES.
S.P. Sharma, Bihar Veterinary College, Patna.
8. A CASE OF INTESTINAL OBSTRUCTION DUE TO TWIST IN A BULLOCK
V.D. Jahagirdar, Assistant Director of Animal Husbandry, Nanded (M.S.), Itwara
9. A NEW TECHNIQUE FOR CORRECTION OF LOWER TEAT OBSTRUCTION IN CATTLE.
M.K.Bhargava, College of Vety. Sci. & A.H., Jabalpur (M.P.)
10. EVALUATION OF HAEMOSTATIC METHODS IN AMPUTATION OF BOVINE CANCEROUS HORN
V.S.Dabas, D.B.Patil, S.C.Ojha and J.N.Mistry, College of Veterinary Science & Animal Husbandry, Gujrat Agricultural University, S.K.Nagar.
11. A NEW TECHNIQUE OF STERILIZATION OF COWS
S.S. Misra, College of Veterinary Science & Animal Husbandry, Mathura.

12. SKULL TRAUMA IN EQUINE - A CASE REPORT

Adarsh Kumar and K.B. Sharma, Veterinary Polyclinic, Shahpur (HP)

13. SURGICAL MANAGEMENT OF RUMINAL IMPACTION IN A PREGNANT COW.

K.D. Rayot, Adrash Kumar, Arvind Mahajan and Simmi Manuja, Veterinary Polyclinic, Shahpur (H.P.)

POSTER SESSION

1. MELANOMA IN A BULL

P.Narsimha Reddy, Veterinary Hospital, Shadnagar, Andhra Pradesh.

2. HERBAL PREPARATIONS - A PANACEA FOR REPAIR OF CUTANEOUS TRAUMA - A DYNAMIC MACRO AND MICROFABRIC APPRAISAL,

R.L.Bhardwaj, D.N.Sharma and A.C.Varshney, College of Veterinary and Animal Sciences, HPKV., Palampur (H.P.)

3. INTER CALARY ALLOGRAFTING OF SEGMENTAL CORTICAL DEFECTS IN DOGS USING DYNAMIC COMPRESSION PLATES

S. Ayyappan and W.P.Archibald David, Peripheral Veterinary Hospital, Directorate-Centre for Animal Health Studies, Madhavaram Milk Colony, Chennai.

4. CHRONIC OSTEOARTHRITIS IN BOVINES : A RETROSPECTIVE STUDY

Suresh J. Baviskar and S.K. Jawalikar, Cattle Breeding Farm, Kopargaon Ahmednagar

5. MODIFIED GASTROCNEMIUS TENECTOMY : AN EFFECTIVE SURGICAL PROCEDURE TO RELIEVE SPASTIC PARESIS IN BULLOCKS

D.R. Barvalia and R.R. Parsania, Department of Surgery & Radiology, College of Veterinary & Animal Husbandry, Anand, Gujarat.

6. SURGICAL MANAGEMENT OF GASTRO-INTESTINAL DISORDERS IN RUMINANTS - REVIEW OF 25 CASES.

Mohinder Singh, J.M.Nigam, A.C.Varshney, S.K. Sharma, Ajay Gupta and Haminder Sharma, College of Veterinary & Animal Sciences, H.P.K.V, Palampur (H.P.)

Technical Session III

LARGE ANIMAL SURGERY I I

Chairman : Dr. Lal Krishna

Rapporteur : Dr. Amar Pal

1. AN EFFECTIVE SURGICAL PROCEDURE TO RELIEVE SPASTIC PARESIS IN BULLOCKS : A STUDY OF 18 CLINICAL CASES

D.R.Barvalia and R.R. Parsania, College of Veterinary & Animal Husbandry, Anand.

2. SURGICAL REMOVAL OF FIBROSARCOMA IN A BULLOCK - A CASE REPORT

R.W.Ashturkar, Veterinary Dispensary, Kalamnuri, Dist.Parbhani.

3. LEIOMYOSARCOMA OF NECK OF A BULLOCK

B.W.Kale, V.D.Aher and A.P.Bhokre, M.A.U., Parbhani.

4. UNILATERAL FACIAL NERVE PARALYSIS IN BULLOCK - A CASE STUDY OF FOUR CLINICAL CASES

V.D.Aher, A.P.Bhokre and L.B.Sarkate, College of Veterinary and Animal Sciences, Marathwada Agricultural University, Parbhani.

5. A CLINICAL STUDY ON MYIASIS IN FARM AND PET ANIMALS

S.Thilagar, S.Ayyappan and S.R. Srinivasan, Peripheral Veterinary Hospital Centre for Animal Health Studies, Madhavaram Milk Colony, Chennai

6. **CLINICAL STUDY ON THE USE OF CORRUGATED DRAIN FOR BETTER WOUND DRAINAGE IN RUMINANTS**
B.Rameshkumar, R.Jayaprakash, Deepu Philip Mathew, Angela B.Lobo, R.Chitra and S.R. Pattabiraman, Madras Veterinary College, Chennai
7. **SURGICAL REMOVAL OF EXTENSIVE NASAL POLYPI IN A BULLOCK : A CASE REPORT**
S.M.Usturge, B.N.Nagaraja and S.S.Honnappagol, Veterinary College, Bidar.
8. **SURGICAL MANAGEMENT OF URETHROTOMY WOUNDS WITH POLYGLACTIN IN BOVINES**
Om Parkash, K.L.Singh, V.K.Sobti and K.S.Roy, Department of Veterinary Surgery and Radiology, PAU, Ludhiana.
9. **EXTRA-SCROTAL SEMINOMA IN A BULLOCK**
T. Madhava Rao, Livestock Assistants Training Centre, Karimnagar, Andhra Pradesh.
10. **EFFICACY OF INDIGENEOUS PLANTS ON HEALING OF EXPERIMENTAL WOUNDS IN COW CALVES.**
P.P. Shrivastva, V.P. Chandrapuria and M.K. Bhargava, College of Veterinary Sci. & A.H., J.N.K.V.V., Jabalpur.
11. **EXPERIMENTAL EVALUATION OF NEEM (*Azadirachta indica*) AND TULSI (*Ocimum sanctum*) LEAVES EXTRACT AS TOPICAL MEDICAMENTS ON WOUND HEALING IN BUFFALO-CALVES.**
A.K.Mathur., Veterinary Hospital, Mandhabhim Singh, Jaipur.
12. **CONGENITAL ANOMALIES IN A KID**
T. Madhava Rao, Livestock Assistants Training Centre, Karimnagar, Andhra Pradesh.

AWARD SESSION : Young Surgeon Award.

Technical Session IV

LEAD PAPERS :

Chairman : Dr. O. Ramakrishna

Rapporteur : Dr. S.S. Marudwar

- | | | |
|-----------------------------------------------------|---|-------------------|
| 1. Anaesthetic management of Traumatized animals | - | Dr. K.K. Mirakhur |
| 2. Rehabilitation and physiotherapy for pet animals | - | Dr. S. Thilegar |

Technical Session V

ANAESTHESIOLOGY

Chairman : Dr. Amresh Kumar

Rapporteur : Dr. S. Thilegar

1. **CARDIOPULMONARY EFFECTS OF DIAZEPAM AND DETOMIDINE ANAESTHESIA IN BOVINES : AN EXPERIMENTAL STUDY**
G.U. Yadav, V.D.Aher, A.P.Bhokre and L.B. Sarkate, Deptment of Surgery and Radiology, M.A.U., Parbhani-431 402
2. **CLINICAL, PHYSIOLOGICAL AND HAEMATO-BIOCHEMICAL EFFECTS OF DIAZEPAM AND DETOMIDINE ANAESTHESIA IN BOVINES**
G.U.Yadav, V.D.Aher, A.P.Bhokre and L.B.Sarkate, Department of Surgery and Radiology, M.A.U.,Parbhani- 431402

3. EFFICIENCY OF MEPIVACAINE HYDROCHLORIDE IN CERTAIN REGIONAL NERVE BLOCKS IN BOVINE - A CLINICAL STUDY
A.P. Bhokre, V.D. Aher and S.S. Ghote, Department of Surgery, MAU, Parbhani
4. COMPARATIVE CARDIOPULMONARY EFFECTS OF XYLAZINE AND DETOMIDINE IN GOATS
D.Dillip Kumar, A.K.Sharma and O.P.Gupta., Division of Surgery, I.V.R.I. Izatnagar.
5. INTRAOSSEOUS REGIONAL ANAESTHESIA OF DISTAL LIMBS IN GOATS.
N.K.Sharma, N.R.Purohit, Sunanda Sharma and Rakesh Mathur, College of Veterinary and Animal Sciences, R.A.U., Bikaner.
6. CLINICAL, HAEMATOLOGICAL AND BIOCHEMICAL EFFECTS OF CENTBUCRIDINE HYDROCHLORIDE AS EPIDURAL ANAESTHETIC IN DOGS
R.M.Tripathi and S.K.Pandey, College of Veterinary Sciences and Animal Husbandry, Jabalpur (M.P.)
7. HAEMATOGICAL AND BIOCHEMICAL EFFECTS OF AURICULO-ELECTROACUPUNCTURE ANALGESIA IN DOGS
Rajesh Tripaathi, N.S. Jadon and Amresh Kumar, College of Veterinary Sciences, Pantnagar (U.P.)
8. REVERSAL OF CARDIOPULMONARY EFFECTS OF EPIDURAL XYLAZINE AND DETOMIDINE BY ATIPAMEZOLE AND YOHIMBINE IN BUFFALOES (*Bubalus bubalis*)
S.K. Tiwari and Amresh Kumar, College of Veterinary Science, G.B. Pant University of Agriculture and Technology, Pantnagar- Nainital
9. CLINICO-SURGICAL EFFECTS OF EPIDURAL XYLAZINE AND DETOMIDINE WITH AND WITHOUT LOCAL ANAESTHETICS IN BUFFALOES (*Bubalus-bubalis*)
S.K.Tiwari, Amresh Kumar and P.V. Parikh, Department of Surgery and Radiology, G.B. Pant University of Agriculture and Technology, Pantnagar, Nainital (U.P.)
10. EVALUATION OF ACEPROMAZINE - CHLORAL - MAG ANAESTHESIA IN YAKS
Adarsh Kumar, J.M. Nigam and S.K.Sharma, Department of Surgery and Radiology, COVAS, HPKV, Palampur (H.P.)
11. EVALUATION OF ACEPROMAZINE MALEATE IN YAKS (*BOS GRUNNIENS*)
Adarsh Kumar, J.M. Nigam and S.K.Sharma, Department of Surgery and Radiology, COVAS, HPKV, Palampur (H.P.)
12. COMPARATIVE EFFICACY OF MEPIVACAINE HYDROCHLORIDE WITH LIGNOCAINE HYDROCHLORIDE IN CERTAIN REGIONAL BLOCKS IN BOVINE; AN EXPERIMENTAL STUDY
V.D.Aher, A.P.Bhokre and S.S.Ghote, Department of Surgery, MAU, Parbhani
13. PHYSIOLOGICAL, CARDIOPULMONARY AND CLINICO-SURGICAL EFFECTS OF AURICULO-ELECTROACUPUNCTURE ANALGESIA IN DOGS
Rajesh Tripathi, N.S.Jadon and Amresh Kumar, College of Veterinary Sciences, Pantnagar, U.P.
14. CARDIOPULMONARY EFFECTS OF TELAZOL (TILETAMINE-ZOLAZEPAM) WITH AND WITHOUT XYLAZINE IN DOGS.
V. Ramasamy, K. Ameerjan and W.P. Archibald David. , Veterinary College and Research Institute, Namakkal, Tamil Nadu.
15. ANAESTHETIC EFFECTS OF TELAZOL AND TELAZOL-XYLAZINE ANAESTHESIA IN DOGS
V. Ramasamy, K. Ameerjan and W. P. Archibald David, Veterinary College and Research Institute, Namakkal, Tamil Nadu.
16. USE OF XYLAZINE AND LIGNOCAINE COMBINATION AS A CAUDAL EPIDURAL ANALGESIC IN BOVINES.
P.R.Zambre, Assistant Director of Animal Husbandry, Veterinary Polyclinic, Nashik.
17. ALPHA -2 AGONISTS WITH DIAZEPAM AS PREANAESTHETIC TO KETAMINE ANAESTHESIA IN GOATS : BIOCHEMICAL CHANGES.
Dipalee Chitale, K. Pratap, Amarpal, O.P, Gupta, H.P. Aithal and G.R.Singh., Indian Veterinary Research Institute, Izatnagar (UP)
18. A STUDY ON ANAESTHESIA IN ASIATIC LION
C.L. Badgujar , R. Mukkavilli , C.C. Wakankar, Bombay Veterinary College, Parel, Mumbai.

19. EPIDURAL XYLAZINE IN BUFFALO CALVES
K. Pratap, Amarpal, P. Kinjavdekar, Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)
20. ANALGESIA OF MANUS AND PES REGIONS IN YAK (*Bos grunniens*)
Kulbhusan, A.C. Varshney, D.N. Sharma, M. Singh, S.K. Sharma and J.M. Nigam, College of Veterinary and Animal Sciences, HPKV, Palampur.
21. CORNUAL NERVE BLOCK IN YAK (*Bos grunniens*)
Kulbhusan, A.C. Varshney, D.N. Sharma, M. Singh, S.K. Sharma and J.M. Nigam, College of Veterinary and Animal Sciences, HPKV, Palampur.
22. CARDIOVASCULAR STUDIES FOLLOWING DIFFERENT ANAESTHETIC COMBINATIONS IN HEPATOPATHIC DOGS
Vinod Kumar, A.C. Varshney, S.K. Sharma, M. Singh and J.M. Nigam, College of Veterinary and Animal Sciences, H.P.K.V., Palampur
23. HISTOPATHOLOGICAL EVALUATION OF DIFFERENT ANAESTHETIC COMBINATIONS IN HEPATOPATHIC DOGS
Vinod Kumar, A.C. Varshney, R.K. Asrani, M. Singh, S.K. Sharma and J.M. Nigam, College of Veterinary and Animal Sciences, HPKV, Palampur.
24. EPIDURAL ANALGESIA WITH MEDETOMIDINE AND KETAMINE IN DOGS
P. Kinjavdekar, Amarpal, H.P. Aithal and K. Pratap, Division of Surgery, Indian Veterinary Research Institute, Izatnagar - (UP)
25. MEDETOMIDINE AND KETAMINE ANAESTHESIA IN BUFFALO CALVES
P. Kinjavdekar, A.M. Pawde, Amarpal and O.P. Gupta, Division of Surgery, Indian Veterinary Research Institute, Izatnagar - (UP)
26. MEDETOMIDINE PETHIDINE FOR EPIDURAL ANALGESIA : A CLINICAL STUDY IN EXPERIMENTAL DOGS.
H.P. Aithal, Amarpal, P. Kinjavdekar; and S.B. Suryawanshi, Division of Surgery, Indian Veterinary Research Institute, Izatnagar - (UP)
27. ANALGESIC AND SEDATIVE EFFECTS OF DIAZEPAM - DETOMIDINE COMBINATION IN BUFFALO CALVES :
Amarpal, A.M. Pawde, P. Kinjavdekar, H.P. Aithal & G.R. Singh, Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)
28. DETOMIDINE-DIAZEPAM-KETAMINE ANAESTHESIA IN BUFFALO CALVES
A.M. Pawde, Amarpal, P. Kinjavdekar, H.P. Aithal and K. Pratap, Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)
29. PRE-EMPTIVE ANALGESIA WITH EPIDURAL LIGNOCAINE AND KETAMINE FOR THE MANAGEMENT OF POST OPERATIVE PAIN AND STRESS IN EXPERIMENTAL DOGS.
Hans Raj, Amarpal, G.R. Singh and V.P. Varshney, Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)
30. CLINICAL EFFECTS OF EPIDURAL KETAMINE AND PETHIDINE IN DOGS
Amarpal, H.P. Aithal, P. Kinjavdekar and G.R. Singh, Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)
31. EPIDURAL LIGNOCAINE AND KETAMINE ALONGWITH THIOPENTAL ANAESTHESIA FOR TIBIAL FRACTURE REPAIR IN DOGS
Hans Raj, Amarpal, G.R. Singh and H.P. Aithal, Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)

AWARD SESSION : Dr. M.R. Patel award for Best Field Veterinarian

Chairman : Dr. P. E. Deore
Rapporteur : Dr. T. K. Gahlot

Technical Session VI

RADIOLOGY AND ALLIED

Chairman : Dr. K. K. Mirakhur
Rapporteur : Dr. M. S. Vasanth

1. ROENTGENOLOGICAL OBSERVATIONS IN BOVINE OSTEOMYELITIS.
A.K. Das, A.P. Singh, Prem Singh, Jit Singh and S.K.Chawla, College of Veterinary Sciences, CCS-Haryana Agricultural University, Hlsar.
2. LUNG CYSTS IN CATTLE AND BUFFALOES- A RADIOGRAPHIC STUDY
Jaivinder Singh, S.K.Chawla, A.P. Singh, Jit Singh and Prem Singh, College of Veterinary Science, CCS-HAU, Hlsar.
3. THE TOPOGRAPHIC ANATOMY OF THE VOMER BONE OF YAK (*Bos grunniens*)
Archana, L.S. Sudhakar and D.N. Sharma, College of Veterinary & Animal Sciences, HPKV, Palampur.
4. THE FUNCTIONAL ANATOMY OF THE OS ZYGOMATICUM OF YAK (*Bos grunniens*)
Archana, L.S. Sudhakar and D.N. Sharma, College of Veterinary & Animal Sciences, HPKV, Palampur.
5. RADIOGRAPHIC DIAGNOSIS OF OESOPHAGEAL DISORDERS IN RUMINANTS
A.P. Singh and Prem Singh, College of Veterinary Science, CCS-HAU, Hlsar (Haryana).
6. ANGIOGRAPHIC STUDIES ON THE BOVINE FOOT
Kemparaja, M.S. Vasanth and S. M. Jayadevappa, Veterinary College, UAS, Bangalore.
7. EFFECT OF DIFFERENT PREMEDICATIONS FOR IOHEXOL MYELOGRAPHY IN CANINES
M.S. Vasanth and S. M. Jayadevappa, Veterinary College, Bangalore.
8. ULTRASONOGRAPHIC DETECTION OF A RETAINED ABDOMINAL TESTICLE
V.M.Chariar, Mumbai

Technical Session VII

SMALL ANIMAL SURGERY :

Chairman : Dr. S.M. Jayadevappa
Rapporteur : Dr. C. C. Wakankar

1. CRYOTHERAPY IN THE TREATMENT OF TUMOURS IN FARM & PET ANIMALS - A CLINICAL STUDY
P.N.Mishra, V.S.C. Bose, A.K.Ray, I.Nath, S.Nayak & T.K.Patnaik, Orissa Veterinary College, Bhubneswar.
2. RETINAL DETACHMENT IN A DOG - A CASE REPORT
M.S. Vasanth and S.M. Jayadevappa, Veterinary College, Bangalore.
3. EXPERIMENTAL INDUCTION OF CATARACT IN CANINES
Md. Shafluzama, M.S. Vasanth and S.M. Jayadevappa, Veterinary College, Bangalore
4. EXTRACAPSULAR CRYOEXTRACTION OF CATARACTOUS LENS IN CANINES
Md. Shafluzama, M.S. Vasanth and S.M. Jayadevappa, Veterinary College, Bangalore.
5. USE OF TISSUE ADHESIVES FOR EAR CROPPING IN CANINES
M.S. Vasanth and M. R. Balaji, Veterinary College, Bangalore

6. **SIMULTANEOUS OCCURRENCE OF ADENOCARCINOMA IN THE PAROTID SALIVARY GLAND AND BUCCAL MUCOSA OF A DOG**
S.K.Pandey, College of Veterinary Science and Animal Husbandry, Jabalpur (M.P.)
7. **MASTOSARCOMA OF LIMB IN AN ALSATIAN DOG - A CASE REPORT**
A.P.Bhokre, V.D.Aher and N.M.Degloorkar, College of Veterinary & Animal Sciences, M.A.U.Parbhani.
8. **SURGICAL MANAGEMENT OF AN UNUSUALLY LARGE FIBROMA IN A WHITE MOUSE**
Utpal Das and Arup Kr. Das, South Calcutta Veterinary Clinic, 59, Ramesh Mitra Road, Calcutta.
9. **PERINEAL HERNIORRHAPHY IN A DOG - A CASE REPORT**
S.Thilagar, T.N.Ganesh and Mohammed Basheer, Peripheral Veterinary Hospital, Centre for Animal Health Studies, Madhavaram Milk Colony, Chennai.
10. **LAPAROSCOPY AND GUIDED BIOPSY OF HEPATOMA AFFECTED LIVER IN A DOG**
T.N.Ganesh, S.Dharmaceelan, B.RameshKumar, R.V.Suresh, K.Vasu and S.R.Pattabiraman, Madras Veterinary College, Chennai.
11. **MULTIPLE METASTATIC BONE NEOPLASMS (ADENOCARCINOMA) IN A DOG**
T.N.Ganesh, A.P.Nambi and B.Murall Manohar, Madras Veterinary College, Chennai.
12. **MANAGEMENT OF AN UNUSUALLY LARGE SIZED TRANSMISSIBLE VENEREAL TUMOUR IN A DOG WITH CHEMOTHERAPY**
T.N.Ganesh, R.V.Suresh, B. Ramesh Kumar and S.R.Pattabiraman, Madras Veterinary College, Chennai.
13. **PYMETRA IN TWO OOPHORECTOMISED DOGS**
V.M. Charlar and B.R. Raj, Bombay Veterinary College, Mumbai.
14. **GASTRO-INTESTINAL FOREIGN BODIES IN CANINES - REVIEW OF 5 CASES.**
Mohinder Singh, A.C. Varshney, S.K. Sharma, J.M. Nigam, Haminder Sharma and Ajay Gupta, College of Veterinary and Animal Sciences, HPKV, Palampur (H.P.).
15. **EVIDENCE OF DIFFERENT TYPES OF TESTICULAR TUMOUR IN CRYPTORCHID AND MONORCHID DOGS.**
Dr. D.K. De and Dr. P.K. Bose, WBUAFS, Belgachia, Calcutta.
16. **SURGICAL MANAGEMENT OF SKULL TRAUMA IN A DOG**
Adrash Kumar, Arvind Mahajan, Simmi Manuja and K.D. Rayot, Veterinary Polyclinic, Shahpur (H.P.)

