SOUVENIR AND ABSTRACTS

28th ANNUAL CONGRESS OF INDIAN SOCIETY FOR VETERINARY SURGERY AND NATIONAL SYMPOSIUM ON

CURRENT TRENDS IN VETERINARY CLINICAL ORTHOPAEDICS

NOVEMBER, 18-20, 2004

DEPARTMENT OF VETERINARY SURGERY AND RADIOLOGY
COLLEGE OF VETERINARY SCIENCE AND ANIMAL HUSBANDRY
JAWAHARLAL NEHRU KRISHI VISHWA VIDYALAYA
JABALPUR - 482 001 (M.P.) INDIA

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28 th Annual Congress

of

Indian Society for Veterinary Surgery

and

NATIONAL SYMPOSIUM

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Current trends in Veterinary Clinical Orthopedics

SOUVENIR AND ABSTRACTS

November 18-20, 2004

Department of Veterinary Surgery and Radiology
College of Veterinary Science and Animal Husbandry
J. N. KRISHI VISHWA VIDYALAYA
JABALPUR - 482 001 MADHYA PRADESH

Editorial Board :

Assisted by :

Bhairon Singh Shekhawat

सत्यमेव जयते

उप-राष्ट्रपति, भारत
VICE-PRESIDENT OF INDIA

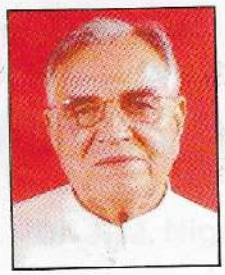
Message

I am pleased to know that the 28th Annual Congress of Indian Society for Veterinary Surgery is being organized under the auspices of the Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, J.N. Krishi Vishwa Vidyalaya, Jabalpur and a National Symposium on "Current trends in Veterinary Clinical Orthopaedics" is being held during November 18-20,2004.

Veterinary Science is an important area to cater to the varied health care needs of our vast livestock population as also to increase its productivity through artificial insemination services. Productive Dairy Farming and rural prosperity greatly hinge on healthy livestock. The symposium, on this important subject, I am confident, will be crucial in keeping our Veterinary scientists abreast with recent advances in this field.

I wish the conference and symposium a grand success.

(BHAIRON SINGH SHEKHAWAT)



Dr. Bal Ram Jakhar

GOVERNOR MADHYA PRADESH

RAJ BHAWAN
BHOPAL - 462003

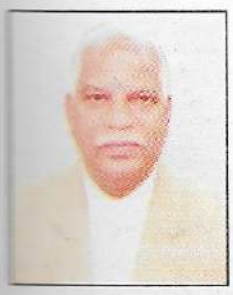
Message

I am happy to know that 28th Annual congress of Indian Society for Veterinary surgery and National symposium on "Current trends in Veterinary Clinical Orthopaedics" will be organized at Jawahar Lal Nehru Krishi Vishwa Vidyalaya, Jabalpur.

Madhya Pradesh has a vast number of livestock and is on the verge of white revolution. The framers and livestock owners have been benefited by adopting improved animal health practices. I am sure that the scientists will bestow their full attention for further improvement of animal health for higher livestock production and develop latest techniques for combating various surgical disorders associated with farm and companion animal.

I wish all success for the endeavor.

(Bal Ram Jakhar)



BHERULAL PATIDAR

Vice Chairman
State Planning Board
8, Civil Line,
Shyamla Hills,
Bhopal

Message

I am happy to know that, College of Veterinary Science and A.H. Jawaharlal Nehru Krishi Vishwa Vidyalaya Jabalpur is organizing the 28th Annual Congress of Indian Society for Veterinary Surgery and National Symposium on "Current trends in veterinary Clinical Orthopedics." from 18th - 20th November 2004.

Our state economy is mainly agriculture based in which Animal Husbandry and Veterinary Science are the integral part of the system. The Veterinarians of Madhya Pradesh are doing excellent job for improving the health status and production of Livestock. This convention at Jabalpur will provide a unique opportunity to the Veterinarians of the country in general and that of the state in particular in exchanging the ideas to solve many complicated field problems in order to improve the farmer's economy.

I wish the annual Congress and National Symposium a great success.

(Bherulal Patidar)

डॉ. ध्यान पाल सिंह
कुलपति

जवाहरलाल नेहरु कृषि विश्वविद्यालय
कृषिनगर, अधारताल, जबलपुर – 482004 (म.प्र.), भारत
Jawaharlal Nehru Krishi Vishwa Vidyalaya
Krishi nagar, Adhartal, Jabalpur -482004 (M.P.), India

October 2,2004

Message

I am happy to know that the Department of Veterinary Surgery and Radiology, College of Veterinary Science and A.H., JNKVV, Jabalpur is organizing National Symposium on "Current Trends in Veterinary Clinical Orthopaedics" and 28th Annual Congress of Indian Society for Veterinary Surgery from 18-20 November, 2004 at Jabalpur. The theme chosen for deliberation during the symposium is very much relevant in modern animal health practices. Though the veterinary orthopaedics field is progressing well, the management aspects are causing concern and the veterinarians engaged in this filed of research have the challenge to evolve economically viable and effective remedial technologies to overcome this complexity and increase the productivity and draft capacity of animals. I am confident that the outcome of the deliberations during the symposium and the congress will open new vistas to crub this burning issue in animal husbandry methods for the veterinarian in their future endeavor.

I wish the National Symposium and Annual Congress of the Society a grand success.

(D. P. Singh)

S. Rawla
Secretary

Government of Madhya Pradesh
Animal Husbandry & Fisheries Department
BHOPAL

Message

I am extremely happy to know that the Department of Veterinary Surgery and Radiology is organizing 28th Annual Congress of Indian Society for Veterinary Surgery and National Symposium on "Current Trends in Veterinary Clinical Orthopaedics" from 18th to 20th November, 2004 at College of Veterinary Science and A.H., J.N. Krishi Vishwa Vidyalaya, Jabalpur

The Veterinary Surgeons have played a vital role in the health management of pets and large animals for enhancing the milk and meat production in the country. The surgeons have developed new techniques for alleviating the suffering of animals and they are next to none.

I hope this seminar will throw up some innovative ideas in advanced surgical remedies of livestock population. I extend my best wishes to all the organizer's, delegates and participants in this endeavor.

(S. Rawla)

Prof. (Dr.) Rama Kumar
Secretary Veterinary Council of India (retd.)
President, Indian Society for Veterinary Surgery

Lekshmi Bhawan,
Eswari Vilasom Road,
Trivandrum-695014,
Kerala – India

Message

It is heartening that the Indian Society of Veterinary Surgery is holding its 28th Annual congress along with the national symposium on "Current Trends in Veterinary Clinical Orthopaedics" from 18th to 20th November, 2004 in an institution that once was the leader in clinical veterinary service in the country. The timing of the seminar is appropriate since it coincides with the ongoing revision of the veterinary curriculum by Veterinary Council of India, the statutory authority responsible for regulating veterinary education in India.

The focus of the seminar is on clinical orthopaedics, a sub-specialization of veterinary surgery, that could make a sea change in the veterinary service of India. Unlike the west, where the excellence in small animal orthopaedics is comparable to that of the medical counterpart, India's veterinary orthopaedics also holds relevance to large domestic animals, particularly the farm animals. This is so because the productive life span of Indian livestock is normally from 12 to 15 years as against the 2-3 years in the west. Clinical othopaedics will have to be tackled in the aforementioned field situations in a holistic manner. It can do it either by organizing a support system or knowledge delivery through continuing veterinary education (CVE). Each animal saved and each working day added could enhance the country's economy and development.

The veterinary profession is at crossroads. Our asset of nearly one billion animals whether they are in the form of live-stock, companion animals, ferals, wild animals, zoo animals, laboratory animals or birds are the responsibility of Veterinary profession. They are equitably distributed among the rich, poor or are the common asset of the community. When the rest of the world is forging ahead with hi-tech animal management systems, hi-fi processing technology, aggressive marketing, superior diagnostics and modern therapy with the help of specialization and super – specialization, India's technological advance can not remain confined to institutions of higher learning without being available for field practice.

I hope that the seminar would provide a good platform for exchange of experiences and dissipate newer knowledge and technology to those who can directly avail them and use them. I wish the convention and the seminar every success.

(Rama Kumar)

Dr. M. K. Bhargava,
Professor and Head,
Department of Veterinary Surgery and Radiology,
College of Veterinary Science and Animal Husbandry,
J.N.Krishi Vishwa Vidalaya, Jabalpur(M.P.)

From the Desk of Organizing Secretary

It is my privilege to welcome you all on the auspicious occasion of 28th Annual Congress of Indian Society for Veterinary Surgery and the National Symposium on "Current trends in Veterinary Clinical Orthopaedics", being organized by the Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, JNKVV, Jabalpur. The Symposium of the Congress is being organized for the first time by the Department at Jabalpur. I take this opportunity to apprise you briefly about the Jawaharlal Nehru Krishi Vishwa Vidyalaya. The University came in existence on October 2, 1964 and was inaugurated by Late Smt. Indra Gandhi, the then Union minister for Information and Broadcasting. At present JNKVV encompassed of seven Agriculture, two Veterinary College and one Agriculture Engineering College, with 9 zonal research stations, 16 regional research stations and 18 Krishi Vigyan Kendras (KVK) in 9 Agro-climatic zones spread over 45 districts.