FIELD PROBLEMS : Technical discussion

Chairman : Dr. S.S. Rathore
Rapporteur : Dr. K. G. Avachat

Technical Session VIII

LEAD PAPERS :

Chairman : Dr. Harpal Singh
Rapporteur : Dr. T. N. Ganesh

1. Diagnostic procedures in traumatised pet animals - Dr. C.C. Wakankar
2. Correction of physiological imbalances in traumatised large animals - Dr. B.M. Jani

Technical Session IX

ORTHOPAEDIC SURGERY :

Chairman : Dr. S.S. Mishra

Rapporteur : Dr. S.C. Ojha

1. SPONTANEOUS RECOVERY IN TWO DOGS AFTER SEVERE PELVIC TRAUMA
C.L. Badgujar and L.B. Sarkate, Bombay Veterinary College, Parel, Bombay.
2. USE OF CARBON FIBRES FOR THE RECONSTRUCTION OF SUPERFICIAL DIGITAL FLEXOR TENDON IN CROSSBRED CALVES : BIOCHEMICAL AND SCANNING ELECTRON MICROSCOPIC STUDY
Naveen Kumar, A.K. Sharma, Gaj Raj Singh and Satish Kumar, Division of Surgery, National Biotechnology Centre, Indian Veterinary Research Institute, Izatnagar (UP).
3. CLINICAL STUDIES ON THE USE OF POLYVINYL CHLORIDE SPLINTS FOR FRACTURE IMMOBILIZATION IN SMALL RUMINANTS.
B. Ramesh Kumar, B. Justin William, R. Gnanasekar, A. Arun Prasad and S.R. Pattabiraman., Department of Clinics, Madras Veterinary College, Chennai.
4. BILATERAL COMPOUND LOWER EPIPHYSEAL FRACTURES OF RADIUS AND ULNA IN AN ALSATIAN DOG.
C.L. Badgujar, and L.B. Sarkate, Bombay Veterinary College, Parel, Mumbai.
5. CHRONIC LAMENESS IN DOGS - A CLINICAL STUDY IN SEVENTEEN CANINE CASES
S. Ayyappan, T.N. Ganesh and S. Thilagar, Peripheral Veterinary Hospital, Directorate-Centre for Animal Health Studies, Madhavaram Milk Colony, Chennai.
6. A NEW EXTERNAL FIXATOR IN SMALL ANIMAL
C.C. Wakankar, Y.M. Chariar, B.R. Raj, Mumbai.
7. SURGICAL CORRECTION OF CONTRACTED TENDONS IN A JERSEY CROSSBRED CALF.
T. Madhava Rao., Livestock Assistants Training Centre, Karimnagar, Andhra Pradesh.
8. HISTOMORPHOLOGICAL STUDIES OF FRACTURE HEALING FOLLOWING USE OF INDIGENOUS MEDICINES.
Hamam Singh and Harpal Singh, College of Veterinary Science, Pantnagar - 263145 [UP]
9. EVALUATION OF AUTOGENOUS CORTICAL BONE FRAGMENT GRAFTING IN FRACTURES OF RADIUS IN DOGS.
V.K. Sobti, R.K. Grover and K.S. Roy., Department of Veterinary Surgery and Radiology, PAU Ludhiana.
10. CLINICAL, HAEMATOLOGICAL AND BIOCHEMICAL OBSERVATIONS FOLLOWING THE USE OF HOMOLOGOUS DEEP FROZEN TENDON GRAFTS IN EQUINE.
Narinder Singh Saini and K.K. Mirakhur, Punjab Agricultural University, Ludhiana, Punjab.
11. THE EFFECT OF THYROXINE AND INSULIN IN FRACTURE HEALING-BIOCHEMICAL EVALUATION OF CALLUS
S. Surya Wanshi, S.K. Maiti, Kesava Rao and B.N. Kowle, Division of Surgery, Indian Veterinary Research Institute Izatnagar
12. CLINICO-RADIOLOGICAL EVALUATION OF SINGLE AND CROSS INTRAMEDULLARY PINNING IN THE MANAGEMENT OF TIBIAL METAPHYSEAL FRACTURE IN DOG.
S. Suryawanshi, S.K. Maiti, H.P. Aithal and G.R. Singh, Division of Surgery, Indian Veterinary Research Institute, Izatnagar.
13. THE EFFECT OF THYROXINE AND INSULIN HORMONES IN FRACTURE HEALING-RADIOLOGICAL AND RIA STUDY.
S. Suryawanshi, S.K. Maiti, G.R. Singh and V.P. Varshney., Division of Surgery, Indian Veterinary Research Institute Izatnagar.

14. FRACTURES OF LONG BONES IN DOGS: A RETROSPECTIVE ANALYSIS OF ETIOLOGY
H.P. Aithal, G.R. Singh and G.S. Bisht, Indian Veterinary Research Institute, Izatnagar, UP
15. INCIDENCE OF FRACTURES IN DIFFERENT DOMESTIC ANIMALS-A TWENTY YEARS' SURVEY ANALYSIS
H.P.Aithal, G.R. Singh and G.S. Bisht, Indian Veterinary Research Institute, Izatnagar.
16. HORN PLATES IN THE MANAGEMENT OF SUPRACONDYLAR FEMORAL FRACTURE IN DOGS - AN EXPERIMENTAL STUDY
H.P. Aithal, G.R. Singh, Amarpal and H.C. Setia, Indian Veterinary Research Institute, Izatnagar.
17. MODIFIED TECHNIQUE OF SINGLE PIN FIXATION AND CROSS INTRAMEDULLARY PIN FIXATION TECHNIQUE FOR SUPRACONDYLAR FEMORAL FRACTURE IN DOGS : AN EXPERIMENTAL STUDY:
H.P.Aithal, G.R. Singh and H.C. Setia, Indian Veterinary Research Institute, Izatnagar.
18. MODIFIED PIN FIXATION FOR DISTAL METAPHYSEAL - EPIPHYSEAL FRACTURES OF FEMUR IN THE DOG : A REVIEW OF 7 CASES
H.P. Aithal, G.R. Singh, Amarpal, P. Kinjavdekar and M.Hoque., Indian Veterinary Reseach Institute, Izatnagar.
19. HEALING OF ARTICULAR CARTILAGE FOLLOWING INTRA ARTICULAR PIN FIXATION IN DOGS:
H.P.Aithal, G.R. Singh and A.K. Sharma, Indian Veterinary Research Institute, Izatnagar.
20. EARLY DIAGNOSTIC PARAMETERS IN EXPERIMENTAL POST TRAUMATIC OSTEOMYELITIS
M.Hoque and G.R. Singh, Division of Surgery, Indian Veterinary Research Institute, Izatnagar.
21. A RETROSPECTIVE STUDY OF POSTTRAUMATIC OSTEOMYELITIS IN ANIMALS
M. Hoque, G.R. Singh and H.P. Aithal, Division of Surgery, Indian Veterinary Institute, Izatnagar.

PLENARY SESSION : Recommendations

Chairman : Dr. J.M.Nigam
Rapporteur : Dr. A.P. Singh

14. FRACTURES OF LONG BONES IN DOGS: A RETROSPECTIVE ANALYSIS OF 27 CASES
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

15. INCIDENCE OF FRACTURES IN DIFFERENT DOMESTIC ANIMALS - A TWENTY YEAR SURVEY - ANALYSIS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

16. HORN PLATES IN THE MANAGEMENT OF SUPRACONDYLAR FEMORAL FRACTURES IN DOGS - AN EXPERIMENTAL STUDY
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

17. MODIFIED TECHNIQUE FOR PIN FIXATION OF FEMORAL FRACTURE IN DOGS: A PRELIMINARY EXPERIMENTAL STUDY
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

18. MODIFIED PIN FIXATION FOR DISTAL METAPHYSEAL PHYSICAL FRACTURES OF FEMUR IN DOGS: A PRELIMINARY EXPERIMENTAL STUDY
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

19. HEALING OF ARTICULAR CARTILAGE FOLLOWING SURGICAL REPAIR OF FRACTURES OF THE FEMUR IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

20. EXPERIMENTAL STUDY ON THE EFFECT OF VARIOUS TYPES OF SURGICAL TREATMENT OF FEMORAL FRACTURES IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

21. EXPERIMENTAL STUDY ON THE EFFECT OF VARIOUS TYPES OF SURGICAL TREATMENT OF FEMORAL FRACTURES IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

22. EXPERIMENTAL STUDY ON THE EFFECT OF VARIOUS TYPES OF SURGICAL TREATMENT OF FEMORAL FRACTURES IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

23. EXPERIMENTAL STUDY ON THE EFFECT OF VARIOUS TYPES OF SURGICAL TREATMENT OF FEMORAL FRACTURES IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

24. EXPERIMENTAL STUDY ON THE EFFECT OF VARIOUS TYPES OF SURGICAL TREATMENT OF FEMORAL FRACTURES IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

25. EXPERIMENTAL STUDY ON THE EFFECT OF VARIOUS TYPES OF SURGICAL TREATMENT OF FEMORAL FRACTURES IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

26. EXPERIMENTAL STUDY ON THE EFFECT OF VARIOUS TYPES OF SURGICAL TREATMENT OF FEMORAL FRACTURES IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

27. EXPERIMENTAL STUDY ON THE EFFECT OF VARIOUS TYPES OF SURGICAL TREATMENT OF FEMORAL FRACTURES IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

28. EXPERIMENTAL STUDY ON THE EFFECT OF VARIOUS TYPES OF SURGICAL TREATMENT OF FEMORAL FRACTURES IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

29. EXPERIMENTAL STUDY ON THE EFFECT OF VARIOUS TYPES OF SURGICAL TREATMENT OF FEMORAL FRACTURES IN DOGS
H.R. ASHALL, G.R. SIMON and G.S. BISHOP, Indian Veterinary Research Institute, Izatnagar, U.P.

V.A. Sharma, S.C. Deka and S. N. Sarda, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar

An adult Karleki cow calving

suffering from obstructed calving

referred to the Dept. of Clinical

mass was severely infarcted

had scrotal testis, yellow color

Per-rectal examination did not

of cystic ovarian follicles

operation was performed

vagina. The surgical

management to be advised

Dr. Anand Kumar

for management of critically

ill adult animals

Dr. T. R. Ganesan

for diagnosis of

ill adult animals

Dr. S. R. Singh

for

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RECURRENT VAGINAL PROLAPSE IN A

V.A. Sharma, S.C. Deka and S. N. Sarda, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar

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ABSTRACTS

Practical Session II

ABSTRACTS

Dr. P. E. Kulkarni

Dr. B. M. Jait

COMPARISON OF THREE DIFFERENT

TECHNIQUES FOR RELIEVING SPASTIC

PARALYSIS IN BULLOCKS: A CLINICAL

Dr. R. P. Pabari, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar

Dr. M. S. Andriy, Andriy

A clinical study included 17 bullocks

paralysis in a value of 100%

100% recovery in 100%

100% recovery in 100%

100% recovery in 100%

100% recovery in 100%

100% recovery in 100%

100% recovery in 100%

100% recovery in 100%

100% recovery in 100%

100% recovery in 100%

COMPARISON OF DMSO AND NORMAL

SALINE LAVAGE IN TREATMENT OF

GENTAMICIN OR E-coli

INDUCED ARTHRITIS IN CALVES

Dr. R. P. Pabari, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar

Dr. M. S. Andriy, Andriy

Dr. R. P. Pabari, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar

Dr. M. S. Andriy, Andriy

Dr. R. P. Pabari, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar

Dr. M. S. Andriy, Andriy

Dr. R. P. Pabari, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar

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Dr. M. S. Andriy, Andriy

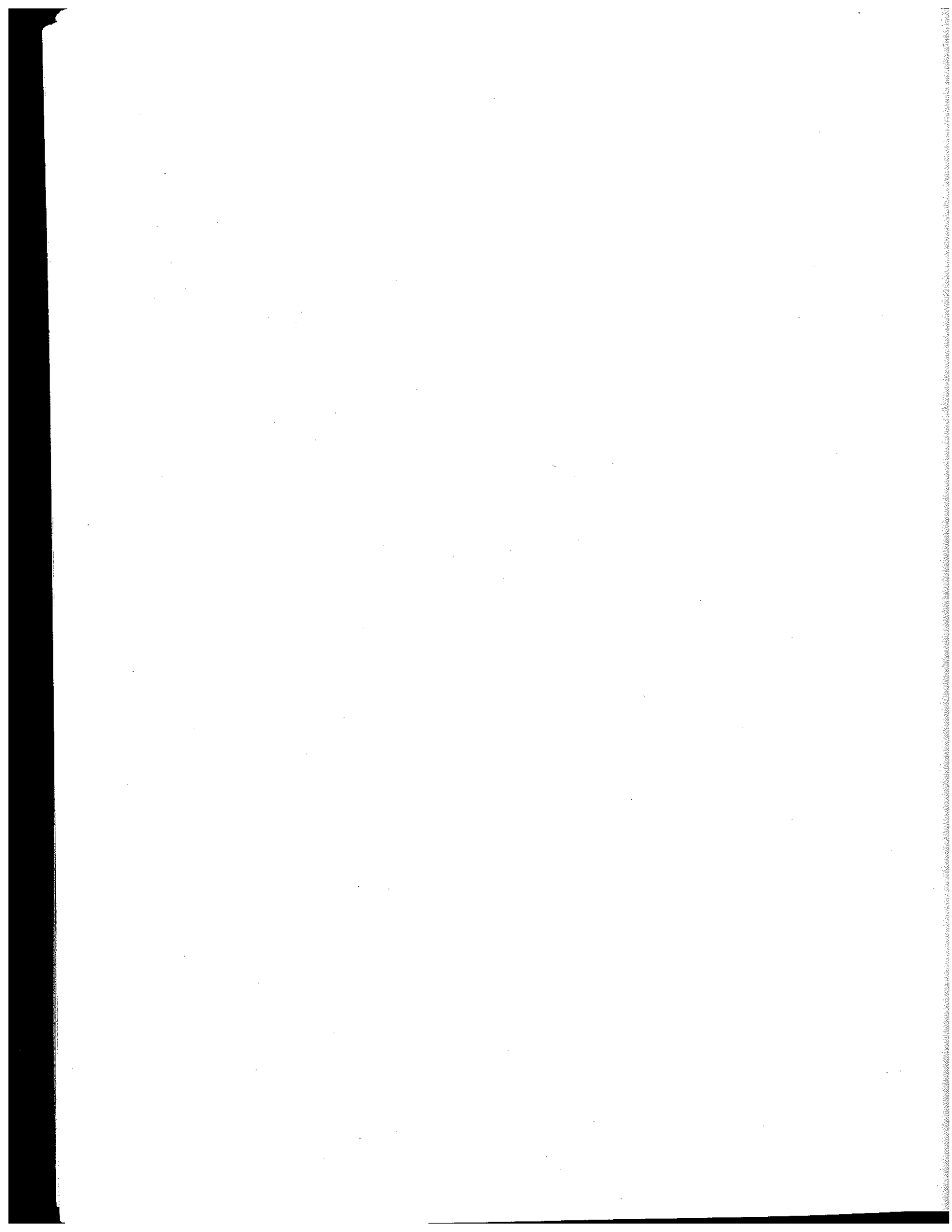
Dr. R. P. Pabari, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar

Dr. M. S. Andriy, Andriy

Dr. R. P. Pabari, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar

Dr. M. S. Andriy, Andriy

Dr. R. P. Pabari, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar



Technical Session I

THEME PAPERS :

Chairman : Dr. R. P. S. Tyagi

Rapporteur : Dr. S. K. Pandey

1. Anaesthetic Immunity
- Dr. Amresh Kumar
2. Approach to management of critically traumatised pet animals
- Dr. T. N. Ganesh
3. Role of Radiology in diagnosis of traumatised animals
- Dr. Gaj Raj Singh

Technical Session II

LARGE ANIMAL SURGERY-I

Chairman : Dr. P.E. Kulkarni

Rapporteur : Dr. B.M. Jani

EVALUATION OF THREE DIFFERENT TECHNIQUES FOR RELIEVING SPASTIC PARESIS IN BULLOCKS : A CLINICAL STUDY.

D.R.Barvalia and R.R. Parsania, College of Veterinary & Animal Husbandry, Anand

A clinical study included 18 bullocks suffering from spastic paresis to evaluate three surgical techniques viz., traditional tenotomy (group I), modified gastrocnemius tenectomy (group II) and modified gastrocnemius tenectomy with suitable correction of keeping deep calcaneal covering intact (group III). Animals of groups I showed recovery in three (50%) cases, while three (50%) exhibited postoperative complications such a recurrence, total collapse of limb or no result. Animals of group II had complete recovery in five (83.33%) cases in 30-40days. However, three bullocks developed untoward signs of knuckling of fetlock, jerky steppings and/or dropped hock which disappeared after about 40 days, but in one bullock severe lameness persisted. Whereas,, the animals of group III revealed encouraging results of recovery in all the bullocks with not a single failure or recurrence upto 1 year. A clinical study revealed that modified gastrocnemius tenectomy with suitable correction of keeping deep calcaneal covering proved to be effective, simple, inexpensive technique suitable for field conditions.

RECURRENT VAGINAL PROLAPSE IN A KANKREJ COW AND ITS MANAGEMENT

V.K.Sharma, S.C.Ojha and B.N.Surthar, College of Veterinary Sci. & A.H., G.A.U., Sardarkrushinagar

An adult kankrej cow calved 8 months ago, suffering from chronic recurrent vaginal prolapse was referred at the Dept. of Clinics. Clinically the prolapse mass was severely inflamed and vaginal mucosa had scattered pale yellow coloured patches/lesions. Per-rectal examination did not reveal any evidence of cystic ovarian disease. A modified Caslicks operation was performed to retain the prolapsed vagina. The surgical technique and its post operative management have been discussed.

COMPARISON OF DMSO AND NORMAL SALINE LAVAGE IN CONJUNCTION WITH GENTAMICIN TREATMENT FOR E.coli INDUCED ARTHRITIS IN COW CALVES

A.D. Parendekar, R.R. Parsania, D.R.Barvalia, N.H.Kelawala and V.P. Parikh, College of Veterinary & Animal Husbandry, Anand

Eighteen cow calves were randomly divided into three groups of six animals each and were subjected to 5 ml of *E.coli* inoculum containing 4×10^8 organisms/ml to induce arthritis of tibio-tarsal joint. Animals of group I were kept as control, whereas, animals of group II and III were subjected to 100 mg of Gentamicin intraarticularly in conjunction with 500ml of 10% DMSO and 500ml normal saline lavage, respectively. Clinical and synovial fluid analysis revealed beneficial effect of DMSO lavage over normal saline lavage.