The College is one of the premier institute in India established after independence on July 8th, 1948. It was inaugurated by Shri Jairamdas Daulatram, the then Union minister of Agriculture and Food. The college has distinction by begging several National and State awards in different areas of research.

The department of veterinary surgery and radiology was established in the year 1952. The department has very good physical facilities such as 500 mA large animal X-ray machine, well-equipped air-conditioned small animal operation theatre and adequate audiovisual teaching facilities. The department has been continuously involved since its inception in basic and applied research. The work in the field of anesthesiology, clinical surgery, orthopaedics surgery and experimental surgery has been well recognized. The techniques and certain formulation in clinical surgery has been well accepted and practiced by the field veterinarians. The postgraduate programme was started in the year 1963 and till now 43 postgraduate students have passed out.

The department achieved the distinction of excellence in the field of teaching, research and extension under the patronage of Dr.R.S.Ranjan, Dr.P.B.Kundu, Dr.S.K.Gupta, Dr.M.R.Patel and Dr.S.K.Pandey. The contribution made by Late Dr.S.M.Srivastava, Dr.N.R.Nair and other faculty members are noteworthy.

I take this opportunity to thank our honorable Vice-Chancellor Dr. D. P. Singh, who has kindly consented and permitted to host this scientific event by the department in this college. I am highly obliged to honorable Vice Chancellor for his encouragement, support and timely help at every stage of initiation and organization of th symposium.

Help and support received from Dr. M.C. Agrawal, Dean, College of Veterinary Science &Anima Husbandry, Jabalpur is highly appreciated. I sincerely acknowledge the guidance, help and cooperation receive during this symposium from Dr. J.M.Nigam, Ex-Dean College of Veterinary Science, Palampur (H.P.) an Dr.S.K. Pandey, Dean, college of Veterinary Science and Animal Husbandry, MHOW.

I extend my thanks to all the sponsors for their generous gesture for making the convention a grand succes I appreciate my colleagues Dr.V.P.Chandrapuria, Dr. (Mrs.) Apra shahi and Dr. (Mrs.) Shobha Jawre, wh were with me like shadow during the last one-year. I am sincerely thankful to all the chairman, Convenor along wit the members of different organizing committees, my colleagues, staff, employees, postgraduate and undergradua students for their consistent help rendered in holding the conference.

I thank the office bearer of Indian Society for Veterinary Surgery for permitting to hold the conference this prestigious institution.

Lastly, on behalf of the organizing committee, I welcome all the delegates from the different parts of th country and abroad. I hope your stay will be memorable and pleasant at this place.

(M.K.Bhargava)

Dr. M. C. Agrawal
Dean

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

Message

It is a matter of great pleasure that Indian Society for Veterinary Surgery has selected this premier institute as the venue for its 28th Annual Conference from 18-20th November 2004 when a national symposium on "Current trends in Veterinary clinical orthopedics" is also being organized. The theme of the symposium is important as management of orthopedic cases, especially of large animals, is of great concern for total recovery of the animals.

There was a time when prognosis of operations in large animals was doubtful .The Veterinary Surgery has traveled a long distance from that state, developing confidence of total recovery of animals among the farmers. This sea change has been possible only by new scientific developments and modern techniques in Veterinary Surgery. Still a difference is observed. Where human operations are linked with emotions and unlimited cost of life, cost is prohibiting desirable and critical operations in animals. Therefore, there is a need of subsidizing operation costs by various societies engaged in animal welfare. Simultaneously, the Veterinary Surgeons should develop new cost-effective technologies that may be followed in rural Veterinary Hospitals. Another field awaiting exploration is Experimental Surgery where new techniques may be developed for transfer not only in animals but also in human beings.

It is earnestly hoped that ISVS will come forward in meeting challenges of field problems and the conference will solve such problems and guide the field surgeons so that this art and science may be more popular and beneficial to the farmers.

I am confident that the conference will be a successful one and new strategies will be discussed for integrated management of surgical cases with fruitful recommendations.

(M.C.Agrawal)

Dr. S. K. Pandey
Dean

College of Veterinary Science and
Animal Husbandry, MHOW (M.P.)

Message

It is gratifying to note that Indian society for veterinary surgery has accepted Department. of Veterinary Surgery and Radiology, Veterinary College, Jabalpur (M.P.) as venue for conducting its 28th Annual National Conference from 18th to 20th November 2004. The rapid stride made by this department in relation to teaching, research and extension in the field of anesthesiology, tissue healing, Veterinary Orthopaedics and wild animal surgery in the last two decades has developed it into one of the best department in a country. The theme chosen by organizers for the Congress "Current Trends in Veterinary Clinical Orthopaedics" by organizers is a need of the day.

I am sure the scientist will seriously deliberate on the topic to evolve effective techniques for management of fractures particularly in large animals. Further the Congress will also provide an effective platform for fruitful deliberation on other filed of veterinary surgery as well and the scientific achievements, in different branches of veterinary surgery will be shared. The National Congress will also be able to potentiate the practical knowledge of field veterinarians so that they are in a better position to transfer advance technique at the village level.

I am certain of the fact that the deliberations during this seminar will go a long way in recommending surgical practices to minimize suffering of livestock. I wish all the delegates a pleasant stay at Jabalpur to commemorate this most important event of Indian Society for Veterinary Surgery.

(S. K. Pandey)

A BRIEF RESUME OF COLLEGE OF VETERINARY SCIENCE AND ANIMAL HUSBANDRY, JABALPUR (M.P.)

The college was established in 1948 and was inagurated on 8th July, 1948 by Shri Jairamdas Doulatram, the then Food and Agricultural Minister, Government of India. Dr. M.Y. Mangrulakar was the founder principal. In 1961, postgraduate training was started in some of the disciplines like Pathology, Microbiology and Animal Nutrition in 1961. In 1964, this institute became one of the 8 constituent colleges of newly started Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur. The college is currently engaged in teaching, research and extension catering the need of animal scientists, farmers and students alike. At present, this college has 18 departments with excellent teaching, research and externsion facilities besides well organized livestock and poultry farms.

This college has so far provided 1984 trained veterinarians who are engaged at the state or national level in uplifting the livestock. In addition this institute has provided 480 post graduates (425 M. V. Sc. & A.H. and 55, Ph. D.) and 39 diploma holders in different disciplines of Veterinary and Animal Science to give a leadership for the execution of different livestock development programmes for increasing the animal production of the state. The graduates and postgraduates from these institutes have given a dynamic vibrant leadership not only in country but also abroad. In addition, the college and its staff brought many laurels by significant contributions in the form of textbooks and practical manuals. The department of Animal Nutrition, Surgery, Pharmacology, Pathology, Animal Breeding and Genetics have come up with text books and practical manuals.

In the field of research, college has been honored by sponsoring different schemes from ICAR, UGC, CSIR, and MPCOST and from own state. Until now, the total numbers of schemes successfully completed are approximately 40, which have come out with many sound recommendations for the betterment of livestock. At present 12 schemes are in operation. The staff members are actively engaged in extension activities like Radio talks, T.V. Talks, contributing popular articles in magazines and local papers and also by organizing Veterinary and Livestock camps from time to time in villages with full complement of students.

In spite of a small size of the student population, the college has been holding sports and games activities every year and presenting awards to winners. 1 MPR & V Sqn N.C.C. was established on 19th July 1966 in the college. The unit brought laurels to the University as well to our college by winning 15 gold, 14 silver, 11 bronze medals one best rider girl's trophy and 3 other trophies at national level during Republic day Pared comps at Delhi. NCC is providing a variety of adventure opportunities to its cadets such as horse riding, trekking, etc.

Mission

To train veterinarians for the rural and urban animal health, production and specialized research work. To continue applied research and extension for enhancing livestock health and their productivity.

Mandate

1. To serve as a center for carrying the teaching of Veterinary and Animal Science and to carry out research on domestic livestock and wildlife.
2. To disseminate technologies generated, to the farmers through extension programs.

Teaching

As per statues, the department is the unit, which is headed by Head of the Department. Each the 19 existing departments of the college is executing their duties of teaching, research and extension in their subject of specialization.

1. Veterinary Anatomy
2. Animal Nutrition
3. Veterinary Obstetrics and Gynecology
4. Veterinary Clinical Medicine
5. Veterinary Preventive Medicine
6. Veterinary Pharmacology
7. Veterinary Parasitology
8. Veterinary Surgery
9. Veterinary Extension
10. Wildlife Health and Management
11. Animal Breeding and Genetics
12. Livestock Production and Management
13. Animal Biochemistry
14. Veterinary Microbiology
15. Veterinary Pathology
16. Veterinary Physiology
17. Poultry Science
18. Fishery
19. Veterinary Public Health.

Since 1995, the colleges follow Veterinary Council of India (VCI) system in education. Besides degree programme, it is imparting Masters Program in 13 disciplines and Doctorate in 10 disciplines. The college is also administering refresher courses and short-term training programs for field veterinarians. The well-equipped laboratories, library with some rare collections, ARIS cell with Internet, 5 classroom are there for the students. The college has one girl's hostel to accommodate 38 girls with a common room and other facilities and one boy's hostel to accommodate 160 boys with common amenities. The college has a well-established RVC unit with horse line, where students are trained in NCC and horse riding. This wing has won several national awards for excellent performance in Republic Day celebrations. For overall development of the students, extra curricular activities viz. debate; gymnasium, games, sports and cultural programmes are arranged by the college.

Our postgraduate scholars have fetched coveted Jawaharlal Nehru award and Young Scientist Awards. The faculty has published text books in animal breeding, pathology, biochemistry, monographs in surgery, pharmacology, animal nutrition, practical manuals in microbiology, physiology, animal breeding and genetics, animal nutrition, review research papers on schistosomiosis, stephanpfilariasis, sarcosystosis, inflammation, book chapters on epidemiology of fluke infections, schistosomiosis, anaesthesia, buffalo haematology and technical bulletins on Nimari and Malvi cattle breeds.

Clinics

- Animal owners from different parts of the state come with their small or large animals for different ailments. The recovery rate even in major operations ranges from 70 to 100%. Pet owners are visiting the hospital for general care, spaying, vaccination and other ailments.
- The X-ray unit is helping in radio-diagnosis.
- Ultrasonogrphy is confirming early pregnancy in sow and bitches.
- Special facilities have been developed for handling and treating wild animals.
- Complicated cases are treated in consultation with the experts of all the departments.
- A sick animal ward is operating to the care of more cases that are complicated.

Animal Sciences

- The Livestock farm consists of dairy and poultry farms, piggry and goat unit. These facilities are utilized by the students to solve practical problems while the scientists are engaged in improving animal wealth. The college had the privilege of holding 3 major ICAR coordinated research projects, one on cattle, one on poultry and another on pigs.
- Black stain of pig, enjoyed by the tribes of Madhya Pradesh, was developed having 10.80 litter size at birth and gaining body weight of 65 kg in 24 weeks.
- Vindhyachal Broiler was developed using sex linked dwarf gene.
- Developed a more accurate method for sire evaluation for cattle breeding programme.
- Genetic characterization of Nimari and Malvi breeds of cattle.
- Muzzle printometery for evaluating age of the ruminants.
- Mozzarel a cheese, an essential component of Pizza was developed.
- Buffaloes are more prone to metabolic disorders and sub fertility.
- Economical poultry rations have been developed using locally available feed ingredients.
- Economical mineral mixtures have been evolved using cheaper grade mineral sources.
- Complete feed formulae have been evolved using nonconventional feed and fodders.

Research

Research by our experienced as well as talented young scientists is solving the state and national problems pertaining to animal health and production. They are engaged in curricular as well as target oriented rasearch sponsored by ICAR, NATP, ICMR, CSIR, MPCOST and every department is handling one or more research project with a budget outlay ranging from 2 lacs to 46 lacs. Presently college is handing projects worth about Rs. 7 crores. Our scientists have been felicitated with prestigious national awards like Rafi Ahamed Kidwai Award, Hari Om Ashram Award, Fakhruddin Ali Ahmed award and many best research paper awards. The first ICAR National Fellowship in JNKVV also went to the faculty of Veterinary Science and Animal Husbandry. Scientists are fellows of National Academy of Veterinary Science or Scientific Societies.

The faculty is invited as resource person by may scientific organizations and research institutes to seek expert advice, to write books or to deliver lectures and lead papers. Scientists are in editorial boards of scientific journals and are members of different scientific panels of national scientific organizations including ICAR.

Glimpses of achievements

- A polyvalent vaccine to control spirochaetosis in poultry.
- Preservation of live Borellia anserine.
- Metabolic studies and deep freezing of buffalo semen.
- Lentogenic R.D. Strain (CDF-66) for better immunity in Ranikhet disease.
- LDPE polyethylene bag technique for faecal examination.
- Techniques for infecting and recovering blood flukes from the animals.
- Feline pan leukopenia as cause of death in the tigers.
- Identified infectious corhyza in the state.
- Unraveled mysteries of avian inflammation especially cellular components.
- A warning of clinical ketosis in buffaloes if blood ketones exceed from 12.0 mg %.
- Replacement of maize, groundnut cake with non-conventional feeds.
- Evolving economical mineral mixture for different species of animals.
- Developmental studies on goat foetus.
- Application of herbs as anti-inflammatory products.
- Distribution of advance major carp fingerlings to the farmers.

Future Thrust

- A complete feed pellet for ruminants to safeguard from miseries of drought conditions.
- DNA finger printing of animal breeds for characterization and conservation.
- Characterization and conservation of Kadaknath poultry breeds.
- Ex-situ conservation of germplasm of native livestock.
- Develop a kit for diagnosis of ketosis in high milk yielders.
- Immuno diagnostic kit for hepatic schistosomiasis.
- Artificial insemination in swine.
- Mapping of diseases in Madhya Pradesh.
- Developing a disease forecasting system.

Department of Surgery & Radiology
College of Veterinary Science & A. H., Jabalpur

Preamble

The department was established in the year1952 and over the years has developed into one of the best components of the college, by virtue of its excellent teaching, research, extension and specially its clinical services. The department caters its specialized services also to all over the state whenever needed.

The department has the facilities of modern 500 mA X -ray machine with small animal and large animal operation theatres and physiotherapy room..The department is actively engaged in need based research work with special emphasis on to the local, regional, State and National problems with integrated inter- disciplinary approach. It has very close relationship with the field veterinarians and organizing / participating in field Veterinary camps regularly.

The work of department on anaesthesia, wound healing, neoplasia, skin grafting, teat surgery, orthopaedics and wild life surgery is widely popular and well accepted in the field. The department is proud of its past grandeur and its students and placing its sincere and hard efforts on foresighted problems of profession concerning preservation of human and animal health.

Technical Staff

Dr. M.K.Bhargava	Professor & Head
Dr. V.P. Chandrapuria	Professor
Dr. (Mrs.) Apra Shahi	Assistant Professor
Dr. (Mrs.) Shobha Jawre	Assistant Professor

Supporting Staff

Shri M.H. Ansari	X-ray Technician
Shri Tikaram Dubey	Peon
Shri Ganesh Prasad	Attendant
Shri Daduram	Farrash
Shri Dhansingh	Farrash (TSL)

Heads of the Department in the past

Dr. R.S. Rangan	1952-1965
Dr. P.B. Kundu	1965-1969
Dr. S.K. Gupta	1969-1970
Dr. M.R. Patel	1970-1978
Dr. S.K. Pandey	1979-2002

(1) Under Graduate:

Course No.	Title	Year	Semester
VSR-411	General surgery and Anaesthesiology	IV	I
VSR-421	Regional and Clinical surgery I and Radiology	IV	II
VSR-422	Regional and Clinical surgery I and Radiology	IV	II
VSR-511	Regional and Clinical surgery II and lameness	V	I
VSR-512	Regional and Clinical surgery II and lameness	V	I

(2) Post Graduate

Course No.	Title
VSR-605	Advance General Surgery
VSR-606	Advance Anaesthesiology
VSR-607	Veterinary Radiology
VSR-608	Large Animal Surgery
VSR-609	Small Animal Surgery
VSR-610	Veterinary Orthopaedic Surgery
WHM-611	Gynecological Surgery

M.V.Sc. awarded - 43

Extension work during theYear 2003-04

1. Cases treated - 3925
2. Operation performed - 325
3. Radiograph taken - 71
4. Field surgical cases - 7
5. Revenue generated - Rs. 55940=00

Significant achievements -

1. Developed a new technique for correction of hard milker condition in bovine.
2. Vincristine and Cyclophosophamide were tried and implemented successfully in routine Canine cases of VG and other neoplasia.
3. Designed and developed a new surgical instrument for the legations of deep seated soft tissues and vessels in animals.
4. Prepared a VCD on canine surgery part I, containing 5 operations.

Awards and Honor

1. Dr. S.K. Pandey
   - Fellow Indian Society of Veterinary Surgery - 1998.
   - Fellow National Academy for Veterinary Science - 2001.
   - Lifetime achievement award of Indian Society of Veterinary Surgery - 2001.
2. Dr V.P. Chandrapuria
   - Best clinical paper award in Intas Polivet- 2003.
   - Petcare trophy and appreciation certificate- 2004.
   - Best paper presentation award in orthropaedic session of 26th ISVS symposium at Mumbai, 2002 with Dr.Apra Shahi.

Research Paper

1. Papers published (Research & clinical) - 250

Research Projects

I. Departmental Projects:

A. Experimental

1. Analgesia and anaesthesia

a. Paravertebral analgesia in dogs.
b. Bupivacaine hydrochloride as an epidural analgesic.
c. Bupivacaine as spinal anaesthetic in goats.
d. Centbucridine as local analgesic.
e. Epidural analgesia in pigs.
f. Chloral hydrate anaesthesia in dogs.
g. Diazepam as preanaesthetic in canine surgical patients.
h. Morphine as preanaesthetic.
i. Medazolam as preanaesthetic..
j. Pethidine and pentazocine as preanaesthetic.
k. Propofol as general anaesthetic.
l. Thiopentone as general anaesthetic.
m. Glycerol guaiacolate as musscle relaxant.
n. Some observations on the use of Canabis as preanaesthetic agent in dogs.

2. **Wound healing.**

3. **Skin grafting.**

B. Clinical

a. Antineoplastic studies.

b. Incidence, treatment, approach and metastasis of Canine Transmissible Venereal Sarcoma.

c.. Fracture repair.

d. Evaluation of septol as an antiseptic lotion in surgical cases.

e. Evaluation of different techniques for correction of lower teat obstruction.

f. Efficacy of predinisolone in arthritis.

g. Abomasal displacement in bovine.

h. Surgical management of ascitis in canine.

i. A new approach for aural haematoma in dog.

j. Studies on efficacy of cyclophophamide for post surgical neoplasia in canine.

k. Efficacy of Septilin for post operative management in canine.