EFFICACY OF CRYOSURGERY IN TREATMENT OF BOVINE DIGITAL DERMATITIS

Kemparaja, Shivakumar and M.S.Vasanth, Veterinary College, U.A.S., Bangalore

Digital dermatitis was found like an outbreak in the cattle around Ramanagaram Taluk, characterized by cracks on the skin, oozing of foul smelling exudate on the plantar aspect of foot not connected with any systemic disease. Sixty such clinical cases were divided into two groups and subjected to antibiotic therapy (Group I) and cryosurgery (Group II), respectively. Antibiotic (tetracycline) was given systematically for thirty days. Cryosurgery was performed using topical application of liquid nitrogen with a cotton swab only once over the lesion. Recovery in group I was 24 ± 5

days and in group II 14±3 days. Hence, cryosurgical treatment was found to be highly advantageous over the antibiotic therapy.

TYMPANY AS A SEQUEL TO DIAPHRAGMATIC ABSCESS - A REPORT OF TWO CASES

R. Bhatia, P.S. Bansal and V.K. Sobti, Department of Veterinary Clinics and Continuing Education, PAU Ludhiana

Two buffaloes aged 5 and 8 years were presented with history of acute tympany. Rumenotomy revealed the presence of non penetrating foreign bodies in reticulum, severe impaction of rumen and omasum, displacement of reticulum towards extreme right side of the abdominal cavity. There was appreciable displacement of esophageal groove along with cardia towards right side. The cardia was compressed. Examination of left lateral ruminal wall revealed the presence of tense football size swelling which was displacing the cardia. In another case, the swelling almost of the same size was present almost in the centre of the diaphragm. Needle puncture of the swelling revealed pus which was aspirated using suction apparatus.

HAEMATIC MUMMIFICATION IN CHURI

Sandeep Mishra, Veterinary Officer, Mobile Veterinary Dispensary, Palampur (H.P.)

A Churi (Yak X Zebu) aged 7 years was presented in Veterinary Hospital, Dharwas; Pangi with a history of prolonged gestation period of about 15 days. Per rectal examination revealed a solid contracted mass inside the uterus. Fluid, fremitus, cotyledons and foetal membrane slip were absent. Pervaginal examination revealed closed cervix. The case was diagnosed as mummification. Right paramedian laparotomy was performed under Xylazin and 2% of local infiltration analgesia. The uterus was exteriorized through laparotomy incision and hysterotomy was done. Thick chocolate coloured adhesive substance was present in between uterus and foetus. The uterus was cyanosed. The mummified foetus was identified as Haematic mummification. The uterus was sutured by applying Lambert suture and finally the laparotomy incision closed in routine manner. Postoperatively, systemic antibiotics and analgesics were given for 5 days. Fluids were also administered intravenously. The animal showed uneventful recovery.

LAPARO-RUMENOTOMY DURING G.I. TRACT DISORDERS IN BOVINE-A REPORT ON 30 CLINICAL CASES.

S.P. Sharma, Bihar Veterinary College, Patna.

Among the thirty clinical cases of gastro intestinal disorders in bovine (24 cows, 3 heifers, 2 bullocks and a she buffalo) in which laparorumenotomy was done between the period of May, 82 to July, 97, foreign bodies were removed from the reticulum and rumen in 13 cases; ruminal impaction, atony, acute ruminal tympany were relieved in 15 cases and the abdominal tension was minimised to facilitate easy surgery prior to surgical correction of intususception in 2 cases. The foreign bodies included nails, screws, needles, hair-clips, chain, coins, pieces of wire, metal etc. of metallic origin and plastics, rope, clothes, pieces of brick, stones, plates, glass, tooth etc. Among the cows, five were carrying 7 to 8 months pregnancy. The mortality rate was 23.3 per cent.

A CASE OF INTESTINAL OBSTRUCTION DUE TO TWIST IN A BULLOCK

V.D. Jahagirdar, Assistant Director of Animal Husbandry, Nanded (M.S.), Itwara

A non-descript dehydrated bullock aged 11 years with signs of colic revealed large mass in the abdominal cavity and blood tinged mucous in the rectum on per rectal examination; suggestive of intestinal obstruction. Right-flank laparotomy was performed under local analgesia. Exteriorised intestine revealed twist after iliocaecal junction with engorgement of anterior part of intestine, and degeneration. Unhealthy portion of intestine was removed and end to end intestinal anastomosis was accomplished. Liquid oxytetracycline (20 ml) and one litre of Ringer's lactate was poured in the abdominal cavity and the abdomen was repaired routinely. Animal was then maintained on Ringer's lactate and oxytetracycline injection supported with ascorbic acid and B. Complex injection for 5 consecutive days. Animal showed uneventful recovery.

A NEW TECHNIQUE FOR CORRECTION OF LOWER TEAT OBSTRUCTION IN CATTLE.

M.K. Bhargava, College of Vety. Sci. & A.H., Jabalpur (M.P.)

For correction of obstruction 15 No. B.P. blade was used. After securing the animal in standing position cruciate incision was given on the tip of the teat orifice to the depth of obstruction till the free flow of milk started. The incised tissue was either cut from

its base or was left as such. After operation infusion of Tilox was done followed by local application of Wokadin liquid and bandaging with adhesive tape. The Tilox was infused for 5 days and the wound was dressed daily. Parenteral injection of Bistrepen or Dicrysticin 2.5 gm. I/M for 5 days, Avil 10 ml and Dictofenac 20 ml, I/M daily for 3 days was also given. The technique used in 75 animals, gave 60-70% success.

EVALUATION OF HAEMOSTATIC METHODS IN AMPUTATION OF BOVINE CANCEROUS HORN

V.S.Dabas, D.B.Patil, S.C.Ojha and J.N.Mistry, College of Veterinary Science & Animal Husbandry, Gujrat Agricultural University, S.K.Nagar.

Studies were undertaken in 20 clinical cases of horn cancer in Kankrej bullocks to evaluate different haemostatic method. Animals were classified in four groups of five animals each. The operative procedure was the same (flat method) in all the animals. In group I, ligation of cornual blood vessels was done after amputation of horn; group II, ligation of cornual vessels was done before amputation; in groups III and IV, alongwith ligation of cornual vessels before amputation of horn; additionally, local haemostatic agent (Hemlok) was applied (Group III) and electrocautery was used (Group IV) to control haemorrhage. In each case duration of nasal discharge, age, length and diameter of the base of affected horn (cm), extent of tumour mass in frontal sinus and blood loss (gm) during operation was recorded. It was concluded that ligation of cornual vessels before amputation of horn (Group II), resulted in minimum extent of haemorrhage.

A NEW TECHNIQUE OF STERILIZATION OF COWS

S.S. Misra, College of Veterinary Science & Animal Husbandry, Mathura.

A new technique of intra ovarian injection of cadmium chloride (0.1 ml of 0.1% Conc) through ischio-rectal fossa approach guided per (hand in) rectum has been described. The technique proved safe and out of 23 cows treated, none of them repeated.

SKULL TRAUMA IN EQUINE - A CASE REPORT

Adarsh Kumar and K.B. Sharma, Veterinary Polyclinic, Shahpur (HP)

A mare aged six years (11 months pregnant) was presented with a trauma on skull caused by a

rock piece bursted out of state mine explosion. Both the nasal bones were damaged and air was escaping from the wound. In addition, the skin of left cheek was everted. The mare was administered Acepril at the dose of 0.5 mg/kg b.wt. intervenously and infra-orbital nerve block in standing position. The bone pieces from the wound were removed. The nasal passages were clogged with clotted blood and bone chips. To remove the blockade and restore the patency, nasal passages were flushed with mild Condy's lotion after inserting a nylon pipe through the wound. Sharp edged of bones were cut, skin and muscles were sutured so as to prevent the escape of air. Adequate supportive therapy was given. Animal recovered in 10 days.

SURGICAL MANAGEMENT OF RUMINAL IMPACTION IN A PREGNANT COW.

K.D. Rayot, Adrash Kumar, Arvind Mahajan and Simmi Manuja, Veterinary Polyclinic, Shahpur (H.P.)

A pluriparous cow (Jersy cross) aged 10 years was presented with one month overgestation. There was a history of decreased to complete intake and inappetance that progressed to complete anorexia since last 4-5 days. Defecation was suspended with intermittent and scanty urination. Clinical evaluation revealed ruminal stasis. On per-vaginal examination foetal movements and fremitus were evident. Keeping in view the condition of the animal. Caesarean Section was decided. A left flank midline incision was made. Rumen was so much distended that it displaced the uterus. Rumenotomy was performed and approximately 25 kg. of polywaste was removed. The surgical wound was closed in a routine manner. Supportive therapy included fluid replacement and antibiotics. Animal recovered uneventfully.

POSTER SESSION

MELANOMA IN A BULL

P.Narsimha Reddy, Veterinary Hospital, Shadnagar, Andhra Pradesh.

The histopathological studies of a tumour weighing 1.2 kg. revealed presence of melanin pigment, disflowing collagen fibres, intact epithelium and no mitotic figures.

HERBAL PREPARATIONS - A PANACEA FOR REPAIR OF CUTANEOUS TRAUMA - A DYNAMIC MACRO AND MICROFABRIC APPRAISAL.

R.L.Bhardwaj, D.N.Sharma and A.C.Varshney, College of Veterinary and Animal Sciences, HPKV., Palampur (H.P.)

Extensive research was conducted to evaluate the economically feasible and readily available herbal healers for the treatment of the bovine cutaneous wounds. Pure neem oil, neem oil in paraffin paste (1:1 and 1:3 concentrations, neem oil paraffin paste with turmeric powder (1:2:1) and Himax (Indian Herbs) and Himax (Topical) + Teeburb (oral) treatments were compared. Each treatment was conducted on six animals. Bilateral 1" x 1" full skin thickness wounds were created along the dorsolumbar region on either side of the spine. Left side wounds served as control whereas the right side wounds were treated. Clinical, gross and histopathological examinations of the wounds at regular intervals upto 4 weeks revealed that the neem oil in paraffin paste (1:1) yielded the best results followed by Himax (Topical) + Teeburb (oral) medication. Nearly similar results were obtained when neem oil, paraffin paste and turmeric powder (1:2:1) were used.

INTER CALARY ALLOGRAFTING OF SEGMENTAL CORTICAL DEFECTS IN DOGS USING DYNAMIC COMPRESSION PLATES

S. Ayyappan and W.P. Archibald David, Peripheral Veterinary Hospital, Directorate-Centre for Animal Health Studies, Madhavaram Milk Colony, Chennai.

Dynamic Compression plating technique was used for rigid immobilisation of intercalary allografts in created segmental defects of tibia in dogs. Approximately 2.5 cms. to 2.8 cms of allograft were used to fill the defect and the graft was immobilised using an 8 hole 3.5 mm dynamic compression plate based on AO / ASIF techniques. Stability and rigid fixation at proximal and distal cortical surfaces permitted early weight bearing and near normal function of limb immediate post surgery. Minimal post operative complications were reported.

CHRONIC OSTEOARTHRITIS IN BOVINES : A RETROSPECTIVE STUDY

Suresh J. Baviskar and S.K. Jawalikar, Cattle Breeding Farm, Kopargaon Ahmednagar

Ninety clinical cases of chronic osteoarthritis in Holstein Friesian in different inheritance of crossbred and exotic heifers and cows observed during a period of fifteen years from 1982 to 1997 in organized farm were studied, retrospectively through records for involvement of various factors viz. age, feeding, management and cause in relation to chronic osteoarthritis.

The cases were found to be distributed throughout the year, nevertheless the frequency was

higher in age group of 6 to 8 year crossbred cows. In most of the cases fetlock, hock and pastern joints with severe expansive exostoses resulting into lameness due to pressure on nerves and tendons were noted. The flexor tendons were affected with tendency towards ossification. No definite reason could be ascertained for chronic osteoarthritis.

MODIFIED GASTROCNEMIUS TENECTOMY : AN EFFECTIVE SURGICAL PROCEDURE TO RELIEVE SPASTIC PARESIS IN BULLOCKS

D.R. Barvalia and R.R. Parsania, Department of Surgery & Radiology, College of Veterinary & Animal Husbandry, Anand, Gujarat.

Modified gastrocnemius tenectomy keeping deep calcaneal covering intact was applied in total of 24 clinical cases of spastic paresis in bullocks. The technique is simple, inexpensive, field applicable and most effective to relieve spasticity in bullocks.

SURGICAL MANAGEMENT OF GASTRO-INTESTINAL DISORDERS IN RUMINANTS - REVIEW OF 25 CASES.

Mohinder Singh, J.M. Nigam, A.C. Varshney, S.K. Sharma, Ajay Gupta and Haminder Sharma, College of Veterinary & Animal Sciences, H.P.K.V, Palampur (H.P.)

During the last 10 years (we.f. April 1987 to April, 1997), surgical management of 25 clinical cases in cattle and buffaloes suffering from various ailments of intestinal obstruction, traumatic reticulitis, diaphragmatic hernia, rumen impaction and fistula of reticulum and intestine attempted. Routine standard anaesthetic and surgical procedures were employed to manage these cases. Three animals (2 cattle and 1 buffalo) collapsed following surgery. Two animals exhibited severe post operative complications and died within seven days. The remaining twenty animals showed uneventful recovery.

Technical Session III

LARGE ANIMAL SURGERY-II

Chairman : Dr. Lal Krishna

Rapporteur : Dr. Amar Pal

AN EFFECTIVE SURGICAL PROCEDURE TO RELIEVE SPASTIC PARESIS IN BULLOCKS : A STUDY OF 18 CLINICAL CASES

D.R. Barvalia and R.R. Parsania, College of Veterinary & Animal Husbandry, Anand.

On the basis of research findings, Modified

gastrocnemius tenectomy keeping calcaneal covering intact was tried in 18 bullocks suffering from spastic paresis. Clinical results revealed complete recovery in all the animals with only minor complications of stiff gait and slight dropped hock for few weeks. This technique can be applied in field conditions without any discernible complications.

SURGICAL REMOVAL OF FIBROSARCOMA IN A BULLOCK - A CASE REPORT

R.W.Ashturkar, Veterinary Dispensary, Kalamnuri, Dist.Parbhani.

A non-descript bullock aged about 10 years was brought for treatment with the history of continuous growing tumor at lumbosacral region. The tumor mass was firm and football size which developed within 6 months. The tumor was removed under local infiltration and epidural nerve block with 2% Lignocaine Hcl. The growth weighted 2.5 Kg. There was profuse bleeding which was minimised by ligating veins. Injection Straden 15ml intramuscular was given. During operation 5% normal saline with dextrose 1000 ml was given Intravenously with 4 ml corticosteroids. The surgical wound was repaired in routine manner. Blood transfusion (500ml) was also given. However, the bullock collapsed after 2 hrs of surgery. Histopathology of the tumor confirmed it a fibrosarcoma.

LEIOMYOSARCOMA OF NECK OF A BULLOCK

B.W.Kale, V.D.Aher and A.P.Bhokre, M.A.U., Parbhani.

A 7 years old nondescript bullock was presented to the veterinary polyclinic with the history of inflammatory swelling on neck region since 8 days. The swelling was hard, painful and warm initially. The case was tentatively diagnosed as yoke gall. Since there was no improvement in the case upto 20 days with the conservative treatment hence surgical removal of the mass was decided. The tumor mass was excised. Histopathological examination of the tumor revealed it to be a leiomyosarcoma.

UNILATERAL FACIAL NERVE PARALYSIS IN BULLOCK - A CASE STUDY OF FOUR CLINICAL CASES

V.D.Aher, A.P.Bhokre and L.B.Sarkate, College of Veterinary and Animal Sciences, Marathwada Agricultural University, Parbhani.

Four non-descript bullocks presented to the Veterinary Polyclinic suffering from unilateral facial nerve paralysis were given conservative and Surgical

treatment. The accumulated food in the vestibule was removed manually. Animals were given Nervine tonics (Inj. Neurobion 12ml i/m) for 15 days and infra red rays therapy for 21 days. In otitis cases, modified Zepp's technique was performed to achieve drainage of the affected ear. Culture and sensitivity examination of ear swab was done. Daily dressing of ear with gentamycin ear drops was undertaken. Only two cases were recovered each one from conservative and surgical treatment. Otitis may be one of the etiology for facial nerve paralysis.

A CLINICAL STUDY ON MYIASIS IN FARM AND PET ANIMALS

S.Thilagar, S.Ayyappan and S.R. Srinivasan, Peripheral Veterinary Hospital Centre for Animal Health Studies, Madhavaram Milk Colony, Chennai

A clinical study on Myiasis was conducted on 68 cases reported to the Peripheral Veterinary Hospital Centre for Animal Health Studies, during the period of January - June '97. The distribution of animals were cattle (67.6%), Buffalo (25.0%) Sheep and goat (5.9%) and dog (1.5%). The regions mainly involved were vulva (28.9%), hoof (17.4%) and remaining were other areas prone for pressure wounds. The correlation of color revealed more in brown hair coat animals (44.1%) than black hair coat animals (36.8%). The larvae were mainly *Chrysomya bezziana* (95.5%) and *Chrysomya mogacephala* (4.5%). High incidence during the period were correlated with Agroclimatic condition, fly responsible besides the effect of treatment.

CLINICAL STUDY ON THE USE OF CORRUGATED DRAIN FOR BETTER WOUND DRAINAGE IN RUMINANTS

B.Rameshkumar, R.Jayaprakash, Deepu Philip Mathew, Angela B.Lobo, R.Chitra and S.R. Pattabiraman, Madras Veterinary College, Chennai

A clinical study was conducted using corrugated drainage tube, for the treatment of sinus wound in ruminants. The animals were prepared for fixing of the drain by clipping and shaving the surrounding area of the wound. The wounds were irrigated with 0.5% Providone Iodine solution. Then the drains were introduced into the wound cavity and fixed by two stay sutures. All the animals were treated with Streptopencillin post operatively. Daily flushing of the wound was undertaken using 0.5% Povidone Iodine. Animals were under observation for one week. After one week the drainage tubes were removed and all the animals showed uneventful recovery.

SURGICAL REMOVAL OF EXTENSIVE NASAL POLYPI IN A BULLOCK : A CASE REPORT

S.M.Usturge, B.N.Nagaraja and S.S.Honnappagol,
Veterinary College, Bidar.

A six year old Deoni bullock was presented to clinics for removal of multiple pedunculated obstructive nasal masses originating deeply from the nasal cavity. The attachment of obstructive masses were inaccessible through nostril, hence it was decided to access the origin/attachment through trephining of the nasal cavity. The growths were removed by manoeuvring the attachments with long handed haemostat and scissors. The capillary bleeding was controlled with application of sterilised pressure gauze soaked in adrenalin. The trephine opening was closed routinely. Histopathologically it was confirmed that the growths were of nasal polyps.

SURGICAL MANAGEMENT OF URETHROTOMY WOUNDS WITH POLYGLACTIN IN BOVINES

Om Parkash, K.L.Singh, V.K.Sobti and K.S.Roy,
Department of Veterinary Surgery and Radiology, PAU,
Ludhiana.

The study was conducted on twelve cross bred male cow calves. Animals were randomly divided into two groups (Groups I & II) of six animals each. After post scrotal urethrotomy and intubation, urethral wound was left unsutured in group I (control group), whereas, in group II urethral wound was sutured with Polyglactin- 910. The study was evaluated on the basis of clinical observations, haematology of venous blood, bacteriological examination of urine, contrast radiography and gross and microscopic examination of urethral tissue upto 60 days. All animals showed normal general activity, hydration status, mucous membranes, defecation and urination. However, two animals of group I showed severe subcutaneous infiltration of urine. Bacteriological examination of urine samples showed no microbial growth. Micrometry of histological sections of urethra revealed non significant increase in luminal diameter of urethra. Urethral stricture formation was not evident in any of the groups.

EXTRA-SCROTAL SEMINOMA IN A BULLOCK

T. Madhava Rao, Livestock Assistants Training Centre,
Karimnagar, Andhra Pradesh.

A non-descript bullock aged 6 years and castrated 3 years ago was referred to the polyclinic with an enlarged hard mass on the ventral abdomen since last 1 year. Clinical examination revealed the

presence of atrophied right testicle in scrotum and the enlarged pendulous left testicle placed extra-scrotally midway between the scrotum and the preputial orifice. The hard mass completely obliterated the preputial sheath canal and further prevented the protrusion of penis forward, making the urination difficult. The left testicle was removed under sedation with xylazine and 2% lignocains hydrochloride. The enlarged testicle weighed 2.2 kg., measured 10 inch in length, 10-11 inch in diameter, 5.2 inch in width and 4.4 inch height. Histopathological examination of the biopsy revealed seminoma.

EFFICACY OF INDIGENEOUS PLANTS ON HEALING OF EXPERIMENTAL WOUNDS IN COW CALVES.

P.P. Shrivastva, V.P. Chandrapuria and M.K. Bhargava,
College of Veterinary Sci. & A.H., J.N.K.V.V., Jabalpur.

Two indigenous plants named *Grewia tenax* and *calendula officinalis* were used as powder, chloroform and alcoholic extract 5% ointment to assess their efficiency on healing of experimental wounds in twenty seven male cow calves. The earlier peripheral contraction, percent healing and epithelialization were observed significantly higher in alcoholic extract ointment of *C. officinalis* than identical and other preparation of *G.flnax*. Hexosamine content was comparatively low, while collagen, hydroxyproline and elastin were significantly higher with alcoholic extract ointment than other two preparations of both plants. Histo-chemical and histological studies also showed better healing pattern, higher collagen content and lower level of mucopolysaccharides in alcoholic extract ointment treated wounds of *C. officinalis* as compared to other preparations of both the plants.

EXPERIMENTAL EVALUATION OF NEEM (*Azadirachta indica*) AND TULSI (*Ocimum sanctum*) LEAVES EXTRACT AS TOPICAL MEDICAMENTS ON WOUND HEALING IN BUFFALO-CALVES.

A.K.Mathur., Veterinary Hospital, Mandhabhim Singh
Jaipur.

Twelve buffalo calves were divided into two groups of six animal each. Ninety six full thickness cutaneous excisional open wounds of the size 2.5 x 2.5 cm, eight in each animal (four on each side of the dorsal median plane) were surgically created at the thoraco-lumbar region. The wounds over the right thoraco-lumbar region were treated with Neem & Tulsi leaves, extract in petroleum jelly. While the wound over the left thoraco-lumbar region were treated with petroleum jelly (control).

The healing process was evaluated from 5 days to day 20. by per cent healing histopathological and biochemical analysis of biopsy specimens for Hydroxyproline and hexosamine estimation. On the basis of over all observations, it was revealed that the dressing materials were well tolerated and enhanced the wound healing in order of Neem leaves extract followed by Tulsi leaves extract.

CONGENITAL ANOMALIES IN A KID

T. Madhava Rao, Livestock Assistants Training Centre, Karimnagar, Andhra Pradesh.

A-one day old kid did not pass faeces since birth and exhibited colic. The anus was found to be absent and two isolated malpositioned scrotal sacs with a taesticle in each were noticed. The male kid was otherwise normal. The anus was reconstructed and the animal passed about half litre of meconium. The kid recovered uneventfully.

AWARD SESSION :

Young Surgeon Award.

Technical Session IV

LEAD PAPERS :

Chairman : Dr. O. Ramakrishna

Rapporteur : Dr. S.S. Marudwar

1. Anaesthetic management of Traumatized animals
- Dr. K.K. Mirakhr
2. Rehabilitation and physiotherapy for pet animals
- Dr. S. Thilegar

TECHNICAL SESSION - V

ANAESTHESIOLOGY

Chairman : Dr. Amresh Kumar

Rapporteur : Dr. S. Thilegar

CARDIOPULMONARY EFFECTS OF DIAZEPAM AND DETOMIDINE ANAESTHESIA IN BOVINES : AN EXPERIMENTAL STUDY

G.U. Yadav, V.D.Aher, A.P.Bhokre and L.B. Sarkate, Department of Surgery and Radiology, M.A.U., Parbhani-431 402

Twentyfour healthy male buffalo calves (6 months to 1½ yrs) were randomly and equally divided into 6 groups. Different groups received varying doses

of Diazepam @ 0.5 - 1.5 mg/kg b. wt. intramuscularly followed by Detomidine intravenously @ 10-20 µg/kg b.wt. after 15 min.

The onset of anaesthesia was within 1.37 - 4.62 min., duration was 41-121 min and recovery occurred during 55-161 min. The heart, pulse and respiratory rates as well as rectal temperature decreased significantly during the period of anaesthesia. Muscle relaxation varied from good to excellent and in 4 groups sluggish response to pin prick at lumber region was noted while remaining 2 groups did not respond at all. In all the groups, loss of various reflexes was in the sequence starting with movement, pedal, swallowing, pinprick, anal and tail, corneal, conjunctival, palpebral and at the last wink reflex. These reflexes reappeared in the reverse order of the above.

CLINICAL, PHYSIOLOGICAL AND HAEMATO-BIOCHEMICAL EFFECTS OF DIAZEPAM AND DETOMIDINE ANAESTHESIA IN BOVINES

G.U. Yadav, V.D.Aher, A.P.Bhokre and L.B.Sarkate, Department of Surgery and Radiology, M.A.U., Parbhani-431402

Clinical trials of anaesthesia were undertaken on 12 different surgical cases of bovines which were divided into 2 groups (A₂ and B₂) of six animals in each. Diazepam was administered intramuscularly and Detomidine intravenously 15 minutes after in following doses. Group A₂: Diazepam @ 1mg/kg and Detomidine @ 20µg/kg and Group B₂: Diazepam @ 1.25 mg/kg and Detomidine @ 20 µg/kg, body weight.

Onset, duration and recovery period from anaesthesia were dose dependent. The onset time was shorter, i.e., 2.08 - 2.50 minutes and duration was 85-95 minutes in both groups. Heart, pulse, respiratory rates and rectal temperature were significantly decreased at maximum depth of anaesthesia. A significant decrease in Hb, PCV, TEC and TLC was observed. DLC revealed significant neutrophilia with corresponding lymphocytopenia and eosinophilia. Blood chemistry revealed hyperglycemia. However, no significant changes in serum urea nitrogen, SGOT and SGPT were observed. As regards the sequence of loss of reflexes. In all animals the head rightening reflexes were lost at the first followed by movement, pedal, swallowing, pin prick, anal and tail, corneal, conjunctival, palpebral serially and wink reflexes were lost at the last. The reflexes reappeared in the reverse fashion of the above.

EFFICIENCY OF MEPIVACAINE HYDROCHLORIDE IN CERTAIN REGIONAL NERVE BLOCKS IN BOVINE - A CLINICAL STUDY

A.P. Bhokre, V.D. Aher and S.S. Ghote, Department of Surgery, MAU. Parbhani

Study was undertaken in 25 clinical cases of different surgical nature which were operated under cornual, supraorbital, auriculopalpebral, retrobulbar and low epidural nerve block by using 2% Mepivacaine hydrochloride. The onset, duration of analgesia and sensory reflexes and physiological parameters, viz., heart rate, respiration rate and rectal temperature were also recorded. The average dose/50 kg body weight required for cornual, supraorbital, auriculopalpebral, retrobulbar and low epidural nerve block was 0.64 ml, 0.60 ml, 0.50 ml, 1.5 ml and 0.55 ml, respectively and the latent period of analgesia (in minute) was 3.43, 2.46, 3.13, 3.20 and 2.32 in that order. The duration of analgesia (in minute) was 62.5, 56.6, 45.0, 56.6 and 65.0 in case of the groups as above. There was complete loss of sensation of skin and muscles throughout the duration of analgesia. There was neither any alteration in physiological parameter nor any untoward reaction with Mepivacaine hydrochloride.

COMPARATIVE CARDIOPULMONARY EFFECTS OF XYLAZINE AND DETOMIDINE IN GOATS

D.Dilip Kumar, A.K.Sharma and O.P.Gupta., Division of Surgery, I.V.R.I. Izatnagar.

Cardiopulmonary effects of detomidine (0.22 mg./Kg. I.M.) and xylazine (0.22mg./kg. I.M.) were compared in 12 goats divided equally into two groups. All the animals were atropinised @ 0.66 mg./kg. S.C. Heart rate, blood pressure, Control Venous Pressure (CVP), respiratory rate and rectal temperature were recorded upto 180 minutes in both the groups.

Detomidine Sedation initially produced bradycardia (at 5 minutes) followed by tachycardia (at 30 minutes) and succeeded again by bradycardia (40 to 90 minutes), whereas, only bradycardia was observed (5 to 120 minutes) with xylazine sedation. Detomidine produced only hypertensive effect (5 to 120 minutes) on blood pressure, while xylazine produced biphasic response, i.e., hypertension (5 to 20 minutes) followed by hypotension (30 to 120 minutes). CVP was elevated ($p < 0.05$) with detomidine (5 to 80 minutes) and xylazine (60 to 150 minutes) although the latter initially showed negative CVP (10 to 20 minutes). Detomidine (5 to 150 minutes) and xylazine (5 to 80 minutes) produced bradypnoea

($P < 0.05$) and hypothermia ($P < 0.05$) between 10 to 180 minutes of sedation.

INTRAOSSUEOUS REGIONAL ANAESTHESIA OF DISTAL LIMBS IN GOATS.

N.K.Sharma, N.R.Purohit, Sunanda Sharma and Rakesh Mathur., College of Veterinary and Animal Sciences, R.A.U., Bikaner.

Intraosseous Regional anaesthesia could successfully be employed in severely traumatised animals where venipuncture proved difficult for retrograde intravenous regional anaesthesia.

In eight clinical cases of traumatised goats the gauza bandage tourniquet was applied above the knee/hock joint & 2% lignocaine hydrochloride (@ 4 mg per kg body weight) was infused into the *canum-medullare* at medical aspect of distal metaphysis of metacarpus/metatarsus. Anaesthesia developed simultaneously over cannon/pes from where it progressed in either direction. Complete anaesthesia was obtained after 6.25 ± 1.25 and 8.7 ± 2.3 minutes in respective fore & hind limbs. It persisted for 60 minutes, i.e., till the tourniquet was kept *in situ*. In eight control animals intraosseous infusion of 5ml normal saline into the tourniqueted fore/hind limb did not produce anaesthesia.

CLINICAL, HAEMATOLOGICAL AND BIO-CHEMICAL EFFECTS OF CENTBUCRIDINE HYDROCHLORIDE AS EPIDURAL ANAESTHETIC IN DOGS

R.M.Tripathi and S.K.Pandey, College of Veterinary Sciences and Animal Husbandry, Jabalpur (M.P.)

Six apparently healthy atropinised dogs (0.05 mg/kg) were given centbucridine epidurally @ 1.5 and 1.75 mg/kg body weight either alone or after premedication with triflupromazine Hydrochloride and diazepam @ 2mg/kg body weight intravenously. The premedicated dogs had longer duration of anaesthesia and recovery period as compared to non premedicated dogs while onset of desensitization did not differ significantly. There was a trend towards rise in body temperature in all the animals except those premedicated with diazepam where it dropped insignificantly. Similarly, pulse and respiration rates were increased significantly in all animals of different groups. Total erythrocyte count, erythrocyte sedimentation rate, packed cell volume and haemoglobin did not show any change and the values ranged within normal limits. However, with significant increase in neutrophil and decrease in lymphocyte count. blood glucose, alkaline phosphatase and

icterus index remained significantly elevated during early period of observation, while serum glutamic pyruvic transaminase, blood urea nitrogen and blood creatinine remained unaffected in animals receiving all the treatments.

HAEMATOLOGICAL AND BIOCHEMICAL EFFECTS OF AURICULO-ELECTRO-ACUPUNCTURE ANALGESIA IN DOGS

Rajesh Tripaathi, N.S. Jadon and Amresh Kumar, College of Veterinary Sciences, Pantnagar (U.P.)

The electroacupuncture stimulation of acupoints GV-20, UB-62 and auricular abdominal analgesia area bilaterally produced excellent analgesia of abdomino-pelvic region. A non-significant ($P>0.05$) increase in haemoglobin concentration and total leukocyte count, a significant ($P<0.05$) increase in packed cell volume, total erythrocyte and neutrophil counts and a decrease in the clotting time and lymphocyte count was seen after electroacupuncture stimulation. Biochemical changes included a significant ($P<0.05$) increase in total protein, globulin, glucose and cholesterol, a significant ($P<0.05$) decrease in urea nitrogen level and a non-significant ($P>0.05$) decrease in creatinine and albumin levels. The plasma electrolytes (Na^+ , K^+ and Cl^-) and enzymes alanine amino transferase and alkaline phosphatase did not show any significant variation. These changes returned near prestimulation level by 12 to 24 hours after EA stimulation.

REVERSAL OF CARDIOPULMONARY EFFECTS OF EPIDURAL XYLAZINE AND DETOMIDINE BY ATIPAMEZOLE AND YOHIMBINE IN BUFFALOES (*Bubalus bubalis*)

S.K. Tiwari and Amresh Kumar, College of Veterinary Science, G.B. Pant University of Agriculture and Technology, Pantnagar- Nainital

Epidural administration of xylazine @ 0.10 mg/kg or detomidine @ 50 µg/kg in 20 healthy male buffalo calves caused an initial significant ($P<0.01$) increase followed by decrease in mean arterial blood pressure, significant ($P<0.01$) increase in central venous pressure, significant ($P<0.01$) decrease in tidal and minute volume, bradycardia, increase in PR and QT interval and incomplete atrio-ventricular block. Intravenous administration of atipamezole @ 10 µg/kg or yohimbine @ 0.125 mg/kg, 15 minutes post-sedation caused effective reversal with MAP and CVP reaching near preadministration level within 10 to 30 minutes post reversal, significant ($P<0.05$) increase in tidal and minute volumes, tachycardia and abolition of atrio-ventricular block. Atipamezole induced

reversal was most rapid, effective and complete in comparison to yohimbine. Epidural administration of xylazine and detomidine caused excellent sedation, analgesia and muscle relaxation with transient cardiopulmonary depression which was effectively reversed by administration of atipamezole or yohimbine.

CLINICO-SURGICAL EFFECTS OF EPIDURAL XYLAZINE AND DETOMIDINE WITH AND WITHOUT LOCAL ANAESTHETICS IN BUFFALOES (*Bubalus-bubalis*)

S.K. Tiwari, Amresh Kumar and P.V. Parikh, Department of Surgery and Radiology, G.B. Pant University of Agriculture and Technology, Pantnagar, Nainital (U.P.)

Epidural administration of xylazine @ 0.10 mg/kg. or detomidine @ 50 mg/kg with and without local anaesthetics (lignocaine @ 0.22 mg/kg or bupivacaine @ 0.11 mg/kg) caused excellent sedation, longer duration of analgesia, good muscle relaxation with absence of hind limb weakness of abdomino-pelvic region in 24 buffalo calves. Various operations viz. docking, castration, laparotomy, cystotomy, enterotomy, enterectomy, skin grafting, rumenotomy, ischial and post scrotal urethrotomy were successfully performed under epidural xylazine or detomidine with and without lignocaine or bupivacaine. All animals recovered uneventfully and without any complications. Thus it can be concluded that epidural administration of xylazine or detomidine with or without local anaesthetics can be safely used for surgical interventions of abdomino-pelvic region in buffaloes.

EVALUATION OF ACEPROMAZINE - CHLORAL - MAG ANAESTHESIA IN YAKS

Adarsh Kumar, J.M. Nigam and S.K. Sharma, Department of Surgery and Radiology, COVAS, HPKV, Palampur (H.P.)

Administration of acepromazine (0.15 mg per kg B.Wt., intravenous) followed by Chloral mag (1:1 "to effect" 15 minutes resulted in onset of the sedation within 5 minutes. Surgical anaesthesia lasted for 30 to 35 minutes. The yaks returned to sternal recumbency during recovery from anaesthesia in 75 to 80 minutes. standing, with or without ataxia was noticed after 130 to 135 minutes and 148 to 150 minutes respectively. Urination during recover was common. Rectal temperature and fall in central venous pressure. ECG changes were suggestive of myocardia hypoxia. EEG revealed profound sedation and period of analgesia. Hyperglycemia was observed. Laparotomy and last rib resection was carried out successfully during the anaesthesia.

EVALUATION OF ACEPROMAZINE MALEATE IN YAKS (*BOS GRUNNIENS*)

Adarsh Kumar, J.M. Nigam and S.K.Sharma, Department of Surgery and Radiology, COVAS, HPKV, Palampur (H.P.)

Acepromazine maleate (0.15 mg per kg b.wt., intravenous) elicited its effect within 1.5 minute. Complete calming and good muscle relaxation were observed from 15 to 45 minutes after administration. Analgesia was not observed and recovery was noticed after 76 to 80 minutes. There was mild salivation. No significant alterations were observed in respiration rate, haemoglobin and packed cell volume. There was hypotension, decrease in central venous pressure with no significant variation in heart rate. ECG parameters were unaffected EEG revealed depressed brain activity. Decrease in plasma proteins was significant.

COMPARATIVE EFFICACY OF MEPIVACAINE HYDROCHLORIDE WITH LIGNOCAINE HYDROCHLORIDE IN CERTAIN REGIONAL BLOCKS IN BOVINE; AN EXPERIMENTAL STUDY

V.D.Aher, A.P.Bhokre and S.S.Ghote, Department of Surgery, MAU, Parbhani

Thirty buffalo calves ranging between 6-18 months of age and 40-60 kg body weight were equally divided in five groups (A to E). Mepivacaine hydrochloride (2%) was administered on unilateral side, while lignocaine hydrochloride was administered on the other side insupraorbital, auriculopalpal, retrobulbar, cornual and paravertebral nerve block. In low and high epidural nerve block only Mepivacaine hydrochloride was administered. Average dose of Mepivacaine hydrochloride required in all groups was quite low when compared to lignocaine hydrochloride and latent period and average duration of analgesia was longer with Mepivacaine hydrochloride. Heart rate, respiratory rate and temperature in all nerve block were within normal range. However, in high epidural nerve block there was significant increase in heart rate and significant decrease in respiratory rate. A significant decrease in arterial blood pressure and increase in central venous pressure in group C and E was noticed.

PHYSIOLOGICAL, CARDIOPULMONARY AND CLINICO-SURGICAL EFFECTS OF AURICULO-ELECTROACUPUNCTURE ANALGESIA IN DOGS

Rajesh Tripathi, N.S.Jadon and Amresh Kumar, College of Veterinary Sciences, Pantnagar, U.P.

Electroacupuncture stimulation of acupoints

GV-20, UB-62 and auricular abdominal analgesia area bilaterally produced excellent and complete anaesthesia with good muscle relaxation at upper and lower flank, anterior quadrant of abdomen, ventrolateral abdomen, pelvic and perineal region, teats and udder along with anus and vulva, forelimbs (upto carpal joint) and hindlimbs (upto hock joint) medial and lateral aspect of thigh and good degree of analgesia at neck region and base of tail. The duration of anaesthesia lasted as long as stimulation continued. The recovery lasted for 34.80 ± 0.30 minutes and was quick and occurred in 13.20 ± 0.73 after discontinuation of electro-stimulation. No adverse effects on various physiological and cardiopulmonary parameters were seen and a nonsignificant and mild increase in mean arterial blood pressure (MAP) was seen after electroacupuncture stimulation. Rectal temperature, tidal volume, minute volume, central venous pressure (CVP) and electrocardiogram (ECG) were not affected. Laparotomy, gastrotomy, end to end anastomosis of intestine and ovariohysterectomy were successfully performed without any discomfort to the animals.

CARDIOPULMONARY EFFECTS OF TELAZOL (TILETAMINE-ZOLAZEPAM) WITH AND WITHOUT XYLAZINE IN DOGS.

V. Ramasamy, K. Ameerjan and W.P. Archibald David, Veterinary College and Research Institute, Namakkal, Tamil Nadu.

Twelve adult mongrel dogs of either sex were divided into two groups. After 15 min. of atropinization (0.04 mg/kg s/c) Telazol (10 mg/kg i/v) was given in group I. In group II Telazol (10 mg/kg i/v) was administered after premedicating with atropine and Xylazine (2mg/kg i/m). The heart rate was significantly higher in group I. While it was reduced in group II. The respiratory rate was reduced in both the groups. The mean arterial pressure increased significantly in group I. In group II Xylazine caused an initial increase and then a decrease, which after Telazol administration rose significantly. ECG revealed varying degrees of A-V block after Xylazine premedication. The CVP was reduced during anaesthesia. However, the values returned towards normal level during recovery.

ANAESTHETIC EFFECTS OF TELAZOL AND TELAZOL-XYLAZINE ANAESTHESIA IN DOGS

V. Ramasamy, K. Ameerjan and W. P. Archibald David, Veterinary College and Research Institute, Namakkal, Tamil Nadu.

The anaesthetic effects of Tiletamine-

Zolazepam (Telazol) with and without Xylazine were evaluated in 12 dogs divided into two groups. They were premedicated with atropine (0.04 mg/kg, s/c.) followed after 15 min. by Telazol (10 mg/kg i/v) in group I. In group II Telazol (10mg/kg i/v) was administered after premedicating with atropine and Xylazine (2mg/kg i/m). The induction time was less in group II (15.42 sec.) when compared with group I (26.25 sec.). The Induction was smooth in both the groups. In group II dogs, the duration of anaesthesia was significantly longer (109.75 min.) than in group I (40.85 min.). The apnoeic period was 39.33 sec. in group I and 77.92 sec. in group II. Telazol when given alone, provides moderate analgesia for a shorter duration and when combined with Xylazine it provides a more balanced anaesthesia of longer duration with rapid induction, excellent muscle relaxation and smooth recovery.