C. Wild Life Surgery

Department attended surgical cases of Elephant, Carnivores, Bear, Wild buffalo, Ungulates, Monkey and Reptiles.

II. External Funding Projects:

1. Studies on the use of indigenous plants in tissue repair. 1992- 1996 (M.P. Cost) by Dr. M.K.Bhargava & Dr. S.K. Pandey.

Books and Manuals

1. Operative techniques in bovine Surgery- by. S.K. Pandey, A.M. Shrivastava.and R.K. Pa
2. A Treatise on Anaesthesia for animals -by S.K. Pandey and M.R.. Patel.
3. Monograph on Wound healing - by S.K. Pandey and V.P.Chandrapuria .
4. A Practical manual of Radiology, Regional and Clinical Surgery- I VSR- 422 by M.K. Bhargava and S.K. Pandey.
5. A Practical manual of Clinical & Regional Surgery- II and Lameness VSR-512 by V.P. Chandrapuria and Apra Shahi.

NATIONAL SYMPOSIUM

ON

CURRENT TRENDS IN VETERINARY CLINICAL ORTHOPAEDICS

AND

XXVIII ANNUAL CONGRESS OF INDIAN SOCIETY FOR VETERINARY SURGERY

(NOVEMBER 18-20, 2004)

DEPARTMENT OF VETERINARY SURGERY AND RADIOLOGY
COLLEGE OF VETERINARY SCIENCE AND ANIMAL HUSBANDRY
J.N. KRISHI VISHWA VIDYALAYA, JABALPUR-482001 (M.P.)

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XIII. Technical Session

1. Dr. V. P. Chandrapuria — Chairman
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PROGRAMME

Venue: Veterinary College Auditorium

NOVEMBER 18, 2004 THURSDAY

8.00 AM to 9.00 AM	Breakfast
8.30 AM to 9.30 AM	Registration
9.30 AM to 11.10 AM	Inaugural Session
11.10 AM to 11.30 AM	Inaugural Tea
11.30 AM to 1.00 PM	**TECHNICAL SESSION I - THEME SESSION**
	Chairman : Dr. P. E. Kulkarni
	Co-chairman : Dr. Gaj Raj Singh
	Rapporteur : Dr. S. Thilagar
	LEAD PAPERS
(1) Dr. S.S. Rathore	Current trends in veterinary clinical orthopaedics.
(2) Dr. Jeetendra Jamdar	Recent trend in fracture treatment.
(3) Dr. Harpal Singh	Dr. P. E. Kulkarni oration lecture.
1.00 PM to 2.00PM	Lunch
2.00 PM to 4.00 PM	**TECHNICAL SESSION II–Orthopaedic Surgery**
	Chairman : Dr. J..M. Nigam
	Co-chairman : Dr. S.S. Singh
	Rapporteur : Dr. T.N. Ganesh
	LEAD PAPERS
(1)Dr. Harpal Singh	Concept of management of bone syndrome.
(2)Dr. Gaj Raj Singh	Constraints in the management of fracture in veterinary practice.
	ORAL PRESENTATIONS
4.00 PM to 4.15 PM	Tea
4.15 PM to 6.00 PM	**TECHNICAL SESSION III —Radiology and Imaging Techniques**
	Chairman : Dr. A. P. Singh
	Co-chairman : Dr. V. K. Sharma
	Rapporteur : Dr. S. N. Usturge
	LEAD PAPERS
(1)Dr. Kuldeep Singh	Recent imaging techniques in veterinary orthopaedics.
(2)Dr. S. Thilagar	Recent trends in the management of spinal injury.
	ORAL PRESENTATIONS
	Presentation by Intas Pharmaceuticals Ltd.
6.30 PM to 7.00 PM	Snacks
7.00 PM to 9.00 PM	Cultural programme
9.00 PM	Dinner: Curtsey - : Dr. D. P. Singh, Hon'ble Vice-chancellor, JNKVV

NOVEMBER 19, 2004 FRIDAY

8.00 AM to 9.00 PM — Breakfast

9.00 AM to 11.00 AM — **TECHNICAL SESSION IV – Small Animal Surgery**

Chairman : Dr. S. K. Pandey
Co-chairman : Dr. S. Panchbhai
Rapporteur : Dr. S. K. Chawla

LEAD PAPERS

(1) Dr. C. C. Walkankar — Recent techniques of fracture immobilization in small animals.
(2) Dr. Kailash Marwaha — Problems associated with bone diseases in small animals.

ORAL PRESENTATIONS

Presentation by Petcare

11.00 AM to 11.30 AM — **TECHNICAL SESSION V – Poster Session**

Chairman : Dr. Amresh Kumar
Co-chairman : Dr. Ramesh Kumar
Rapporteur : Dr. S. K. Tiwari

11.30 AM to 11.45 AM — Tea break

11.45 AM to 1 .30 PM — **TECHNICAL SESSION VI – Large Animal Surgery**

Chairman : Dr. Harpal Singh
Co-chairman : Dr.Kuldeep Singh
Repporteur : Dr. C.C.Walkankar

LEAD PAPERS

(1) Dr.S.S.Singh — Current techniques of immobilization of upper long bone fractures in large animals.

(2) Dr.A.C.Varshney — Role of external fixators in veterinary practice.

ORAL PRESENTATIONS

1.30PM to 2.30 PM — Lunch

2.30 PM — Visit to Bheraghat and Marvel rocks

8.00 PM — Dinner

NOVEMBER 20, 2004 SATURDAY

8.00 AM to 9.00 AM — Breakfast

9.00 AM to 9.45 AM — **TECHNICAL SESSION VII – Wild Life**

Chairman : Dr. A. P. Bhokre
Co-chairman : Dr. M. S. Vasant
Rapporteur : Dr. L. B. Sarkate

ORAL PRESENTATIONS

9.45 AM to 11.30 AM — **TECHNICAL SESSION VIII—Anaesthesiology**

Chairman : Dr. S. S. Rathore
Co-chairman : Dr. A. C. Varshney
Rapporteur : Dr. T. K. Gahlot

LEAD PAPERS

(1) Dr. Amresh kumar — Anaesthetic management in veterinary orthopaedics.
(2) Dr. S.K. Pandey — Management of soft tissue trauma.

ORAL PRESENTATIONS

11.30 AM to 11.45 AM — Tea

11.45 AM to 12.45 AM — **TECHNICAL SESSION IX – Award Session**

Chairman : Dr.S.Hussain
Co-chairman : Dr. Kailash Marwaha
Rapporteur : Dr. Sandeep Sharma

1. Young surgeon award 2. Best field Veterinarian award

12.45 AM to 1.30 PM — **TECHNICAL SESSION X – Field Veterinarian Session**

Chairman : Dr. A. Deore
Co-chairman: : Dr. O. P. Gupta
Rapporteur : Dr.P.V.Parekh

1.30 PM to 2. 30 PM — Lunch

2.30 PM to 3.30 PM — General body meeting

3.30 PM to 4.00 PM — **TECHANICAL SESSION XI-Plenary Session**

Chief Guest : Dr. D.P.Singh
Chairman : Shri. K.K. Singh, IAS

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II.2.8 **Studies on Etiology, Diagnosis and Management of Urolithiasis in Dogs: A Review of 22 Cases**
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II.2.9 **Ovarian Growth in Bitch- A Case Report**
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II.2.12 **Bilateral Rostral Mandibulectomy as a Salvage Procedure for Squamous Cell Carcinoma in a Doberman Pinscher**
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II.2.13 **Chemotherapeutic Management of Canine Osteosarcoma - A Case Study**
Ramani, C., Ganesh, T.N; Mathew, Jose; Suresh Kumar, R. and Ameerjan, K.

II.2.14 **Case Report of Bilateral Hind Limb Fracture in a Great Dane Pup**
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ABSTRACTS

ORTHOPAEDIC SURGERY

2.1 Comparative Evaluation of Treatment Modalities for Management of Hip Dysplasia in Dogs

Singh, Jaspreet and Mohindroo ,J.
College of Veterinary Science, Ludhiana, (Punjab)

The present study was conducted on 27 cases of hip dysplasia. Scores were assigned on the basis of body condition, gait, weight bearing and limb extension. Goniometry was performed to evaluate extension and flexion of hip joints. A standard ventro-dorsal radiograph was taken for definitive diagnosis. The animals were divided into 3 groups. In group I, sixteen joints were managed medicinally using glucosamine and weight reduction. In group II, six joints were subjected to excision arthroplasty. In group III (bilateral hip dysplasia), five joints were evaluated where the contra-lateral joint was subjected to excision arthroplasty. The efficacy of treatment was evaluated on the basis of gait, weight bearing and limb extension, goniometry lameness scores and owner satisfaction at follow up on 15, 30 and 45-60 days. It was found that medicinal management provided substantial improvement in clinical signs in cases of hip dysplasia. Excision arthroplasty was found to be an acceptable technique for pain relief and improving limb function in hip dysplasia. In bilateral hip dysplasia, surgery of one limb provided substantial improvement in clinical signs in the contra-lateral limb.