USE OF XYLAZINE AND LIGNOCAINE COMBINATION AS A CAUDAL EPIDURAL ANALGESIC IN BOVINES.

P.R.Zambre, Assistant Director of Animal Husbandry, Veterinary Polyclinic, Nashik.

Experimental and clinical trial were undertaken to study the efficacy of Xylazine combined with 2% lignocaine as an epidural analgesic agent in adult cattle & buffaloes. In experimental studies, Xylazine was administered epidurally at the rate of 0.05 mg/kg (Group I); 0.08 mg/kg (Group II) and 0.1 mg/kg (Group III) and additionally 4 ml of 2% Lignocaine in each group in eighteen healthy buffaloes divided into three groups of six animals each.

The clinical observations included onset time, duration of analgesia, presence or absence of various reflexes, salivation, adverse effects and recovery time. The effects of xylazine with lignocaine on heart rate, respiration rate and temperature were also recorded. Clinical trials of xylazine-lignocaine combination were carried out for caudal analgesia in obstetrical and surgical interventions in cows and buffaloes. In clinical cases, xylazine reconstituted with 4 ml of 2% lignocaine solution was administered epidurally at approximate dose of 1 ml to 1.25 ml i.e. 24 to 30 mg.

The results of experimental and clinical trials indicate that administration of 0.05 mg/kg and 0.08 mg/kg, xylazine along with 4 ml of 2% lignocaine epidurally provided good bilateral caudal analgesia and sedation and found safe to us in clinical cases. The introduction of lignocaine in addition to xylazine increased the effective duration of analgesia, early onset time and reduction in doses of xylazine.

ALPHA -2 AGONISTS WITH DIAZEPAM AS PREANAESTHETIC TO KETAMINE ANAESTHESIA IN GOATS : BIOCHEMICAL CHANGES.

Dipalee Chitale, K. Pratap, Amarpal, O.P. Gupta, H.P. Akhal and G.R.Singh., Indian Veterinary Research Institute, Izatnagar (UP)

Preanaesthetic effects and biochemical changes after alpha -2 agonists with diazepam to ketamine anaesthesia were evaluated in 24 goats divided into 4 groups of 6 animals each. After 15 min of atropinization (0.5 mg/kg sc), diazepam (0.25 mg/kg im) was administered along with xylazine (25 ug/kg IV), medetomidine (5 ug/kg IV), romifidine 12 ug/kg IV) diazepam alone in group. D, Ketamine was administered (iV) in each group till the anaesthetic effect was achieved.

Significant hyperglycemia was recorded in all the four groups ½ to 1 hour after administration of different combinations. Then it reduced towards the preadministration level by 24 hours Group C had comparatively higher levels of serum glucose at ½ and 1 hour. Changes in serum total protein and A:G ratio showed reduction at 1 hour and then returned towards premedication levels. Levels of total bilirubin were within physiological range except a slight increase at 1 hour was observed. Cholesterol, serum urea nitrogen and serum ornithine carbamoyl-transferase enzyme remained almost unchanged throughout the period of observation.

A STUDY ON ANAESTHESIA IN ASIATIC LION

C.L. Badgajar, R. Mukkavilli, C.C. Wakankar, Bombay Veterinary College, Parel, Mumbai.

Eight male lions of five to nine years age were anaesthetised with a combination of Ketamine Hydrochloride and Xylazine Hydrochloride. ECG in four animals and changes in behaviour, clinical finding and routine haematology were noted in all. Induction, surgical anaesthesia and recovery period were assessed by taking-various reflexes and vasectomy was performed under the anaesthesia. It was observed that there was minimum interference with the normal physiology with smooth induction and maintenance of anaesthesia, which was satisfactory for vasectomy.

EPIDURAL XYLAZINE IN BUFFALO CALVES

K. Pratap, Amarpal, P. Kinjavdekar, Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)

The experimental study was conducted in five

buffalo calves of 6 to 8 month of age. Xylazine @ 0.1 mg/kg BW was injected at the lumbo-sacral epidural space. Sedative and analgesic effects were recorded at different intervals upto 120 min.

There was significant reduction in heart rate and respiration rate for a short duration. Fall in rectal temperature was noted for a longer duration. Onset of analgesia was recorded within 2-12 min in all the animals. Excellent analgesia of tail, perineum, hind limb, flank and ventral abdomen was observed for 60 to 75 min in three animals and 90 to 120 min in two animals. Sedation was moderate in all the animals and most of the animals remained in standing position throughout the period of observation. Adequate muscle relaxation was felt. Analgesia was found sufficient for surgical intervention of hind quarters in buffalo calves.

ANALGESIA OF MANUS AND PES REGIONS IN YAK (*Bos grunniens*)

Kulbhusan, A.C. Varshney, D.N. Sharma, M. Singh, S.K. Sharma and J.M. Nigam, College of Veterinary and Animal Sciences, HPKV, Palampur.

The nerves of the manus and pes regions were dissected in 6 adult yaks of either sex. The manus region was innervated by the terminal anastomosing branches of radial median and ulnar nerves. Similarly, the innervation of pes region was maintained by the tibial, fibular, saphenous and posterior cutaneous nerves and their anastomosing branches. Since the anastomotic branches between these nerves were many, the extent of final ramification the exact level of anastomosis differed considerably in different yaks and even in the same yak on either side. The adoption of ring block at metacarpal and metatarsal region was best suited for achieving complete analgesia of the dependent part or appendages.

A dose of 20 ml of lignocaine hydrochloride was used for metacarpal and metatarsal ring blocks. Infiltration was done on the proximal one third of the metacarpus/matatarsus. The onset of analgesia was 4.33 ± 0.41 and 4.22 ± 0.36 minutes after final injection of ring block and duration of analgesia was 78.89 ± 3.61 and 80.0 ± 4.33 minutes in metacarpal and metatarsal regions respectively. The analgesia extended from the ring block down upto the level of 3rd digits.

CORNIAL NERVE BLOCK IN YAK (*Bos grunniens*)

Kulbhusan, A.C. Varshney, D.N. Sharma, M. Singh, S.K. Sharma and J.M. Nigam, College of Veterinary and Animal Sciences, HPKV, Palampur.

The horn of the yak was innervated by the cornual nerve and the caudal branch of auriculopalpebral nerve. The cornual nerve of yak was the continuation of the zygomaticotemporal (lacrimal) nerve, a branch of ophthalmic nerve, caudally in the temporal fossa. The cornual nerve of yak comprises two branches running satellite to each other in the temporal fossa. The cornual nerve was blocked mid way between the base of the horn and lateral canthus of eye ventral to the frontal crest. 5 ml of 2% lignocaine HCl was injected to desensitize the dorsal branch and 3 ml for the ventral branch of the cornual nerve. The onset of analgesia occurred in 7.89 ± 0.54 minutes whereas duration of analgesia remained for 66.67 ± 3.91 minutes. Slight sensation in the area between the horn and base of ear was felt due to innervation of this area by a branch of auriculopalpebral nerve and therefore for complete desensitization of the area around the base or horn a ring block was preferred.

CARDIOVASCULAR STUDIES FOLLOWING DIFFERENT ANAESTHETIC COMBINATIONS IN HEPATOPATHIC DOGS

Vinod Kumar, A.C. Varshney, S.K. Sharma, M. Singh and J.M. Nigam, College of Veterinary and Animal Sciences, H.P.K.V., Palampur

Cardiovascular studies were carried out after creating hepatopathy in dogs and thereafter three anaesthetic combinations viz. atropine-acepromazine-thiopentone (group I), atropine-acepromazine-ketamine (group II) and atropine-xylazine-ketamine (group III) were evaluated. All the anaesthetic combinations produced hypotension but the dogs of group III showed a significant fall in systolic, diastolic and mean arterial pressure at 45, 60 and 75 min intervals post-anaesthesia. A fall in pulse pressure was noticed in group I and group II whereas it was not in group III. Central venous pressure was decreased following induction of anaesthesia. Electrocardiographic studies revealed mild atrial flutter at 75 min following anaesthesia in group III. The animals of group I showed mild sinus arrhythmia before anaesthesia. Electroencephalographic studies revealed that the animals of group I showed maximum depression of brain activity.

HISTOPATHOLOGICAL EVALUATION OF DIFFERENT ANAESTHETIC COMBINATIONS IN HEPATOPATHIC DOGS

Vinod Kumar, A.C. Varshney, R.K. Asrani, M. Singh, S.K. Sharma and J.M. Nigam, College of Veterinary and Animal Sciences, HPKV, Palampur.

Hepatopathy was induced in 12 dogs with carbon-tetrachloride @ 4 ml/kg body weight. The dogs were monitored for the progress of hepatopathy till 72 hr and thereafter, divided randomly into 4 groups of 3 animals each. The animals of first group were marked as hepatopathic control whereas in rest three groups different anaesthetic combinations viz. atropine-acepromazine- thiopentone (group II), atropine-acepromazine-ketamine (group III) and atropine-xylazine-ketamine (group IV) were administered. The tissues from liver, lung, kidney and heart were collected from all animals after sacrificing for histopathological studies.

The liver of group II animals showed coagulative necrosis and generalized haemorrhages and mononuclear cell infiltration. Pronounced fatty changes gave signet ring appearance to the hepatocytes. Von Kupffer's cells were hyperplastic and peripheral hepatic cords were completely destroyed. Almost similar types of changes in liver were noticed in group IV. However, the severity of changes observed in liver of group III animals was comparable to those of control hepatopathic group. No specific changes were observed in kidneys, lungs and heart in any of anaesthetic groups beyond the control hepatopathic group.

EPIDURAL ANALGESIA WITH MEDETOMIDINE AND KETAMINE IN DOGS

P. Kinjavdekar, Amarpal, H.P. Aithal and K. Pratap, Division of Surgery, Indian Veterinary Research Institute, Izatnagar - (UP)

The study was conducted in 12 adult mongrel dogs of either sex, divided equally in 3 groups - A, B and C. Epidural analgesia was induced by injecting (2 ml) medetomidine (10 µg/kg), Ketamine (2.5 mg/kg) and a combination of medetomidine (10 µg/kg.) and ketamine (2.5 mg/kg) at the lumbosacral space in animals of groups A, B and C respectively. Different clinical and hematological parameters were observed upto 120 min of drug (s) administration.

Heart rate (HR) decreased between 30 to 90 min in group A. In group B, an increase in HR was recorded between 5 and 30 min. In group C, a decrease in HR was recorded (20-60 min) for a shorter duration in comparison to group A. Respiration showed a significant fall from 45 to 120 min in group A, marked increase in group B and no significant change in group C. The rectal temperature did not show any significant change in any group. The onset of analgesia was seen within 5 min in group A and moderate analgesia persisted upto 60-75 min which was for relatively shorter duration (15-20 min) in group

B. In group C, analgesia was of both greater extent and duration than other groups. Haematological parameters like Hb, PCV, and TLC did not show any significant change when compared among the groups. The study indicated that medetomidine provides moderate hind quarter analgesia when administered epidurally which can be enhanced by the addition of ketamine.

MEDETOMIDINE AND KETAMINE ANAESTHESIA IN BUFFALO CALVES

P. Kinjavdekar, A.M. Pawde, Amarpal and O.P. Gupta, Division of Surgery, Indian Veterinary Research Institute, Izatnagar - (UP)

Eight buffalo calves, aged 8-12 months and weighing 70-100 kg, were used for the study in two groups I & II comprising 4 animals in each group. In group I, medetomidine @ 20 µg/kg body weight was administered intravenously while group II received a mixture of medetomidine (20 µg/kg) and ketamine (3 mg/kg) intravenously. Different clinical parameters were evaluated upto 90 min.

In group I, the weak time and down time varied from 1-2 min and 2-7 min respectively. In group II, weak time was less than half a minute and all the animals were down within 1 min. In group I, moderate analgesia was recorded for 15-20 min, muscle relaxation was excellent and all the animals recovered completely within 100 min. In group II, complete analgesia was observed for 45-60 min with complete muscle relaxation and all the animals were able to walk unassisted in 100 min. HR, RR & RT decreased (45-60 min) in both the groups. Electrocardiographic recordings did not show any marked change. It is concluded that medeto+midine alone provided moderate analgesia & sedation whereas its combination with ketamine produced surgical anaesthesia of short duration in buffalo calves.

MEDETOMIDINE PETHIDINE FOR EPIDURAL ANALGESIA : A CLINICAL STUDY IN EXPERIMENTAL DOGS.

H.P. Aithal, Amarpal, P. Kinjavdekar; and S.B. Suryawanshi, Division of Surgery, Indian Veterinary Research Institute, Izatnagar - (UP)

Twelve adult experimental dogs were divided into three equal groups I, II & III. Medetomidine (10 µg/kg), Pethidine (2 mg/kg) and a combination of medetomidine (10 µg/kg) and pethidine (2 mg/kg) were administered at lumbosacral epidural space in animals of group I, II and III respectively keeping volume of the drug as 2 ml for each animal. Different

clinical and hematological parameters were observed upto 120 min after drug administration. Heart rate (HR) and respiration rate (RR) showed a significant decrease during the second half of experiment in group I.

In group II, HR & RR showed a marked increase initially and then returned to near normal towards the end of the experiment. In group III an early fall in HR & RR was followed by an increase in these parameters in one end. Rectal temperature (RT) did not show any change in any of the groups. Similarly, haematological parameters were not changed significantly though slight reduction in Hb & PCV was recorded in groups I & III.

In group I, moderate analgesia extended from tail to thorax & persisted in all the animals from 60-75 min which in group II was mild to moderate between 5 and 30 min. In group III, complete analgesia was seen for 20-30 min followed by moderate analgesia upto 60-90 min. Mild incoordination was seen in group I (upto 30 min) and in group III, all the animals remained recumbent between 5 and 20 min. Similarly, sedation was mild in group I & mild to moderate in group III. It is concluded that pethidine potentiates the analgesic action of medetomidine when administered epidurally.

ANALGESIC AND SEDATIVE EFFECTS OF DIAZEPAM - DETOMIDINE COMBINATION IN BUFFALO CALVES :

Amarpal, A.M. Pawde, P.Kinjavdekar, H.P.Aithal & G.R.Singh, Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)

The study was conducted in 8 buffalo calves (70-100 Kg) having 4 animals in each group. In group I, detomidine (100 µg/kg) and in group II, a mixture of diazepam (100 µg/kg) and detomidine (100 µg/kg) were given intravenously. Clinical parameters and ECG were recorded upto 90 min.

The onset of effect was recorded within one min in both the groups. The animals of group I remained standing throughout the observation period, whereas all the animals of group II became recumbent in 1-2 min. Analgesia was very mild in group I and moderate (for 45 min) in group II. Sedation was mild in group I and excellent in group II. Muscle relaxation was not apparent in group I though it was excellent for 30-45 in group II. HR, RR & RT depressed in both the groups, but more significant in group II. ECG recordings showed I & II degree heart block in some animals of both the groups.

In conclusion, it may be mentioned that detomidine @ 100 µg/kg is unable to produce appreciable sedation and analgesia in buffaloes. Its combination with diazepam can produce good sedation & analgesia, but also enhances the cardiopulmonary side effects.

DETOMIDINE-DIAZEPAM-KETAMINE ANAESTHESIA IN BUFFALO CALVES

A.M.Pawde, Amarpal, P. Kinjavdekar, H.P. Aithal and K. Pratap, Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)

Eight buffalo calves (8-12 months, 70-100 kg), divided in two groups of 4 animals each were given detomidine (100 µg/kg) and a mixture of detomidine (100 µg/kg), diazepam (100 µg/kg) and ketamine (3 mg/kg) intravenously in groups I & II, respectively. Different clinical parameters and ECG were recorded upto 90 min in all the animals.

Onset of sedation was recorded within 1 min in all the animals of group I but the animals remained standing throughout the observation period. Sedation was, however, mild and analgesic and muscle relaxation were not substantial in this group. In group II, weak time ranged between 10-15 sec and all the animals became recumbent within 30 sec. Analgesia was apparent within 3 min and complete loss of pedal & pin prick reflexes was observed upto 15 min though moderate analgesia persisted upto 30-45 min. Excellent sedation and muscle relaxation were noticed upto 45 min in all the animals. Cardiopulmonary depression was less in group II than group I. It can be concluded that detomidine-diazepam-ketamine combination can be used for short duration of surgical anaesthesia in buffalo calves.

PRE-EMPTIVE ANALGESIA WITH EPIDURAL LIGNOCAINE AND KETAMINE FOR THE MANAGEMENT OF POSTOPERATIVE PAIN AND STRESS IN EXPERIMENTAL DOGS.

Hans Raj, Amarpal, G.R. Singh and V.P. Varshney, Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)

Twelve mongrel adult dogs were equally divided into groups I, II & III. Ten min after atropinization (0.05 mg/kg : SC), triflupromazine (1 mg/kg; IM) was administered to all the dogs. It was followed 10 min later by epidural injection (2ml) of normal saline (group I), lignocaine (group II) and ketamine (III) at lumbosacral space. After a gap of another 10 min, anaesthesia was induced with 2.5% solution of thiopental sodium given till effect. All the animals

were operated for experimental creation and repair of tibial fracture using the same technique. Post operative wound hyperanalgesia, swelling, movement associated pain were significantly ($P < 0.05$) less in group III as compared to group I & II. Maximum post operative morbidity was observed in group I. During surgery and in the immediate post operative period, maximum increase in plasma cortisol and blood glucose was recorded in group I. Lignocaine (Group II) inhibited the stress induced rise in cortisol and glucose level for a very short period. Ketamine (group III), however, inhibited the hypercortisolaemic and hyperglycaemic response significantly ($P < 0.05$) for a longer period. Study indicated that epidural ketamine had a preemptive effect on post-operative pain and stress in dogs undergoing orthopaedic surgery of hind limbs

CLINICAL EFFECTS OF EPIDURAL KETAMINE AND PETHIDINE IN DOGS

Amarpal, H.P. Aithal, P. Kinjavdekar and G.R. Singh,
Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)

The study was conducted on 12 adult dogs of either sex, divided equally in 3 groups A, B and C, Ketamine (2.5 mg/kg), pethidine (2 mg/kg) and a combination of ketamine (2.5 mg/kg) and pethidine (2 mg/kg) were administered at the lumbosacral epidural space in groups A, B and C respectively. Different clinical and hematological parameters like HR, RR, RT, analgesia, sedation, incoordination, TLC, Hb and PCV were recorded at different intervals upto 120 min.

Insignificant rise in HR & RR was recorded in animals of groups A & B immediately after the injection of the drugs. But in group C, significant increase in RR was recorded between 20 and 60 min which returned to normal before 120 min. No change in rectal temperature and hematological parameters was seen in any group. Moderate analgesia was recorded within 5 min in group A which persisted for 15-20 min. In group B, analgesia was mild to moderate from tail to thorax and lasted for 30 min in most of the animals. In group C, the duration and degree of analgesia did not differ significantly from other groups. Complete incoordination of short duration (5-10 min) was recorded in groups I & III. However, in group II, it was very mild (5-20 min). Sedation was not appreciable in any of the groups. It may be concluded that ketamine (2.5 mg/kg) and pethidine (2 mg/kg) can produce moderate analgesia for hind quarters in dogs for a short duration and the two drugs did not have synergistic action at the epidural level.

EPIDURAL LIGNOCAINE AND KETAMINE ALONGWITH THIOPIENTAL ANAESTHESIA FOR TIBIAL FRACTURE REPAIR IN DOGS

Hans Raj, Amarpal, G.R. Singh and H.P. Aithal,
Division of Surgery, Indian Veterinary Research Institute, Izatnagar (UP)

Twelve experimental dogs were divided into 3 groups (I, II & III). After atropine (0.05 mg/Kg SC) triflupromazine (1 mg/Kg : IM) administration, normal saline (2 ml), lignocaine (4 mg/Kg; 2ml) and ketamine (3 mg; 2 ml) were administered epidurally at lumbosacral space in animals of group I, II & III, respectively. Ten min later, general anaesthesia was induced and maintained using 2.5% solution of thiopental sodium given till effect. All the animals were operated for creation and repair of tibial metaphyseal fracture using pinning & interfragmentary wiring. Increase in heart rate was recorded in all the groups after atropine & triflupromazine injection and at the time of recovery. Respiration increased non-significantly in group III after epidural injection. However, a significant decrease ($P < 0.05$) in respiration rate was recorded during anaesthesia (10-45 min) in all the groups. Fall in rectal temperature was more rapid & significant in groups I & II than group III.

Onset of analgesia at hind limb was recorded within 2 min in groups II & III and by ten min complete analgesia of hind limbs was recorded in both these groups. At the time of recovery, more analgesia was recorded in group II as compared to group III. Motor incoordination and sedation were more in group III. Duration of surgery did not differ significantly among the groups. Total dose of thiopental and per kg dose of thiopental for each min of surgery was minimum in group III and maximum in group I. It is concluded that epidural ketamine is an useful adjunct to thiopental general anaesthesia in surgical cases involving hind quarters.

AWARD SESSION :

Dr. M.R. Patel award for Best Field Veterinarian

Chairman : Dr. P. E. Deore

Rapporteur : Dr. T. K. Gahlot

Technical Session VI

RADIOLOGY AND ALLIED

Chairman : Dr. K. K. Mirakhur
Rapporteur : Dr. M. S. Vasanth

ROENTGENOLOGICAL OBSERVATIONS IN BOVINE OSTEOMYELITIS.

A.K. Das, A.P. Singh, Prem Singh, Jit Singh and S.K. Chawla, College of Veterinary Sciences, CCS-Haryana Agricultural University, Hisar.

Bacterial osteomyelitis was induced in metatarsus of 12 calves by intramedullary infusion of haemolytic strain of *Staphylococcus aureus* suspension along with sterilised saw dust as sclerosing agent. Animals were maintained for varying periods upto 18 post-infection weeks. Radiographs of infected bone were obtained at different time intervals, upto the end of the study. Early radiographic changes included increased soft tissue swelling and abscessation, increase in radiopacity of the medullary cavity, radiolucent foci, mild periosteal reaction, and cortical lysis. Brodie's abscesses particularly in metaphyseal region were also noticed in few animals. The periosteal reaction and destructive bony changes were more marked with progress of time. Multiple cavitory lesions, sequestrae and lamellated or spiculated periosteal reactions were invariably seen at late stages. Destructive changes of the growth plate and also extension of infection in adjacent joints were observed in some animals. The periosteal proliferation and new bone formation resulted in thickening of the infected bone.

LUNG CYSTS IN CATTLE AND BUFFALOES- A RADIOGRAPHIC STUDY

Jaivinder Singh, S.K. Chawla, A.P. Singh, Jit Singh and Prem Singh, College of Veterinary Science, CCS-HAU, Hisar.

Clinical cases of cattle and buffaloes showing loss of general health, respiratory distress, nasal discharge and coughing were subjected to radiographic study of thoracic region. Lung cyst was a common problem in these animals. Both, right and left lateral views were necessary to identify the side lung involved. Well delineated circular or oval shaped space occupying radiopaque lesions were observed in lung area. The density of the cyst was clearly marked from alveolar density of lung parenchyma. Number and size of cysts varied in different animals. The condition was confirmed with needle puncture and, in some cases, by post mortem examination.

THE TOPOGRAPHIC ANATOMY OF THE VOMER BONE OF YAK (*Bos grunniens*)

Archana, L.S. Sudhakar and D.N. Sharma, College of Veterinary & Animal Sciences, HPKV, Palampur.

The vomer of yak was a single median bone which extended between the presphenoid and premaxilla forming the caudal nasal septum. It lay in the groove between the medial borders of the palatine processes of the maxilla and premaxilla. Caudally it received the perpendicular plate of the ethmoid bone along the vomer sulcus and partitioned the choanae. Rostrally it joined the cartilagenous nasal septum, which was broad caudally and tapered rostrally.

THE FUNCTIONAL ANATOMY OF THE OS ZYGOMATICUM OF YAK (*Bos grunniens*)

Archana, L.S. Sudhakar and D.N. Sharma, College of Veterinary & Animal Sciences, HPKV, Palampur.

The zygomatic bone was a paired flat bone of face, which laid on the ventrolateral aspect of the orbit of yak. It constituted forty percent (40%) of the orbital rim. Its body was three sided. The facial crest was not as prominent rostrally as caudally. The zygomatic process had its own sinus unlike that of cattle. Caudally it ended into the temporal and frontal processes completing the zygomatic arch and orbital rim respectively.

RADIOGRAPHIC DIAGNOSIS OF OESOPHAGEAL DISORDERS IN RUMINANTS

A.P. Singh and Prem Singh, College of Veterinary Science, CCS-HAU, Hisar (Haryana).

Radiological features of different oesophageal lesions recorded in cattle, buffaloes and camels were described. The oesophageal lesions recognised included obstruction, diverticulum, stenosis, dilatation and rupture. The lodgement of nonobstructive metallic object was also seen. The oesophageal obstructions were caused by intraluminal foreign object and also due to extraluminal soft tissue mass or abscess. Obstruction of thoracic part of the oesophagus was recognised only in young calves. Plain lateral radiographic views were generally of little diagnostic value for identification of exact nature and location of oesophageal lesions except in cases of obstruction due to lodgement of metallic object. Contrast radiography was considered necessary for accurate diagnosis of other oesophageal abnormalities.

ANGIOGRAPHIC STUDIES ON THE BOVINE FOOT

Kemparaja, M.S. Vasanth and S. M. Jayadevappa, Veterinary College, UAS, Bangalore.

Six hind feet of bovines procured from the slaughter house were subjected to angiography of the foot using Conray 420. The metatarsal artery was cannulated immediately after the slaughter and flushed with heparinised saline (100 IU/L) until all the blood contents were flushed out. Conray 420 was injected into the cannulated artery at 5ml per kg of the limb weight. Oblique and lateral radiographs were taken within five minutes after infusion. There was excellent visualization of arteries of solar and bulbar region in lateral view and branches of proper digital artery were clearly seen in oblique view. Conray 420 was considered as a suitable contrast agent for the angiography of the bovine foot.

EFFECT OF DIFFERENT PREMEDICATIONS FOR IOHEXOL MYELOGRAPHY IN CANINES

M.S. Vasanth and S. M. Jayadevappa, Veterinary College, Bangalore.

Triflupromazine hydrochloride (Siquil-Sarabhai Chemicals) and Diazepam (Calmpose-Ranbaxy) were used at the dose rate of 1mg per kg body weight as premedication in three dogs each and were subjected to general anaesthesia using thiopentone sodium. Iohexol 300mg/ml (Omnipaque - Nycomed) was administered into the subarachnoid space at the rate of 75mg/kg after removing equal quantity of cerebrospinal fluid. Radiographs were taken at 15,30,60,90 and 120 minutes. Opacification time of cervical region was seen within 30 minutes, thoracic region in 60 to 90 minutes and lumbar region within 120 minutes in all the animals. Two dogs subjected to premedication with Triflupromazine showed frequent convulsions and took around 48 hours to recover and one dog succumbed due to injuries sustained during convulsions. One dog subjected to Diazepam recovered after 24 hours with only two episodes of convulsions and the other two dogs recovered within 12 hours uneventfully.

ULTRASONOGRAPHIC DETECTION OF A RETAINED ABDOMINAL TESTICLE

V.M.Chariar, Mumbai

A 11 years old cryptorchid (one descended testicle) German Shepherd was presented with a history of recurrent hemorrhagic colitis, recurrent UTIs hematuria and abdominal discomfort. An USG exam was conducted 1 1/2 years ago, prompted by

similar symptoms revealed a prostate normal in echotexture and size of testicles. Trans-abdominal USG revealed prostatitis with gross prostatomegaly a uniformly hypoechoic mass 3x3x2.9 cm was detected on the anterior aspect of the urinary bladder fundus. On laparotomy mesentery was found to be in multiple adhesions with the testicles and its vessels. Gross and histopathologic examination of the abdominal testicle showed a picture of ischaemic necrosis probably from torsion. This explained the atypical picture on USG.

Technical Session VII

SMALL ANIMAL SURGERY

Chairman : Dr. S.M. Jayadevappa

Rapporteur : Dr. C.C. Wakankar

CRYOTHERAPY IN THE TREATMENT OF TUMOURS IN FARM & PET ANIMALS - A CLINICAL STUDY

P.N.Mishra, V.S.C. Bose, A.K.Ray, I.Nath, S.Nayak and T.K.Patnaik, Orissa Veterinary College, Bhubaneswar.

Thirty five clinical cases which included 14 canines suffering from perianal tumours and fibromas, 20 bovines suffering from interdigital skin hyperplasia, yoke tumours and ocular dermoids and one horse with canker in the foot of left fore limb were subjected to different methods of cryotherapy like swabbing, probing with spraying using liquid nitrogen and probing with nitrous oxide driven cryoprobe. All the conditions were successfully treated except the cases of perianal adenocarcinoma which recurred after 3 months.

RETINAL DETACHMENT IN A DOG - A CASE REPORT

M.S. Vasanth and S.M. Jayadevappa, Veterinary College, Bangalore.

A pomeranian dog aged about 6 years was presented to the hospital with a history of blindness. On examination, the vessels of the retina could be seen floating. The retina of both eyes was completely detached and floating in the vitreous body. There was no history of injury to the eye and as such the cause of the detachment could not be ascertained.

Timolol maleate 0.5% drops (Occupress - Cadila) was used along with Dexamethasone eye drops. However, no improvement was seen over a period of 3 months of observation.

EXPERIMENTAL INDUCTION OF CATARACT IN CANINES

Md. Shafiuzama, M.S. Vasanth and S.M. Jayadevappa, Veterinary College, Bangalore

Six dogs were used for the study. The eyes were atropinised (3 to 5 drops twice daily) for three days prior to surgery. Triflupromazine hydrochloride (Siquil) was used as preanesthetic. Anesthesia was induced and maintained using 2.5% Thiopentone Sodium (Intraval Sodium). A 23 gauze needle bent on its tip was introduced through the cornea to reach the anterior surface of the lens. Scarification of the anterior capsule of lens was performed radially and left for about 15 days.

Cataract developed in all the cases in 8 ± 2 days. Four dogs were completely blind in the eye. Two dogs showed resolution of the cataract on 12th and 35th day after experimental surgery.

EXTRACAPSULAR CRYOEXTRACTION OF CATARACTOUS LENS IN CANINES

Md. Shafiuzama, M.S. Vasanth and S.M. Jayadevappa, Veterinary College, Bangalore.

Six healthy dogs were used for the study. Bilateral cataract was induced under general anesthesia. While treating, general anesthesia was induced using thiopentone sodium. Incision was made on cornea from 9 to 3 o'clock position and anterior capsulotomy was done by a hypodermic needle bent at its tip. The cataract probe of the cryo unit was used to extract the lens. The cornea was sutured with 8-0 Silk.

Cryoextraction was a convenient method for extraction of the lens with minimal damage to the surrounding structures. Vision was restored in all the dogs. Hyphema was seen in one case which became normal by 18th post operative day. Other complications included prolapse of the iris and conical opacity near the suture line in one case each. Lacrimation was present in all the cases till the end of 3rd post operative week and gradually reduced thereafter.

USE OF TISSUE ADHESIVES FOR EAR CROPPING IN CANINES

M.S. Vasanth and M. R. Balaji, Veterinary College, Bangalore

N-Butyl Cyanoacrylate (Nectacryl-Nector Laboratories) was used as a tissue adhesive during the ear cropping for approximation of skin wound edges in Doberman (4), Boxer (2) and Great Dane

(1) pups of 10 to 12 weeks age. After proper haemostasis the wound edges were dried well and the adhesive was applied from the tip of the ear downwards and held for about 2 minutes.

Good and rigid approximation was obtained in all the cases.

SIMULTANEOUS OCCURRENCE OF ADENOCARCINOMA IN THE PAROTID SALIVARY GLAND AND BUCCAL MUCOSA OF A DOG

S.K.Pandey, College of Veterinary Science and Animal Husbandry, Jabalpur (M.P.)

The tumorous mass involving the parotid salivary gland was lobulated and painful on palpation. Spasm of cheek muscles as seen occasionally during hard palpation. The mandibular movement was limited. The mass over the cheek mucosa was exuberant and papilloferous. Complete parotidectomy and total excision of the growth from the mouth was commenced. Histological examination of the growths revealed them to be adenocarcinoma. Cyclophosphamide @ 300mg intravenously was given as carcinochemotherapeutic.

MASTOSARCOMA OF LIMB IN AN ALSATIAN DOG - A CASE REPORT

A.P.Bhokre, V.D.Aher and N.M.Degloorkar, College of Veterinary & Animal Sciences, M.A.U.Parbhani.

A 6 year old Alsatian male dog was presented with history of tumour like growth at left metacarpal region since 6 months. The growth was hard on palpation and ulcerating wound was present on medial aspect. Radiography of metacarpal region showed non involvement of bone. Since the growth increased day by day, amputation of limb at mid-humerus level was resorted under G.A. There was recurrence of growth after a fortnight which was radically removed. The growth reappeared within 3 days and the dog succumbed after a week. Histopathologically the tumour was confirmed to be a mastosarcoma.

SURGICAL MANAGEMENT OF AN UNUSUALLY LARGE FIBROMA IN A WHITE MOUSE

Utpal Das and Arup Kr. Das, South Calcutta Veterinary Clinic, 59, Ramesh Mitra Road, Calcutta.

An adult female white mouse showed a the fist size lump on the right ventrolateral aspect of the body extending between fore to hind limb. Xylazine and Ketamine were administered intramuscularly to excise the mass under local infiltration. Surgical wound was

routinely closed. The recovery from anaesthesia was smooth and uneventful. The histopathological examination of the growth showed the picture of fibroma. Healing was uncomplicated.

PERINEAL HERNIORRHAPHY IN A DOG - A CASE REPORT

S.Thilagar, T.N.Ganesh and Mohammed Basheer, Peripheral Veterinary Hospital, Centre for Animal Health Studies, Madhavaram Milk Colony, Chennai.

7 years old male dog was presented with a history of swelling on the left side of anal opening and difficulty in defaecation. Clinical and radiological examinations suggested perineal hernia involving the bladder. Herniorrhaphy was performed under general anaesthesia and epidural anaesthesia after reducing the bladder and prostate. The animal was castrated subsequent to herniorrhaphy. The dog made an uneventful recovery.

LAPAROSCOPY AND GUIDED BIOPSY OF HEPATOMA AFFECTED LIVER IN A DOG

T.N.Ganesh, S.Dharmaceelan, B.RameshKumar, R.V.Suresh, K.Vasu and S.R.Pattabiraman, Madras Veterinary College, Chennai.

A non-descript male dog aged 6 years was admitted to the Madras Veterinary College Hospital with the history of loss of appetite and distended abdomen since 2 weeks. Blood samples analysis, serum chemistry physical examination and radiography confirmed ascites with hepatomegaly. Paracentesis abdominis was performed and 450ml of ascitic fluid was drained. Laparoscopic examination was performed with a 5mm telescope connected to endocamera and TV Monitor. The liver lobes were enlarged and revealed multiple nodules of varying sizes. Biopsy of the liver was carried out with telescopic guidance using a biopsy forceps connected to the electrocautery unit. Histopathological examination of the biopsy revealed hepatoma.

MULTIPLE METASTATIC BONE NEOPLASM (ADENOCARCINOMA) IN A DOG

T.N.Ganesh, A.P.Nambi and B.Murali Manohar, Madras Veterinary College, Chennai.

A non-descript 14 years old dog was reported with the history of weakness of hind quarters and unable to get up. The dog was very dull and debilitated with wasting of muscles of hind limbs and bed sores. Serum chemistry revealed mild elevation of serum calcium with marked elevation of phosphorus.

Radiographs of the lumbosacral spine revealed spondylosis deformans. Since there was pain and crepitation at the right stifle and hock, further radiographs were taken. All the long bones revealed periosteal thickening and the metaphysis of tibia and femur revealed aggressive osteolytic lesions suggestive of secondary tumours. The animal was given symptomatic treatment but died after 3 weeks due to nephritis and pneumonia. On autopsy the primary tumour could not be located. Histopathological examination confirmed it a case of adenocarcinoma.

MANAGEMENT OF AN UNUSUALLY LARGE SIZED TRANSMISSIBLE VENEREAL TUMOUR IN A DOG WITH CHEMOTHERAPY

T.N.Ganesh, R.V.Suresh, B. Ramesh Kumar and S.R.Pattabiraman, Madras Veterinary College, Chennai.

An eight years old non-descript male dog was reported with the history of infrequent bleeding from the penis with swelling since 3 months. On clinical examination, the penis and scrotum were severely enlarged with ulcerations in the sheath. Both conjunctiva showed many unusual granular lesions. Histopathological examination of biopsy of the tumour confirmed it as transmissible venereal tumour. Five injections of Vincristine sulphate (Oncocristin AQ, Tamil Nadu Dadha Pharmaceuticals Ltd) at the rate of 0.025 mg per kg body weight was administered intravenously at weekly intervals. There was uneventful recovery with complete regression of the growth. The conjunctival lesions also regressed completely and automatically.

PYOMETRA IN TWO OOPHORECTOMISED DOGS

V.M. Chariar and B.R. Raj, Bombay Veterinary College, Mumbai.

GASTRO-INTESTINAL FOREIGN BODIES IN CANINES - REVIEW OF 5 CASES.

Mohinder Singh, A.C. Varshney, S.K. Sharma, J.M. Nigam, Haminder Sharma and Ajay Gupta, College of Veterinary and Animal Sciences, HPKV, Palampur (H.P.).

A total of five adult dogs of various breeds were presented in the college clinics with the history of inappetance, frequent vomiting and cessation of defecation. Physical and radiographic examinations revealed the presence of foreign bodies in stomach (3 cases) and intestine (2 cases). All the animals were operated under xylazine-ketamine anaesthesia. Among the five dogs, four recovered completely and one died on the 4th post-operative day.

EVIDENCE OF DIFFERENT TYPES OF TESTICULAR TUMOUR IN CRYPTORCHID AND MONORCHID DOGS.

Dr. D.K. De and Dr. P.K. Bose., Deptt. of Clinics Faculty of Veterinary & Animal Sciences of W.B.U.A.F.S., 37 & 68, Kshudiram Bose Sarani, Belgachia, Calcutta.

Retained testes with neoplastic changes have been obtained from various breeds of dog like Cocker Spaniel, Pomeranian, Pekingese, Irish Setter, Poodle, Golden Retriever, Boxer, Spitz and in few German Shephard and Dobermann. After surgical intervention in some cases histopathological studies revealed the prevalence of adenocarcinoma (seminoma), interstitial cell tumor, Sertoli-cell tumor in monorchids and cryptorchids.

SURGICAL MANAGEMENT OF SKULL TRAUMA IN A DOG

Adrash Kumar, Arvind Mahajan, Simmi Manuja and K.D. Rayot, Veterinary Polyclinic, Shahpur (H.P.)

A male dog aged 2 years was presented after being hit by the chopper exactly between the two nostrils, thus separating both of them. The exposed parts which had lost their integrity were nasal bones, dorsal and ventral nasal concha, membranous and cartilaginous septum and hard palate. The wound was fresh with little bleeding. There was dyspnea and escape of air through the wound and respiration was assisted by open mouth breathing. Animal was given an anaesthetic combination comprising of Atropine, Xylazine and Ketamine. After debridement of wound the cartilaginous septum was sutured using stainless steel suture. The hard palate mucous membrane was sutured using polyethylene, whereas the skin and muscles were sutured using silk. Supportive therapy included antibiotic, diet restriction and fluid replacement. Dog was fed liquid diet on fourth day and recorded in 20 days.

FIELD PROBLEMS :

TECHNICAL DISCUSSION :

Chairman : Dr. S.S. Rathore
Rapporteur : Dr. K.G. Avachat

Technical Session VIII

LEAD PAPERS :

Chairman : Dr. Harpal Singh
Rapporteur : Dr. T. N. Ganesh

1. Diagnostic procedures in traumatised pet animals - *Dr. C.C. Wakankar*

2. Correction of physiological imbalances in traumatised large animals- *Dr. B.M. Jani*

Technical Session IX

ORTHOPAEDIC SURGERY :

Chairman : Dr. S.S. Mishra
Rapporteur : Dr. S.C. Ojha

SPONTANEOUS RECOVERY IN TWO DOGS AFTER SEVERE PELVIC TRAUMA

C.L. Badgujar and L.B. Sarkate, Bombay Veterinary College, Parel, Bombay.

Two mongrel young dogs suffered severe pelvic trauma from vehicle accident. There was no weight bearing on the hind-limbs and no control over urine and faeces. Radiological examination showed bilateral femoral neck and head fractures. The motor reflexes were absent and sensory reflexes were slightly present. Surgical treatment being cost prohibiting; they were given a chance to live with conservative treatment. The functional ability of the hind limbs was restored in about 30 days.