2.2 Hypertrophic Osteodystrophy in a Great Dane Pup

Thilagar, S., Netto, A. and Gunalan, S.H.
Faculty of Veterinary Medicine, UPM, Malaysia

A 4 month old Great Dane pup was presented with the complaint of lameness and unable to stand and walk for three-week duration. The dog was fed with commercial food, rice and supplemented with calcium tablets too. Upon the physical examination, the Great Dane pup had a slow and painful gait with swelling of the carpal and tarsal joints. The animal was dull, recumbent, having pale mucous membranes, and pyrexia. Radiographic examination of thoracic limb revealed transverse radiolucent band adjacent to the distal growth plate and widening of the growth plate at the metaphyseal region of the radius and ulna in both forelimb. Bone proliferation was also observed in both fore limb at the distal part of the radius, ulna and in the stifle joint too. Haematological examination revealed neutrophilia, monocytosis, normal liver enzyme and kidney parameters. The calcium levels were 2.66 mol / L (reference value 2.0-2.8 mmol/L) and total protein is 59.0g / L (ref. value 55-75 g / L). The pup was treated with aspirin at the dose rate of 10 mg / kg bid - orally, Ketofen ® (2mg / kg body weight, s/c) as NSAID agent, Amoxycillin (20 mg/kg body weight - bid) for 1 week. The animal made an uneventful recovery.

2.3 Studying the Effects of Bone Marrow Injection on Radial Fracture Healing in Rabbits

Meimandi Parizi, A. and Bagheri Tirtashi, H.
Veterinary Medicine school, Shiraz University, 71345 Shiraz, Iran.

To evaluate the effect of bone marrow injection and its time of administration on fracture healing, 4 groups of rabbits were selected, two were used for treatment and two as control. In all the rabbits, the shaft of right radius was fractured and then group I received 5 ml of bone marrow immediately after operation percutaneously and in group II 5 days later. Fracture healing evaluated clinically and radiographically. Fracture

stability was relatively same in all groups. The amount of callus formation was more in treatment groups. The treatment groups showed better condition in fracture line removal and remodeling in comparison to control groups. There was no difference between two treatment groups and bone marrow injection was not important.

2.4 Surgical Management of Bilateral Mandibular Fractures in Dogs.

Pandey, S.K. and Shukla, B.P.
College of Veterinary Science and A.H., MHOW (M.P.)

Five dogs (3 German Shepherds and 2 Dalmatians) were treated for bilateral mandibular fractures. The dogs were premedicated with atropine sulfate @ 0.04 mg/kg and Xylazine @1 mg/kg IM and anaesthetized with ketamine HCl @ 10 mg/kg IV.

Steinmann pins of 3 mm were used to repair the fractured mandible, The pins were introduced retrogradly with the help of chuck and passed out through horizontal ramus of mandible and pushed back cranially involving both the fragments. The jaw was immobilized for a period of one month. The dogs were given 500 ml of 5% DNS IV daily. After 1 month, radiographic examination revealed the formation of callus and pins were removed after 45 days. Healing was uncomplicated.

2.5 Diverse Orthopadic Procedures for Repair of Bone Fractures in Birds and Animals

Jhirwal, S.K., Gahlot, T.K., Bishnoi, P., Palecha, S. and Kumar, Arun
College of Veterinary and Animal Sciences, Bikaner, (Rajasthan)

Present clinical study is based on observations of fracture repair techniques applied in 164 animals and 10 birds recorded in surgery clinics during last one year (July 2003 to June 2004). External fixation and internal fixation techniques were used to immobilize various type of fractures. Among the external fixation the coaptation splinting was done in maximum number cases (87), followed by thomas splint (20), interdental wiring (24), walker splint (8), hinged type immobilization (5) and transfixation (2). Among internal fixation techniques, the intramedullary pinning was done in 26 cases and wiring was done in 2 cases. However ,the fractures in birds were immobilized with hinged type of immobilization (5) and intramedullary pinning (5).

2.6 Correction of Radio-Ulnar Malunion in a dog using External Skeletal Fixation Device in Combination with Acrylic Splint

Syam, K.V., Julie, B., Laiju, M.P., Sachin, J.S., Devanand, C.B. and Sarada Amma, T.
College of Veterinary and Animal Sciences, Mannuthy, (Kerala)

A three and half month old non-descript male pup was presented with the history of lameness and deformity of left forelimb. Clinical and radiographic evaluation revealed complete oblique fracture of distal third of radius and ulna with non-calcified fibrous callus. There was malunion with angular deformity at the fracture site. Under general anesthesia, the fractured fragments were exposed through a cranio-medial skin incision and the fibrous callus formed was excised. The fractured fragments were reduced to normal alignment and apposition. Transfixation pins threaded at the tip (Schanz screw) were drilled from the cranio-medial aspect of radius to caudo-lateral aspect with a pin each at both ends piercing the entire thickness of the limb and the other two pins piercing only up to distal cortex. The pin ends at cranio-medial aspect were connected externally with stainless steel connecting bar and clamps ensuring proper alignment of bone fragments. After suturing the surgical incision the pin tips at caudo-lateral aspect were connected

acrylic (polymethylmethacrylate) connecting bar. Immediate postoperative radiographic evaluation revealed proper alignment and apposition of fracture fragments. The pup started bearing weight partially on the operated limb by the end of first week onwards and by four weeks there was no sign of pain or lameness while using the limb. The implant was removed at the end of sixth week.

2.7 Surgical Management of Tibial Fracture in Bovine using Transfixation Pins with Wooden Splints

Agrawal ,Sanjay
Veterinary Hospital, Bamhani Banjar,
District- Mandla, (M P)

One male cow calf and one heifer were treated with simple fracture of mid shaft of tibia. Animals were tranquilized with IM administration of triflupromazine HCl and fracture was immobilized under anterior epidural anaesthesia by using four trans-fixation pins with wooden splints. Two Steinmann pins were passed through and through medio-laterally on proximal and another two pins on distal fragments of the tibia. Wooden splints were placed on both the sides of leg with four holes to accommodate the pins. All the pins were cut to leave only one cm of pins over the splint. Both the wooden splints were tightened with plastic packing string over the skin. Wooden splints along with ends of the pins were covered with gauze piece, bandage and plaster cast was applied. The pins and wooden splints were removed after forty days of operation. Both the animals started bearing weight on the affected limb.

2.8 Management of Supracondylar Femoral Fracture by Modified Single Pin Fixation or Cross Intramedullary Pin Fixation: A Comparative Study in 74 Clinical Cases

Mittal, H.P., Kinjavdekar, P., Amarpal, Singh, G.R., Pawde, A.M., Kumar, Naveen and Setia, H.C.
Indian Veterinary Research Institute, Izatnagar, (UP)

Seventy four clinical cases of supracondylar femoral fractures treated during the period from 1992-2004 made the subject of the study. Among the different breeds of dogs affected with supracondylar fractures, Spitz was maximum (40%), followed by GSD (21.67%), Doberman (20%) and non-descript (15%). Young dogs aged upto 6 months were 42.47%. Fall from height was the principal cause of fracture (71.70%). Male dogs were more frequently affected (56.16%) than the females (43.84%). Left limb (62.16%) was significantly affected and maximum were transverse short oblique fractures (66.51%).

In 40 cases modified single pin fixation (normograde) and in 34 cases cross intramedullary pin fixation was done using standard technique through stifle arthrotomy. Among the two techniques, single pin fixation was easier, but cross pinning provided more rigid fixation. Complication at fixation, splitting/cracking of distal bone fragment was seen in one case of single pin fixation and two cases of cross pin fixation. Penetration of proximal cortex while introducing the pin was seen in two cases of cross pinning. Slight over reduction of the distal fragment was seen in a few cases with both techniques. Fracture reduction and alignment was generally good to excellent in both techniques.

Weight bearing in the immediate postoperative period was better in animals treated with cross pinning. Fracture healing was, however, comparable among the animals treated with both techniques. Proximal pin migration was seen in a few cases in the early postoperative period (mostly in unstable fractures like in comminuted fractures and fractures in osteopenic bones). Distal migration was seen more in the later stages (due to late removal of pin), which was more common with cross pinning. Rarefecation of joint cartilage and the subchondral

bone was apparent in two cases of single pinning. The functional recovery of the limb after removal of the pin was good to excellent in all but in one case of cross pinning, signs of sciatic nerve paralysis were noticed for a prolonged period.

2.9 Management of Long Bone Fractures in Cow Calves using Circular Fixator: A Review of 4 Clinical Cases

Aithal, H.P., Singh, G.R., Amarpal, Kinjavdekar, P., Pawde, A. M.,Maiti, S.K., Hoque, M. and Setia, H.C.
Indian Veterinary Research Institute, Izatnagar, (UP)

Four cases of long bone fractures in cow calves were immobilized with 4-ring circular fixator. In two calves aged 6 and 8 months, simple fractures at the mid-diaphysis of left tibia (in one case there was non-union) were immobilized by fixing two rings in the proximal bone fragment and two rings in the distal bone fragment (15 cm diameter Aluminum rings with 2 mm beaded SS wires with each ring). In remaining two calves aged 8 and 10 months, there were compound fractures at the distal end of right radius (one case) and proximal end of right metacarpus (one case) with severe soft tissue trauma. In these cases, transarticular fixation was done by fixing the proximal two rings in the radius and distal two rings in the metacarpus (17 and 15 cm diameter Aluminum rings, 3 mm beaded wires with each ring).