USE OF CARBON FIBRES FOR THE RECONSTRUCTION OF SUPERFICIAL DIGITAL FLEXOR TENDON IN CROSSBRED CALVES : BIOCHEMICAL AND SCANNING ELECTRON MICROSCOPIC STUDY

Naveen Kumar, A.K. Shanna, Gaj Raj Singh and Satish Kumar, Division of Surgery, National Biotechnology Centre, Indian Veterinary Research Institute, Izatnagar (UP).

Study was conducted in 12 crossbred calves divided into two groups (I and II) of 6 animal each. A 2.5 cm long defect in superficial digital flexor was repaired with two strands of carbon fibres (each consisting of 6000 filaments) using modified locking loop suturing technique in both the groups. In group II, autogenic synovia collected from the hock joint was transplanted at the repaired site immediately joint after operation and at weekly intervals upto 4 weeks. Healing was evaluated macroscopically, biochemically and scanning electron microscopically on 7, 14, 30 and 20th day postoperatively. Adhesion with peritendinous tissues were observed in both the groups on day 7, which were comparatively less severe in group II on day 14. Few adhesions with gliding movement restoration occurred at day 30 in group II. Collagen, hydroxyproline, hexosamine and elastin estimation revealed significant difference

between the groups at different time intervals. Scanning electron microscopic observations revealed amorphous neoformed tissue with high cellularity in between carbon fibres resulting in thickening of carbon fibre implant. Neoformed tissue was relatively denser and more organised in group II. Numerous uneven ridges running along the carbon fibre filaments were also observed.

CLINICAL STUDIES ON THE USE OF POLYVINYL CHLORIDE SPLINTS FOR FRACTURE IMMOBILIZATION IN SMALL RUMINANTS.

B. Ramesh Kumar, B. Justin William, R. Gnanasekar, A. Arun Prasad and S.R. Pattabiraman., Department of Clinics, Madras Veterinary College, Chennai.

A Clinical study was conducted to assess the efficacy of Polyvinyl Chloride (PVC) splints as immobilization material for fracture treatment of metacarpals, radius & ulna, metatarsal and tibia. The splints were applied over the fractured area on the anterior aspect in forelimb and posterior aspect in hindlimb for better immobilization. After securing the splints with adhesive tape, plaster of paris bandage was applied, and maintained for 3 weeks. All the animals showed uneventful recovery without complications.

BILATERAL COMPOUND LOWER EPIPHYSEAL FRACTURES OF RADIUS AND ULNA IN AN ALSATIAN DOG.

C.L. Badgujar, and L.B. Sarkate, Bombay Veterinary College, Pañel, Mumbai.

A five months old Alsatian was presented with old malpositioned bilateral radius and ulna fracture at distal epiphysis with open wounds. He was unable to stand or bear weights on the fore limbs. "T" shaped stainless steel bone plates were used in inverted form to correct the deformity. The dog recovered and walked with a little pain on 25th day.

CHRONIC LAMENESS IN DOGS - A CLINICAL STUDY IN SEVENTEEN CANINE CASES

S. Ayyappan, T.N. Ganesh and S. Thilagar, Peripheral Veterinary Hospital, Directorate-Centre for Animal Health Studies, Madhavaram Milk Colony, Chennai.

Seventeen cases of chronic lameness in dogs were investigated. The problems were classified into those diagnosed in young dogs of small breeds, medium sized breeds, giant breeds and in adult dogs. Diagnosis was based on clinical and radiographic examination. Possible treatment modalities will be discussed.

A NEW EXTERNAL FIXATOR IN SMALL ANIMAL

C.C. Wakankar, Y.M. Chariar, B.R. Raj, Mumbai.

The Joshi External Skelotal System (JESS) used for the human hand was adopted for use in orthopedics in small animals. It was successfully used in correcting deformities caused by growth disturbances in two Great Dane dogs. Use of this fixator followed osteotomy of the Femur in one dog and ostcotomy of Radio-ulna in the other.

The fixator was also used to treat a supra-condyloid fractured Femur in a cat and a compound infected fracture of Radio-ulna in a dog. The three dogs and the cat accepted the fixator well and showed early ambulatory weight bearing. The fixator's versatility, lightness of weight and acceptance by the animal were responsible for it's success in the variety of cases.

SURGICAL CORRECTION OF CONTRACTED TENDONS IN A JERSEY CROSSBRED CALF.

T. Madhava Rao., Livestock Assistants Training Centre, Karimnagar, Andhra Pradesh.

A one-month old Jersey crossbred calf had bilateral knuckling at the fetlock joints of the forelimbs. Tenotomy of the superficial and deep digital flexor tendons in both the limbs and in addition, desmotomy of the suspensory ligament in one limb was performed under local infiltration and the limbs immobilized with plaster of Paris casts for 2 weeks. The calf made uneventful recovery and was able to walk and run.

HISTOMORPHOLOGICAL STUDIES OF FRACTURE HEALING FOLLOWING USE OF INDIGENOUS MEDICINES.

Harnam Singh and Harpal Singh, College of Veterinary Science, Pantnagar - 263145 [UP]

Close fracture of mid shaft of radius and ulna was created experimentally and immobilized with bamboo splints and plaster cast in 36 clinically healthy dogs of 1 - 1.5 years of age. All the dogs were equally divided into three groups i.e. I, II and III. Powder of bark of *Terminaliya arjuna* and *Coelogyne cristat* at the dose rate of 3g each were given orally to all the dogs of group II and III respectively upto 6th post fracture week. At the end of 6th, 9th and 12th week interval, four dogs from each group and each interval were euthanized. Bone samples of 4 cm length including the site of fracture were collected from radius and processed for histological examination. Varying amounts of osteoblastic clusters, mesenchymal tissue

and proliferation of fibroblast in animals of all the groups at 6th week interval was seen. Endo Chondral ossification was observed in group II animals at 6th and 9th week intervals. The bony trabeculae became denser bridging the fracture gap completely in group II, III and I animals at 6th, 9th and 12th week intervals, respectively.

EVALUATION OF AUTOGENOUS CORTICAL BONE FRAGMENT GRAFTING IN FRACTURES OF RADIUS IN DOGS.

V.K. Sobti, R.K. Grover and K.S. Roy., Department of Veterinary Surgery and Radiology, PAU Ludhiana.

Segmental midshaft diaphyseal defect (2 cm) of right radius was created and maintained by bone plating under general anaesthesia with haloperidol thiopental combination in 8 dogs divided into 2 groups of 4 dogs each. In group I, autogenous cancellous bone collected from medial metaphysis of left tibia was grafted in group II, the gap was filled with autogenous cortical bone fragments. The weight bearing and normalization of the gait was comparable in both groups. Radiographs taken at 60 days revealed moderately radiodense callus in the graft area in group I. In group II, the callus from the fracture ends mixed up with cortical bone fragments. Morcoscopically, the grafted cancellous bone at 60 days was still under the process of resorption in group I. In group II, the woven bone was much developed and there was focal areas showing resorption and remodeling of bone. The results of both groups were comparable.

CLINICAL, HAEMATOLOGICAL AND BIOCHEMICAL OBSERVATIONS FOLLOWING THE USE OF HOMOLOGOUS DEEP FROZEN TENDON GRAFTS IN EQUINE.

Narinder Singh Saini and K.K. Mirakhur, Punjab Agricultural University, Ludhiana, Punjab.

The study was performed on the use of homologous tendon grafting of superficial digital flexor (SDF) tendon and traumatizing deep digital flexor (DDF) tendon in donkeys. In group I (n=8) the deep frozen homologous tendon grafts were used, while in group II animals after tenectomy no grafting was done. Both grafted SDF and traumatized DDF tendons were encased with amniotic membrane. External coaptation applied for six weeks and support was extended for another two weeks. Donkeys were observed at various stages upto 15th (n=1), 30th (n=2), 60th (n=2), 90th (n=2) and 120th (n=1) post-operative days (POD) in groups I. In group II, one animal each was observed on 60th and 120th POD.

Animals of both the groups showed a significant rise of temperature, respiration and heart rates on 1st two operative days. Swelling reduced significantly upto 5th POD and disappeared by 42nd POD. Girth measurement remained significantly more than normal upto 10th (P<0.01) and 14th (P<0.05) POD and became normal by 42 POD in Group I. The girth measurements remained substantially higher in group II till the end of study period. Contralateral limbs showed appreciable increase in the girth measurements upto 5th POD. In majority of the grafted animals (5/8) the tendon gliding movements were present. Weight bearing on walk became normal in 37.8 ± 2.24 and 38.5 ± 2.89 days in groups I and II, respectively. However, hematological and biochemical parameters showed no clinically significant change. The use of deep frozen tendon grafts is feasible and provides normal locomotion in equine.

THE EFFECT OF THYROXINE AND INSULIN IN FRACTURE HEALING-BIOCHEMICAL EVALUATION OF CALLUS

S. Surya Wanshi, S.K. Maiti, Kesava Rao and B.N. Kowle, Division of Surgery, Indian Veterinary Research Institute Izatnagar

The study was conducted on 15 clinically healthy adult dogs divided into three groups (A₁, A₂, and A₃) consisting of 5 animals each. In all the animals unilateral metaphyseal fracture was created in the proximal tibia and then immobilized by cross intramedullary pinning with interfragmentary wiring. Group A₁ served as control. In groups A₂ and A₃, thyroxine and insulin were administered respectively, on day 7 and then on every alternate day till day 45. After the animals were sacrificed on day 60, 1x1 cm long bone pieces including the fracture line (callus) were cut. The tissues were subjected to hydroxyproline and hexosamine estimation. From the hydroxyproline content, the total collagen level was calculated.

Although there was no significant difference between the total collagen, hydroxyproline and hexosamine contents of the fractured bones of the control and the treated groups, there was some evidence of increased accumulation of hexosamine and collagen in the treated groups at day 60 post-fixation indicating more new bone formation in these groups. The values were slightly higher in insulin treated group than those of thyroxine treated group due to an early remodelling phenomenon in thyroxine treated group.

CLINICO-RADIOLOGICAL EVALUATION OF SINGLE AND CROSS INTRAMEDULLARY PINNING IN THE MANAGEMENT OF TIBIAL METAPHYSEAL FRACTURE IN DOG.

S. Suryawanshi, S.K. Maiti, H.P. Aithal and G.R. Singh,
Division of Surgery, Indian Veterinary Research Institute,
Izatnagar.

The study was conducted on ten clinically healthy adult dogs divided into two groups (A & B) consisting of 5 animals each. In all the animals unilateral metaphyseal fracture were created in the proximal tibia and then immobilized by cross and single intramedullary pinning with interfragmentary wiring in group A & B respectively.

Inflammation at the fracture site increased upto 7 postoperative day in all the animals of both groups. However, near normal values were resumed by day 21. Group 'B' showed a maximum increase in these values which persisted upto day 30. While group 'A' showed early disappearance of inflammation. Surgical wound healing was by first intention in majority of animals. Earliest return to weight bearing was seen in animals of group 'A' followed by group 'B'.

Radiographs taken at different intervals revealed good fracture healing in group A. In group B, fracture gap progressively increased, and fracture healing was slow and delayed.

THE EFFECT OF THYROXINE AND INSULIN HORMONES IN FRACTURE HEALING-RADIOLOGICAL AND RIA STUDY.

S. Suryawanshi, S.K. Maiti, G.R. Singh and V.P. Varshney,
Division of Surgery, Indian Veterinary Research Institute
Izatnagar.

The study was conducted on fifteen clinically healthy adult dogs divided into three groups (A₁, A₂ and A₃) consisting of 5 animals each. In all the animals unilateral metaphyseal fracture were created in the proximal tibia and then immobilized by cross intramedullary pinning with interfragmentary wiring. Five animals were taken as control (A₁). In groups A₂ and A₃, thyroxine and insulin were administered, respectively, on day 7 and then on every alternate day till day 45. Radiographs were obtained at day 0, 15, 30, 45 and 60 post-fixation.

In group A₁ (Control), though fracture healing was perfect at the caudal border of the defect, the gap still persisted in the cranial border and remodelling continued in all the animals at day 60 post-fixation. In group A₂, periosteal bone proliferation was visible at

day 15 post-fixation. On day 60, there was complete obliteration of fracture gap and early remodelling of periosteal callus occurred. In insulin treated group (A₃) increased osteogenic activity accompanied remodelling, like group A₂. However, pronounced cellular proliferation and better healing pattern were noted in the animals treated with thyroxine followed by Insulin hormone.

Tri-iodothyronine (T₃), Thyroxine (T₄) and Insulin were estimated on days 0, 1, 3, 7, 10, 15, 20, 30, 45 and 60 post-operatively by radioimmunoassay (RIA). The mean values of T₃, T₄ and Insulin remained low in the control group whereas T₄ and T₃ values in group A₂ (Thyroxine treated) and Insulin values in group A₃ (Insulin treated) decreased upto day 7, then it tended to be on higher level upto day 45, thereafter it decreased to control values.

FRACTURES OF LONG BONES IN DOGS: A RETROSPECTIVE ANALYSIS OF ETIOLOGY

H.P. Aithal, G.R. Singh and G.S. Bisht, Indian Veterinary Research Institute, Izatnagar; UP

A total of 402 fracture cases were analysed for various aspects of fractures caused by different etiological factors. The causes of direct trauma were mainly automobile accidents (46.86%) and fall from height (39.11%). Majority of fractures caused due to automobile accidents were in hind quarters including femur, tibia/fibula and pelvis/sacrum; and most of them were either oblique (49.47%) or comminuted/multiple (38.95%) in nature. Fractures due to fall were also mostly in hind limbs (58.49%) and mostly (69%) were around the stifle joints. In fore limbs, such fractures were mostly (67%) around carpal joints. Left hind limb and right fore limb were more frequently affected. Majority of dogs with the history of fall had oblique/spinal fractures (51.1%), followed by transverse fractures (18%). Osteopenia was detected in 9.45% of cases. More fractures occurred in animals aged less than 6 months and males were significantly more affected than females. Among different bones, femur was most commonly affected (81.58%).

INCIDENCE OF FRACTURES IN DIFFERENT DOMESTIC ANIMALS- A TWENTY YEARS' SURVEY ANALYSIS

H.P. Aithal, G.R. Singh and G.S. Bisht, Indian Veterinary Research Institute, Izatnagar.

The incidence of fractures was analysed based on the available radiographs of fracture cases recorded at Indian Veterinary Research Institute from 1976 to 1995. A total of 402 fracture cases in dogs,

91 cases in bovines and 88 cases in sheep/goats were included in the study.

The causes of trauma were mainly automobile accidents, followed by falls in all species of animals. In dogs, sheep and goats, majority of fractures were recorded in animals aged less than one year, whereas in bovines the incidence was maximum in the age group of 1-3 years. The occurrence was more in hind limbs than fore limbs in all species of animals. In dogs and sheep/goats, femur was mostly involved, followed by tibia/fibula. Whereas in bovines, maximum fractures were recorded in tibia, followed by femur. In dogs and bovines, middle and distal third of diaphysis was more commonly affected in femur, humerus and radius/ulna, whereas in tibia/fibula the occurrence was more at the middle and proximal third. In sheep/goats, middle and proximal third was mostly involved in femur and radius/ulna, whereas in tibia, metatarsals and metacarpals, middle and distal third of shaft was mostly affected. Among different types of fractures, oblique/spiral fractures were more common in dogs and sheep/goats. In bovine, comminuted fractures were maximum.

HORN PLATES IN THE MANAGEMENT OF SUPRACONDYLAR FEMORAL FRACTURE IN DOGS - AN EXPERIMENTAL STUDY

H.P. Aithal, G.R. Singh, Amarpal and H.C. Setia, Indian Veterinary Research Institute, Izatnagar.

The plates prepared from buffalo horn were evaluated for the fixation of supracondylar femoral fracture in experimental dogs. The results were compared with standard stainless steel plated animals, using different intraoperative and postoperative clinical observations, evaluation of stifle joint function and radiological examinations of the fracture site as parameters for evaluation. Horn plates were technically easier to apply than stainless steel plates. The duration of surgery and the extent of soft tissue manipulation was comparable between the groups. Postoperative inflammation was relatively more with horn plates. Weight bearing and range of joint motion improved progressively to attain near normal level at the end of observation, i.e. 90 days, in stainless steel plated animals. Recovery in joint motion and weight bearing was delayed in horn plated animals. Fixation failure was seen in two (40%) stainless steel plated animals, whereas rigid fixation was maintained with horn plates in all the animals till the end of observation. Fracture healing was comparable among the groups.

MODIFIED TECHNIQUE OF SINGLE PIN FIXATION AND CROSS INTRAMEDULLARY PIN FIXATION TECHNIQUE FOR SUPRACONDYLAR FEMORAL FRACTURE IN DOGS : AN EXPERIMENTAL STUDY:

H.P.Aithal, G.R. Singh and H.C. Setia, Indian Veterinary Research Institute, Izatnagar.

The study was undertaken to evaluate a modified technique of single pin fixation and cross intramedullary pin fixation technique in the management of supracondylar femoral fracture in dogs. Ten adult dogs of either sex were divided equally in groups A and B. In all the animals, a transverse supracondylar fracture was created in left femur under epidural ketamine and thiopental general anaesthesia. In group A, normograde technique of single pin fixation through the intercondyloid fossa was used to immobilize the fracture, whereas in group B, cross intramedullary pin fixation in the manner of Rush pins was used. The two techniques were compared based on intraoperative, clinical and radiological observations and functional status of the test stifle joints. Cross pin fixation provided relatively more stability with early fracture healing, however, the technique was more difficult and more traumatic. Single pin fixation through the intercondyloid fossa was relatively easy, less time consuming, less traumatic and provided satisfactory fixation. The technique was also safe and did not affect the functional status of stifle joint adversely.

MODIFIED PIN FIXATION FOR DISTAL METAPHYSEAL - EPIPHYSEAL FRACTURES OF FEMUR IN THE DOG : A REVIEW OF 7 CASES

H.P. Aithal, G.R. Singh, Amarpal, P. Kinjavdekar and M.Hoque., Indian Veterinary Research Institute, Izatnagar.

Fractures of distal metaphysis/epiphysis were recorded in 7 cases out of 35 dogs reported for treatment of femoral fractures during the year 1995-96. Fractures mostly occurred in young animals (<1 yr.) due to fall. Fracture fixation was done by single intramedullary pin normograded through intercondyloid fossa either alone (6 cases) or alongwith cancellous screws (one case). The clinical and radiological findings were used as parameters for evaluation with minimum followup of 6 weeks. Modified single intramedullary pin fixation was found satisfactory with good functional recovery of the limb.

HEALING OF ARTICULAR CARTILAGE FOLLOWING INTRA ARTICULAR PIN FIXATION IN DOGS:

H.P.Aithal, G.R. Singh and A.K. Sharma, Indian Veterinary Research Institute, Izatnagar.

The study was conducted to evaluate the fate of articular cartilage and joint morphology after the intra-articular pin fixation of metaphyseal fractures. Supracondylar femoral fracture was created in 5 adult dogs and were immobilized with I.M. pin fixation normograded through the inter-condyloid fossa. The pin was removed after the appearance of radiological signs of fracture healing. The articular cartilage at the point of pin insertion was subjected to histological examinations soon after the removal of I.M. pin (2 animals), one month after (2 cases) and 10 months after the pin removal (1 case). Sequential examinations revealed that the cartilage defect was initially filled with loose connective tissue and later replaced by chondroid tissue with clear demarcation from the subchondral bone. It was likely that the defect was filled through progressive hyalinization of loose fibrous tissue which subsequently chondrified. The study thus indicated that the healing of articular cartilage occurs after pin fixation. Pin fixation therefore, through the joint cartilage can safely be undertaken in difficult cases of metaphyseal epiphyseal fractures.

EARLY DIAGNOSTIC PARAMETERS IN EXPERIMENTAL POST TRAUMATIC OSTEOMYELITIS

M.Hoque and G.R. Singh, Division of Surgery, Indian Veterinary Research Institute, Izatnagar.

Osteomyelitis was produced by using unsterilized steinmann pins, K-nails and stainless steel plates in femoral fractures in groups A₁, B₁ and C₁ respectively. Groups A₂, B₂ & C₂ served as corresponding controls where sterilized devices were used. The animals of test groups exhibited lameness of higher degree and longer period when compared to their controls. There was significant increase in the rectal temperature, pulse and respiration rates in the animals of test groups when compared to their controls during the early post-operative period (upto 9 days). The animals of test groups showed higher TLC values from day 3 and 3-fold elevation was noted on day 21 post-operation. DLC revealed neutrophilia with a concomitant lymphopenia in test groups from day 3 to 30 post operation. These changes in control groups were only transient. In groups A₁, B₁ & C₁ an early and sharp increase in serum alkaline phosphatase

activity was recorded upto day 21. On day 21, the enzyme activity was recorded more than 6 and 2.5 folds to their respective base values in test and control groups respectively. Radiographs in test groups showed soft tissue swelling and loss of demarcation between fascia and muscle at 24 hrs and zone of bony lysis around the implants at day 15 postoperation. However, typical radiographic signs of osteomyelitis were detected at day 30. At day 15, cultural examination of swab material yielded bacteria and histopathological examination of bone biopsy showed evidence of osteomyelitis. It is concluded that clinical signs, TLC, DLC and ALP were found useful parameters for the early diagnosis of osteomyelitis. However, bacterial isolation, serial radiography and bone biopsy were needed to confirm the diagnosis.

A RETROSPECTIVE STUDY OF POSTTRAUMATIC OSTEOMYELITIS IN ANIMALS

M. Hoque, G.R. Singh and H.P. Aithal, Division of Surgery, Indian Veterinary Institute, Izatnagar.

Out of 571 fracture cases treated, osteomyelitis was recorded in 22 cases (3.85%). There was no predisposition to species or breed in the occurrence of osteomyelitis. More males were affected with osteomyelitis than females (Male : female 1.75:1) and the incidence was higher in younger age group. Femur was the most commonly affected bone (45%), followed by tibia and meta-tarsal (14%), humerus, radius-ulna and meta-carpal (9%). Majority of the fractures were simple (82%), transverse (68%) or oblique (22%) and their locations were mainly in the middle (63%) or distal third (22%) of the shaft. Of the osteomyelitis cases, infection rates were as high as 59% with internal fixation, while 41% with external fixation technique.

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Rapporteur : Dr. A.P. Singh

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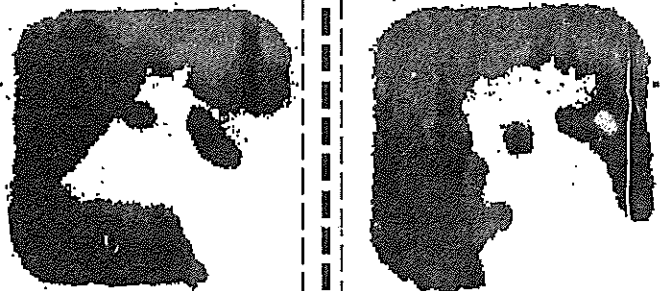
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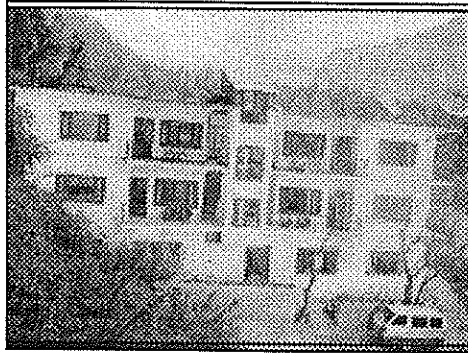
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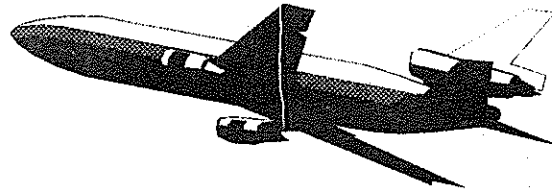
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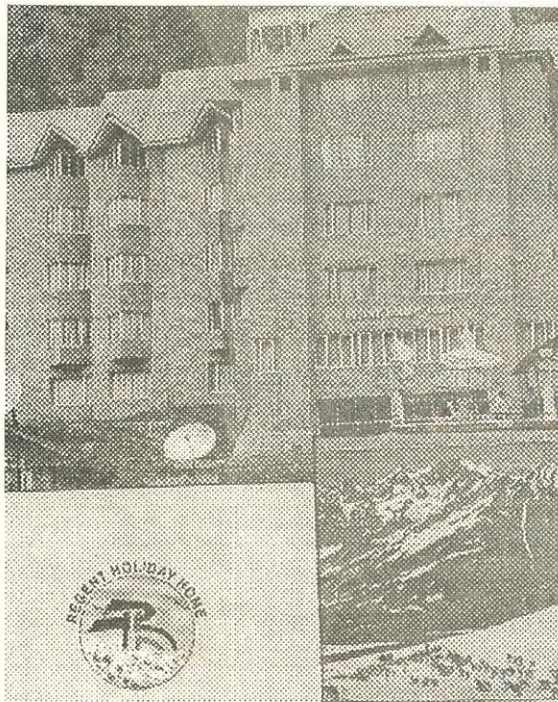
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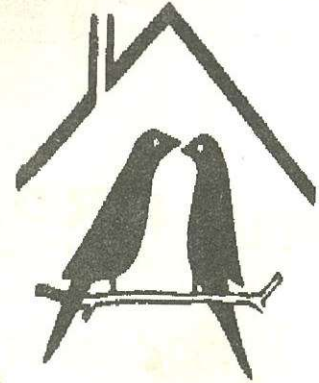
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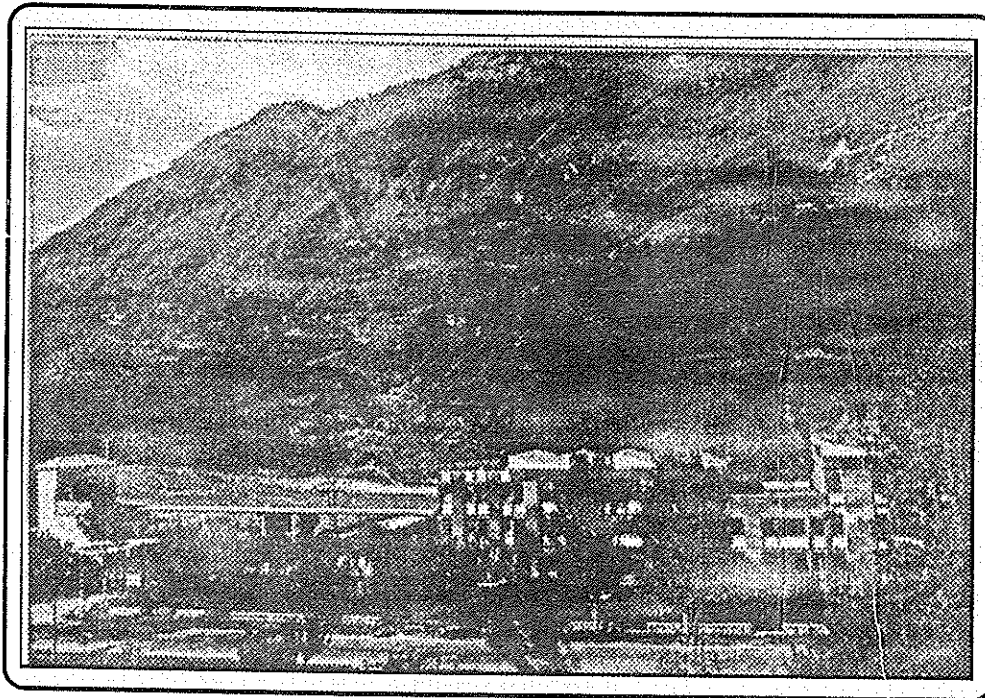
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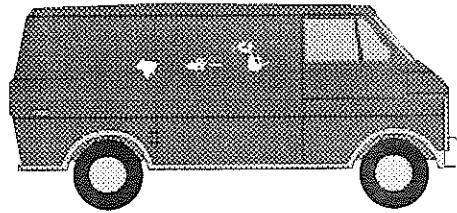
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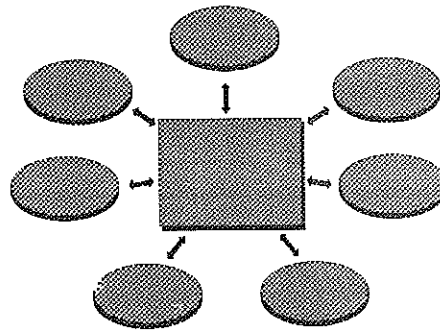
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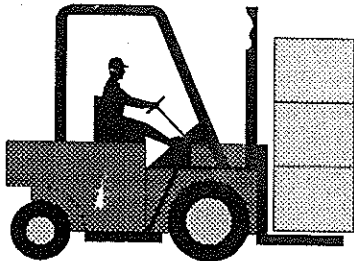


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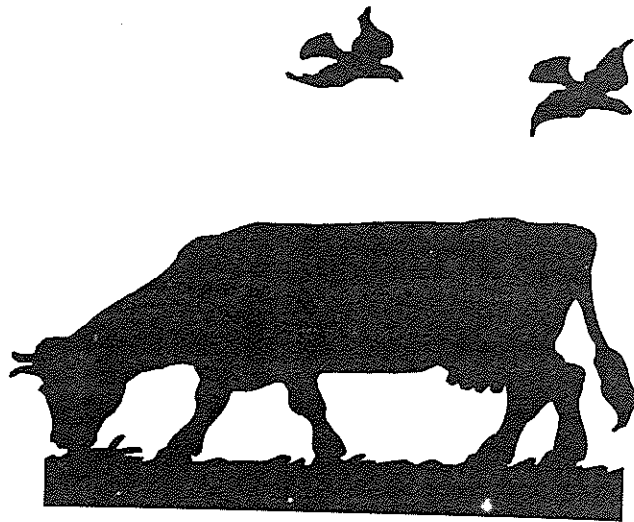
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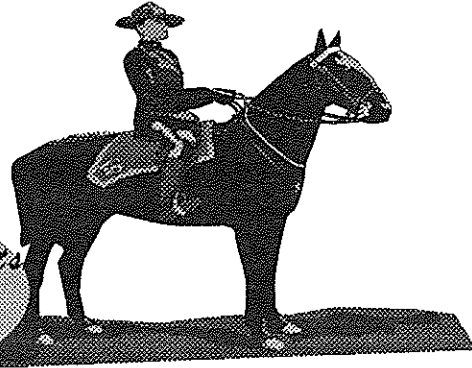
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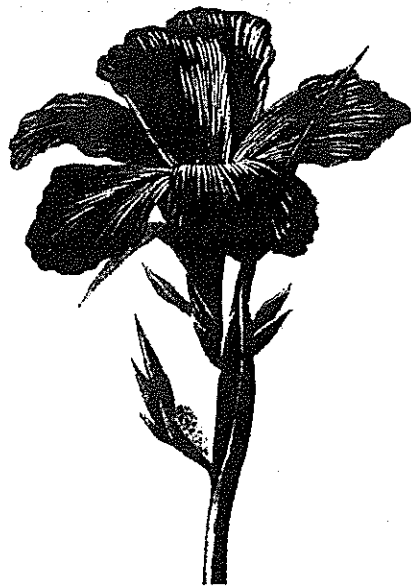
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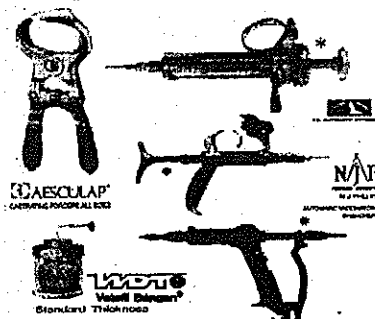
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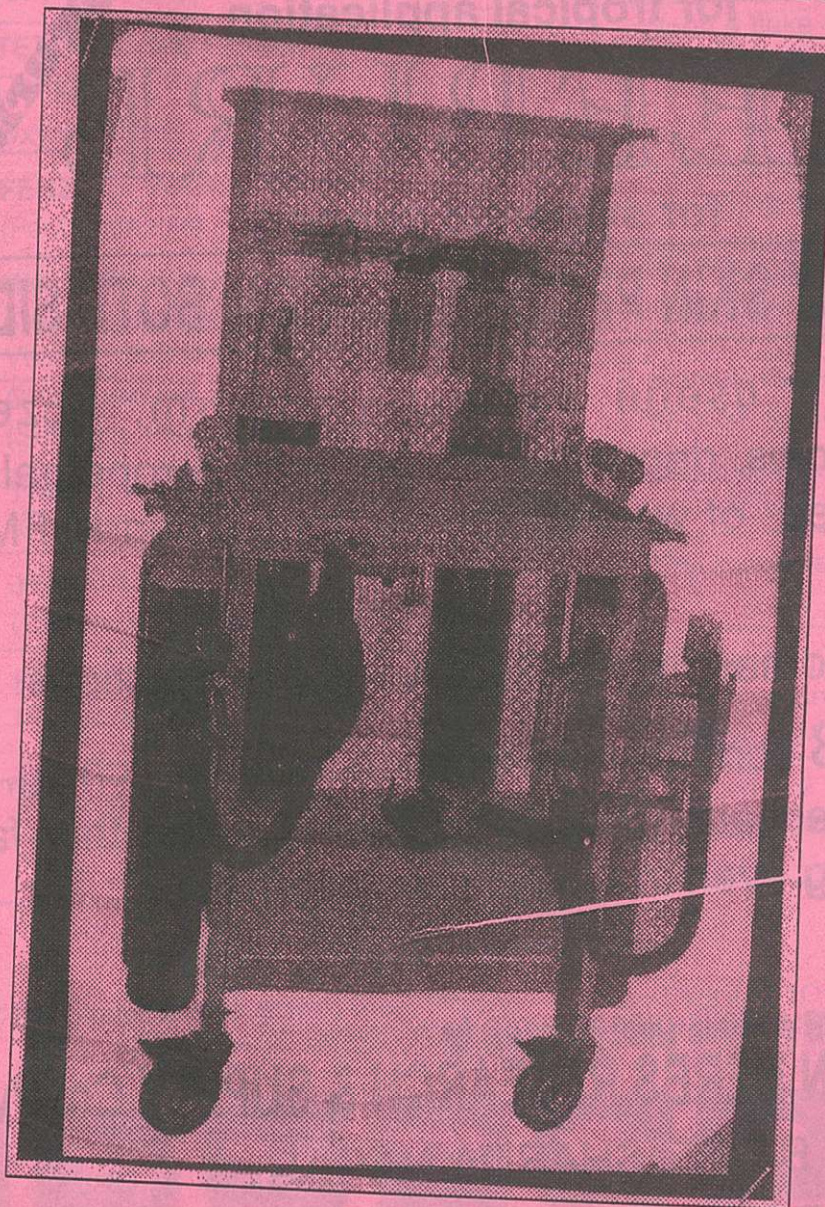


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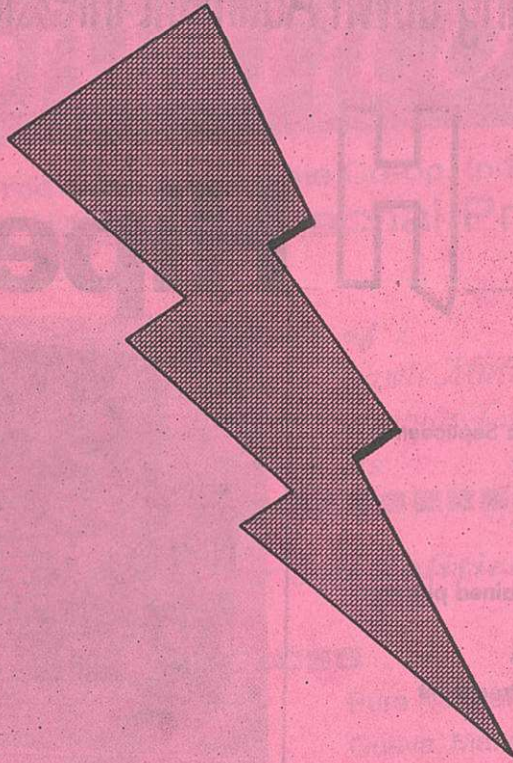
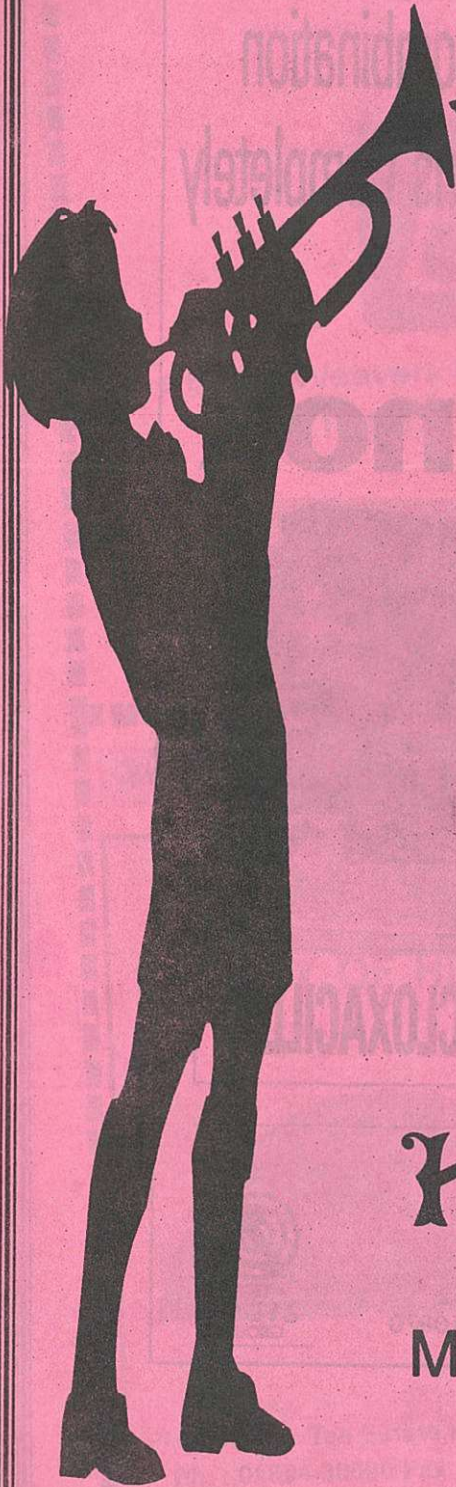
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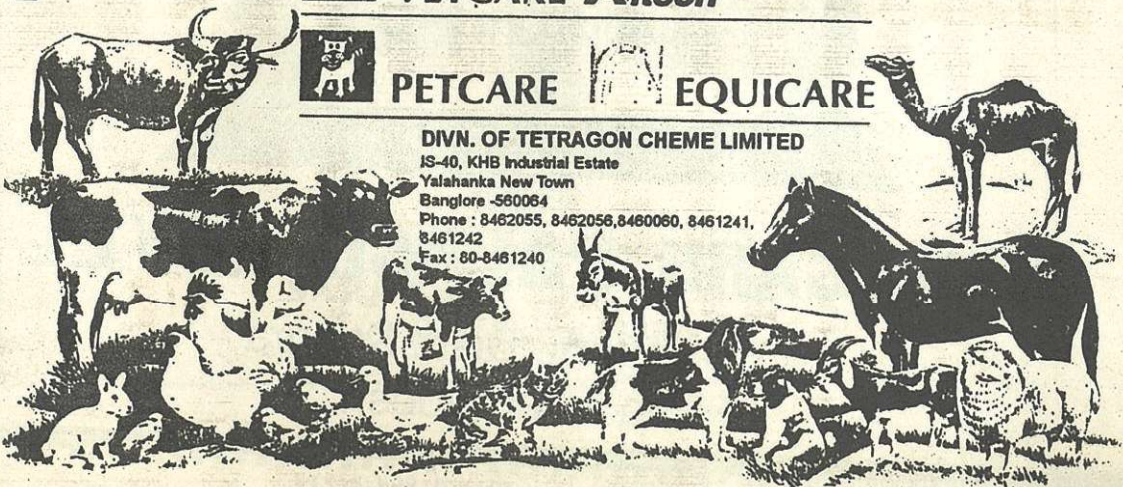
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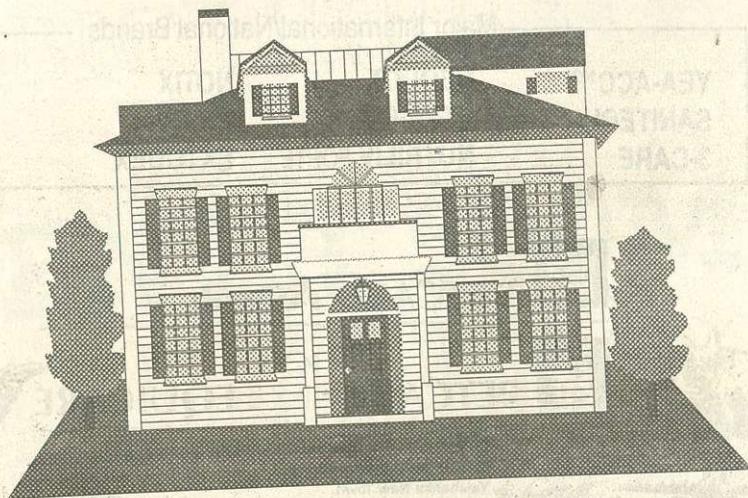
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