In all the animals weight bearing was good to excellent in the immediate postoperative period. Lameness slightly increased in the 3rd/4th week in 3 animals. Slight pin tract infection was seen in all animals. Radiographically fracture healing occurred in about 30-75 days with good to excellent functional recovery of the limb after removal of the fixators in all the cases. In cases of transarticular fixation, though the carpal joint movement was slightly reduced, satisfactory [illegible] function was restored.

2.10 Management of Angular Defor[illegible] of Ante-Brachium in Growing Dogs [illegible] Three Different Techniques

Amarpal, Pawde, A.M., Aithal, H.P., Kinjavd[illegible] P. and Singh, G.R.
Indian Veterinary Research Institute, Izatnagar, [illegible]

Angular growth deformities in three Great D[illegible] dogs were corrected surgically by different techni[illegible] The dogs were 6-7 months of age and had the hist[illegible] of bending of forelimbs with severe carpal valgus, enla[illegible] distal radius/ulna and stunted growth. Radiogra[illegible] revealed severe bowing of distal radius with rotation [illegible] signs of growth retardation at the distal ulnar physi[illegible] first case, two bone staples were fixed on the ante[illegible] medial aspect at the distal physis/metaphysis of radi[illegible] In second case, diaphyseal osteotomy was performed [illegible] the level of acute bending (about 1 cm long diaphy[illegible] cortex was cut) through the lateral approach. In [illegible] case, wedge osteotomy of distal radius/ulna [illegible] performed at the level of maximum bending through [illegible] antero-medial surface. Postoperatively, the limbs [illegible] provided with additional support through the exte[illegible] splint and bandage for 10-15 days. Broad spectru[illegible] antibiotic and anti-inflammatory drug , along with vita[illegible] (D) and mineral (Ca) supplementation was administe[illegible] In all the cases improvement was evidenced by reduc[illegible] in the angular deformity, both clinically and radiographically. Angular wedge deformity resulted more shortening of limb than other techniques. Techni[illegible] of bone stapling was easiest, followed by ulnar osteoto[illegible] and both the techniques resulted in satisfactory outcom[illegible]

2.11 Clinical Evaluation of Stainless St[illegible] and Acrylic External Skeletal Fixators [illegible] Adjuncts to Intramedullary Pinning [illegible] Fracture of Femur in Dogs

Chandy, George, Nagarajan, L. and Kaveerjan, K.

Madras Veterinary College, Chennai, (T.N.)

The study was conducted on twelve dogs with transverse short oblique femoral fractures, randomly divided into two groups of six animals. The fractures were treated with external skeletal fixators made of commercially available stainless steel components after routine intramedullary pinning in group I. External skeletal fixators was prepared from commercially available dental acrylic after intramedullary pinning in group II. Clinical, serological and radiographic evaluation was done for one month post operatively on each animal.

All animals showed good implant tolerance except one dog with thin cortical bone where the implant failed soon after surgery. All the other dogs were bearing weight well on the affected limb by the first or second post operative day. One dog developed signs of osteomyelitis and treated in a routine manner using antibiotics. Intramedullary pin migration was encountered in another dog which was checked by "ring - in" the intramedullary pin to the external skeletal fixator using an acrylic bar. One dog where the intramedullary pin failed because of improper pin placement, the fracture went on to heal normally by periosteal callus with the support of the external skeletal fixator. Serum alkaline phosphatase levels showed significant increase in both groups during bone healing. Healing by periosteal callus formation was accomplished in both the groups. The external skeletal fixators were removed at an average of six weeks post operatively and the intramedullary pins two weeks later. Stability of fixation, fracture healing and implant tolerance were similar in both the groups.

2.12 Use of Image Intensifier Television (I.I.T.V.) for Repair of Fracture in a Kid and a Kite

Kelawala, N.H., Patil, D.B., Parikh, P.V., Hadiya, K.K., Desai, T.J., Tank, P.H. and Patel, B.M.

College of Veterinary Science and A.H., Anand, (Gujrat)

Two clinical cases, a kid and a kite were presented with the history of trauma. The kid showed limping and having compound fracture of tibia-fibula and kite was unable to fly due to fracture of wing bone. In both cases, retrograde pinning from the site of skin injury was performed successfully using I.I.T.V. Both cases have been followed up-to 15 days. The kid was able to bear weight on affected limb, whereas, kite was able to fly to a limited height.

2.13 Normograde Intramedullary Tibial Pinning under Image Intensifier Television (I.I.T.V.) in a Goat: A Case Report

Parikh, P.V., Patil, D.B., Kelawala, N.H., Tank, P.H., Rane, G.U. and Patel, S.S.

College of Veterinary Sciences and A.H., Anand, (Gujrat)

A Goat with a history of transverse fracture of right tibia was repaired using normograde intramedullary pinning technique under I.I.T.V. A small nick was made on the media of tibial crest and a snugly fitting trocar point steinmann pin was introduced. The animal made an uneventful recovery.

2.14 Use of Intramedullary Interlocking Nailing (IILN) in Canine Long Bone Diaphyseal Fracture Fixation

Raghunath, M. and Singh, S. S.

College of Veterinary Science, Ludhiana, (Punjab)

The study was conducted on twenty clinical cases of long bone diaphyseal fractures involving femur (N=2), tibia (N=2) and humerus (N=1) in dogs. The range of fracture treated with IILN included

transverse (N=8), spiral/oblique (N=6) and complex with shattered bone (N=2), with 4 compound and 16 closed fractures. Simple transverse fractures with either no bone loss or comminution were fixed by dynamic intramedullary interlocking nailing (N=5) and rest by static intramedullary interlocking nailing (SIILN) (N=15). The average follow up period was 144 days (40-373 days). Out of 20 dogs 18 had satisfactory clinical outcome. Weight bearing was evident on 2-3 post-operative day. Radiographic union of fractured bone was evident as early as on 40 day with maximum time of 140 days. Complications observed in the study were breakage of two distal interlocking screws in one case and mistargeted screws in one case with no effect on clinical outcome. In 7 cases, the implant was removed after complete bone union and in rest of 13 cases the implant was left in situ with good limb function in both the conditions.

2.15 Clinical Evaluation of One Screw Compared to Multiple Distal Fixation Screws in Static Intramedullary Interlocking Nailing for the Management of Canine Long Bone Fractures.

Singh, Manpreet , Raghunath, M. and
Singh, S. S.
College of Veterinary Science, Ludhiana,(Punjab)

The present study was conducted on 19 clinical cases of dogs in which 21 fractures of long bones involving femur, tibia and humerus were present. Fractures were stabilized with static intramedullary interlocking nails. The clinical efficacy of one screw as compared to multiple distal fixation screws was studied using fixation modality. The clinical outcome and final limb usage is comparable for single distal transcortical screw and multiple distal transcortical screws. The distal screw related complications such as misdirected screws, screw bending and screw breakage were common in distal fractures when a 6 mm nail with one distal transcortical screw was used. An 8 mm nail was relatively free from distal screw related complications and more than one distal transcortical screw affords a better implant stability. However these complications seldom affect the clinical outcome of fracture fixation modality

2.16 DCP Planting for Long Bone Fracture in Dogs

Dilipkumar, D., Shivprakash, B.V. and
Usturge, S.M.
Veterinary College, Bidar, (Karnataka)

Three tibial, two femoral and one humeral transverse fracture were treated by DCP plating. The cases were radiographically evaluated for two months. Five animals showed uneventful recovery. One which had splinter in distal fragment could not be treated by DCP plating and was treated by transfixation pinning with acrylic bars.

2.17 Tension Band Wiring for Treatment of Olecrenon and Oscalcis Fracture in Dogs

Dilipkumar, D., Shivaprakash, B.V., Yuvaraj, H.
Mahesh, A., Jahangir, D. and Usturge, S.M.
Veterinary College, Bidar,(Karnataka)

Two dogs having avulsion fractures were treated by tension band wiring .Out of two animals, one had olecrenon avulsion and another had oscalcis avulsion. The fractures were treated by one millimeter k-wire along with 26 gauge stainless steel wires. Both the animals recovered uneventfully.

2.18 A Comprehensive Study of Plate Osteosynthesis in Five Dogs

Ganesh, T.N.; Ramani, C.; Parthiban, N.; Halder, Samar; Nagarajan, L.; Sureshkumar, R. and Ameerjan , K.

Madras Veterinary College, Chennai, (T.N.)

Five dogs reported with long bone fracture were treated with plate osteosynthesis. These cases included a Great Dane with left tibial fracture, a Labrador with old left radius-ulna fracture, a Dalmatian with left tibial fracture, a Boxer with right radius - ulna fracture and a mongrel with left femur fracture. In the Boxer and Mongrel dog, buttress plating, in the Great Dane, buttress plating with position screws while in the Labrador, dynamic compression plating and in the Dalmatian, neutralization plating was performed. All the operations were performed following the standard techniques using AO instruments and implants. Post-operative evaluations of fracture healing and analysis of gait were assessed as good to excellent.

2.19 Evaluation of Compression Plating Technique for Midshaft Femoral Fractures in Goats

Rajendran, N., Ramaswamy, V. and Archibald David, W. P.

Veterinary College and Research Institute Namakkal, (T.N.)

The study was carried out on 8 Tellicherry crossed goats. Under xylazine hydrochloride sedation and lignocaine hydrochloride epidural anesthesia midshaft femoral fracture was created through lateral approach experimentally. Fracture was repaired by compression plating technique with 3.5 mm 8 hole DCP. 3.5 mm cortical screws of 20 to 24mm in length were used as plate screws. All the animals showed functional usage of operated limb during 8 to 14th post-operative days and attained full weight bearing between 22 and 28th post operative days. Two animals showed sudden development of nonfunctional use of limb on 10 and 12 days were confirmed to have implant failure and the success rate with DCP was 75 per cent. The fracture healed with minimal periosteal callus.

2.20 Feasibility Study of Dynamic Compression Plating (DCP) Techniques for Femoral Fracture in Goats

Rajendran, N., Ramaswamy, V. and Archibald David, W. P.

Veterinary College and Research Institute Namakkal, (T.N.)

The present study was conducted on 8 Tellicherry goats to standardize the type of anaesthesia and instrumentation for DCP techniques by experimentally creating mid shaft fractures of femur. The animals sedated with xylazine hydrochloride at 0.2 mg/Kg body wt IM and epidural anaesthesia with 1.0 ml of 2 per cent Lignocaine for 4.5 Kg body wt provided satisfactory anaesthesia throughout the surgical procedure than the animals with anaesthetic combination of Atropine sulfate 0.44 mg/kg body wt i/m , xylazine at 0.2 mg/kg body wt i/m and ketamine hydrochloride 11 mg/kg body wt IM. The holes made with hand drill provided better holding power for screws than that of the holes made with power drill. The 3.5mm 8-hole DCP provided stable fixation than 4.5mm narrow DCP of 5 and 6-hole. The DCP applied to the lateral surface of the femur provided stable fixation than on the cranio-lateral surface.

2.21 Effect of Excision Arthroplasty on Canine Hip Joints Affected with Severe Osteoarthritis

Arun,P, Ganesh, T.N., Ramesh, Geetha and

Ameerjan, K.
Madras Veterinary College, Chennai, (T.N.)

Six dogs with osteoarthritis of the hip joint and severe pain were subjected to excision arthroplasty by modified craniolateral approach. The dogs were evaluated on days 0,7,14 and 30 by lameness grading to assess the response to surgery. The range of motion and thigh circumference were noted on these days. Excision arthroplasty was found effective in preserving pain free limb function, though the animals had reduced range of motion and muscle atrophy. There was progressive recovery after surgery.

2.22 Medical Management of Canine Osteoarthritis with Oral Administration of Meloxicam and Chondroprotective Agents

Arun,P, Ganesh, T.N., Ramesh, Geetha and Ameerjan, K.
Madras Veterinary College, Chennai,(T.N.)

Twenty four dogs with history and clinical signs suggestive of osteoarthritis were subjected to detailed physical, orthopaedic and radiographic examinations to confirm the diagnosis. They were divided into two groups, each of 12 dogs. Group I was treated with meloxicam orally at the dose rate of 0.2 mg/kg body weight, once daily for 7 days. Group II dogs were treated with meloxicam orally as previous along with a combination of glucosamine sulphate (250 mg) and chondroitin sulphate (200 mg) orally, once daily for 30 days. The animals of both groups were evaluated on days 0, 7, 14 and 30 for improvement using lameness grading. The haematology, serum biochemistry and adverse effects were also noted on these days. Meloxicam was found effective for the management of short-term acute osteoarthritic pain. Meloxicam caused occassional vomiting in isolated cases. Glucosamine sulphate - chondroitin sulphate combination was found to reduce lameness marginal 30 days.

2.23 Application of staple for joint arthrodesis in rabbits

Meimandi Parizi, A and Vakili Asl, S.
School of Veterinary Medicine, Shiraz University, Shiraz, Iran

The method was used on the stifle joint o Newzealand white rabbits divided into two grou first group, arthrodesis was done by using kirshne and in the second group by staple. Both groups under special care for two months and every 30 radiographs were taken. In some cases of both g the pins and staples had moved and this was mor in the first group. There were three cases in the first and four cases in the second group which deve articular fusing more than 50%. It was found arthrodesis technique with staple is a quicker me and it's recovery after surgery and ankylosis of jo more satisfactory.

2.24 Histopathological Study on Combi Effect of 1 watt/cm^2 Ultrasound and A Arthritic Drug (ART) on Chronic Arth in Equines

Singh, Navdeep, Sobti ,V.K. and Roy K.S.
College of Veterinary Science, Ludhiana,(Pu

The study was conducted on 10 experim equines. The animals divided in two groups of five a each. Group A animals were taken as control and g B animals were given treatment. The arthritis was ind by injecting 0.2 ml of turpentine oil and 0.2 m gentamicin in the left intercarpal joint of the anim same injection was repeated at 21days interval. A the animals were left loose and the treatment was st 42 days after the first injection. The ultrasound was g

@ 1 watt/cm² for 10 minutes daily for 10 days and ART was given from same day @ 20 gm daily orally for 25 days. The animals were euthanised after 84 days and the synovial membrane and articular cartilage were collected for histopathological examination. In Group A animals' synovial membrane showed severe inflammation and necrosis whereas, in Group B, membrane was near to be normal. Similarly, the articular cartilage of Group A animals was rough and eroded but that of Group B was almost smooth and without fibrillation.

2.25 Arthroscopic Evaluation of Stifle Joints in Dogs

Syam, K.V., Ramani, C., Nagarajan, L., Ganesh, T.N and Ameerjan, K.
Madras Veterinary College Chennai, (T.N.)

Twenty two dogs with the history of hind limb lameness and painful stifle joints were subjected to arthroscopic examination. Twelve dogs were having left stifle joint involvement and remaining right stifle joint. Seven dogs, with left stifle and five dogs, with right stifle were found to have apparently normal synovial villi, articular cartilage, menisci and intraarticular ligaments. Remaining five dogs with left stifle and three with right stifle were having varying degrees of oedema and hyperaemia of synovial villi. The articular cartilage, menisci and intraarticular ligaments were intact, but hyperaemic. Areas of cartilage erosion were found in two dogs with left stifle affection and in one with right stifle affection. Petichiae were found on the articular cartilage of right stifle in one dog.

2.26 Histopathological and Biomechanical Evaluation of Bovine Foetal Tendon Transplantation to Dog's Digital Flexor Tendon.

Dehghani, S.N., Tabei, S.Z., Keshvari, K. and Nazari, A.R.
School of Veterinary Medicine,
Shiraz University, Shiraz, Iran.

The tendon of 6 month old bovine embryo was collected and preserved in sterile saline solution at 40°C. About 5 cm of the superficial flexor tendon was resected in 15 dogs and 5 cm of the bovine embryo flexor tendon was replaced and sutured by No. 1 stainless steel wire in single locking loop suture pattern. The tendon sheet was sutured over the transplanted tendon completely in the first group (5 dogs). It was not sutured at all in the 2nd group (5 dogs) and in 3rd group only half of the tendon sheet was sutured over the transplanted tendon (5 dogs). After two months the dogs were re-anaesthetized and the tendon grafts units were removed surgically for histopathological and biomechanical examination. Histopathological results showed that in the first and second group the host graft tendon healed and united firmly showing no sign of rejection. The transplanted tendon in one dog out of five in the third group was rejected. Biomachamical tests revealed no significant difference in maximal force, yield force, yield point and strain between normal tendon and host-graft-host tendon unit.

2.27 Luxation of Patella in a Horse A Case Report

Dhakate, M.S., Gahlod, B.M., Patil, S.N., Upadhye, S.V., Dakshinkar, N.P., Banubakode, S.B. and Panchbhai, V.S.
Nagpur Veterinary College, Nagpur, (M.H.)

A clinical case of luxation of patella in a horse was operated under the xylazine @ 2 mg/kg intramuscularly and local infiltration of the site with 5 ml of mercaine, in lateral recumbency which was found most suitable method for patellar desmotomy in horse.

2.28 Surgical Management of Bilateral

Patellar Luxation in a Dog- A Rare Case Study

Ganesh, T.N.; Ramani, C.; Parthiban, N.; Sureshkumar, R. and Ameerjan , K.
Madras Veterinary College, Chennai, (T.N.)

A seven and half years old Spitz male dog was presented with a complaint of difficulty in using hind limbs since last six years. Orthopedic examination revealed bilateral patellar luxation (grade IV) along with suspected right hip subluxation. Radiography confirmed with deviation of tibial tuberosity. Medial and lateral patellar luxation on right and left hind limb respectively were diagnosed. Trochlear Wedge Recession Sulcoplasty with Tibial Tuberosity Transposition (TWRS+ TT) with lubrication of joint capsule was performed in both the limbs at an interval of one month. Animal showed return of normal use of right hind limb but left hind limb did not return to normal due to the severe pathological changes of trochlea consequent to congenital malformation.

2.29 Prosthesis in Animals

Daruwalla, Gaurang, Shah, Kamlesh and Karani
Private Practioner,Mumbai, (M.H.)

Massive accidental injuries mostly need amputation, such animals can be rehabilitated by using prosthetic limbs. Shri Bidada Sarvodaya Trust and Ahimsadham, Pragpur, developed artificial limbs using PVC water pipe, soft-liner, wooden clog and suspensor. The above materials are locally available and are lightweight and economical.

Acceptability of prosthetic limb by animals is challenging moreover, adaptability by animal is time consuming. "Patience" is the golden word in these cases.

RADIOLOGY AND IMAGIN TECHNIQUES

3.1 The Sequential Radiographic Chang in the Physes of Long Bones in Grow Dogs Affected with Rickets: A Review 55 Cases

Aithal, H. P., Singh, G.R., Kinjavdeka Amarpal, Kushwaha, R.B., Pawde, A.M. Setia, H.C.
Indian Veterinary Research Institute
Izatnagar- (UP)

The study was conducted to record sequential radiographic changes at the long bone phy of growing dogs affected with rickets and treated vitamins and minerals. A total of 55 cases of rickets growing dogs were reviewed.

Generalised osteopaenia along with characte widening of physes/growth plates were recorded cases. The degree of physeal widening varied am the animals. Most frequently involved physes inclu distal ulna followed by distal radius, proximal tib distal femur and tibia and proximal fibula. Proximal fem ulna, and proximal and distal humerus were l affected.

The rachitic cases were reported at different stage the disease. The initial changes included widen physes with radiolucent unmineralized cartilage a distal ulna giving spear shape. Further, a 'cup' sha radiodense band appeared at the metaphyseal e Subsequently, there were signs of mineralizatio cartilage/osteoid from the diaphyseal end. There gradual but irregular mineralization to completely fill radiolucent physes. Often the physeal area loo granular with islands of unmineralized cartilage metaphysis. Grossly thickened radiolucent epiphy line (growth plate) gradually reduced in wid sometimes were irregularly elongated in axial direc

with projections of growth plate cartilage extending into the metaphyseal bone giving an appearance of retention of cartilage core. The retention of cartilage core at the distal ulna is frequently accompanied by bending of distal radius.

There is failure of mineralization of cartilage leading to increased physeal width in rickets. Rickets may lead to retention of cartilage core and subsequent angular deformity of the ante brachium. Vitamin (D) and mineral (Ca) supplementation may help to hasten the mineralization of physeal cartilage/osteoid.

3.2 Sialography in Horse: Technique and Normal Appearance

Dehghani, SN. , Tadjalli, M. and Seifali, AR.
School of Veterinary Medicine,
University of Shiraz, Shiraz, 71345-1731, Iran

The anatomy of horse salivary glands was studied on the cadaver heads. The mandibular duct enters the oral cavity on the border of sublingual caruncle. The parotid gland duct enters the oral cavity on the cheek opposite the upper 4th premolar (3rd cheek tooth). The technique of catheterization, injection and radiography was standarised on cadaver and later on the technique was applied on three live animals. The animals were anaesthetized routinely, the mandibular and parotid ducts catheterized and contrast medium was injected into each gland. Lateral radiographs were made immediately after the injection. The normal horse mandibular and parotid salivary glands as depicted on sialograms have a multilobular appearance in heads, but in live animal the outline of gland, main ducts and their smaller branches could be identified. The parotid duct leaves the deep surface of the rostral end of gland and courses along the border of masseter muscle before it enters the mouth. The mean diameter of parotid duct was 3.9 ± 0.9 mm. The mandibular duct leaves the rostral end of the gland and its mean diameter was 3.6 ± 1.2 mm.

3.3 Compative Arthographics Studies of Shoulder Joint in Calves.

Ranganath, L. and Vani, S.
Veterinary College, Bangalore, (Karnatka)

A comparative study was undertaken using iohexol and air as contrast agents for radiography of normal shoulder joint and after induction of arthritis, in calves. All the radiographs were evaluated for their contrast, density and detail. Haematological and synovial fluid analysis was done pre and post induction of arthritis. Both the contrast agents were good for evaluation of the caudal pouch, cranial recess and joint capsule. Early changes in arthritis viz. flattening of humeral head, shallowness of the glenoid cavity, irregularity on the humeral head surface etc. were readily evaluated with a pneumoarthrogram. However iohexol was found to be superior in demonstrating the later changes viz. OCD, cartilage flaps, and sub chondral bone defects, break in the integrity of joint capsule, fissures or thickening of the articular cartilage etc. Both air and iohexol can be used to demonstrate the changes in omarthritis.

3.4 Hepatic Vasculature Changes with the Advancement of Age in Dogs-Angiographic and Ultrasonographic Changes

Singh, Akshpreet, Singh, Prem and Chandolia, R.K.
College of Veterinary Sciences, Hisar, (Haryana)

Hepatic vasculature was studied in dogs by angiography and ultrasonography. Angiography was done in two dogs, one-two months old and the other in adult dog. The liver used for angiography was collected from the post-mortem hall immediately after the death of the animal. Lead oxide-soap solution was injected through catheter placed in the caudal venacava for angiogram. After demarcation of the hepatic vasculature by angiography, ultrasonography was carried out by

placing the transducer just behind the xiphisternum in the craniodorsal direction and in addition, right caudal intercostal space was used for scanning the portion of the liver which was not visualized during the post-xiphoid scanning. Ultrasonographically, the hepatic vasculature was more numerous but less distinct during the first two months of age. Angiography also confirmed increased peripheral branching at two months of age as compared to the adult dog. Ultrasonographically, a distinct hepatic vasculature was observed only at and beyond three months of age. The left lateral, left medial, quadrate, right medial, right lateral, caudate and the papillary branches of the hepatic vascular system became clearly evident in the hepatic parenchyma at three months of age. Identification of the hepatic vasculature will help in better demarcation of the different liver lobes ultrasonographically and thus render better localization of the imaged lesions and aid in obtaining ultrasound guided biopsies.

3.5 Renal Vasculature in Dogs- Angiographic and Ultrasonographic Study

Singh, Akshpreet, Singh, Prem and
Chandolia, R.K.
College of Veterinary Sciences, Hisar, (Haryana)

Renal vasculature was studied in dogs using both angiography and ultrasonography. The kidneys were collected from the post-mortem hall immediately after the death of the animal for angiogram. Lead oxide soap solution was used for study of the renal vasculature. The vasculature was clearly visible in the renal cortex, medulla and the pelvis. Ultrasonography of the kidneys was carried out caudal to the last costal arch and the right caudal intercostal spaces to corroborate the renal vasculature of angiography with ultrasonography. Ultrasonographically, the renal vessel in the region of the renal pelvis divided into the interlobar vessels which, continued in the pelvic diverticulae between the renal pyramids. Interl vessels divided into arcuate vessels in a bipinnate m at the corticomedullary junction. Arcuate vessels divided into interlobular vessels which were d within the renal cortex. Similar pattern of branchi also evident in the angiogram of the kidney.

3.6 Reliability of Goniometry w without Sedation in Diagnosis of Dysplasia in Dogs

Singh Jaspreet and Mohindroo J.
College of Veterinary Science,
Ludhiana, (Punjab)

The present study was conducted o clinical cases. Fourteen animals were evaluated f reliability of goniometry in diagnosis of hip dysp dogs by comparing the goniometric measureme radiographic measurements of Norberg angle. The e of sedation on the goniometric measurements wa recorded. Ten apparently healthy animals were subj to goniometric evaluation of the hip joint with without sedation. Goniometry was found to be correlated to the radiographic measurements o Norberg angle in dysplastic dogs. Sedation signif increased the range of motion and goniometric val dysplastic dogs but in healthy dogs the goniometric of sedated animals were comparable to those reco without sedation. It was concluded that goniometry be used as a reliable and objective method for diag of hip dysplasia . Sedation did not influence the of motion of hip joint in normal dogs but increased range of motion of the dysplastic hip joint.

3.7 Ultrasonographic Features of L Affections in Canine

Verma Pallavi, Singh S. S. and Mohindroo J.
College of Veterinary Science, Ludhiana, (Punjab)

The present study was conducted on 18

with the history of anorexia, inappetance and weight loss and some were icteric at the time of presentation. These animals were considered to be suffering from liver dysfunction and were subjected to ultrasonography using a 3.5 MHz microconvex transducer. The ultrasonographic findings were correlated with the haematobiochemical parameters and clinical signs. Ultrasonographically hepatitis (n=5), cholecystitis (n=3), hepatomegaly (n=2), hepatic congestion (n=2), hyperechoic nodules (n=2), congestive heart failure (CHF) alongwith hepatic congestion and ascites (n=5), CHF and hepatomegaly (n=2), CHF accompanied with cirrhosis and ascites (n=1) and liver dysfunction with cystitis (n=2) could be well differentiated. It was concluded that ultrasonography was more sensitive than other imaging techniques like radiography, for early and definitive diagnosis of hepatic affections in dogs.

3.8 Ultrasonographic Studies on Urinary System and Prostate Gland of Canine in Disease Conditions.

Mandu, P., Ghosh, D., De, D.K., Hazra, S., Haider, S and Chakrabarti, A.
College of Veterinary Science Colcatta (W.B.)

The study was carried out on 24 adult dogs (16 male & 8 female) of different breeds, and between 20 to 30 kg to measure the kidney, ureter, urinary bladder and prostate gland in canine to access the accuracy of ultrasonography in the evaluation of various diseases. The scanning was done using 3.5 / 4.0 MHz convex transducer .The images were interpreted and various morphometric measurements were analyzed. Out of 24 dogs hydronephrosis (n=1), nephrolith (n=1), chronic renal parenchymal diseases(n=4) were detected ultrasonographically. Hydronephrosis was diagnosed by ultrasonography as large sized kidney with marked distension of renal pelvis. Unilateral nephrolith was diagnosed as hyperechoic foci with distal acoustic shadowing. Induced diuresis was diagnosed as enlarged anechoic region but compartmentalization of echo by renal diverticula and renal vessels were normal. In case of chronic renal parenchymal diseases, sonography revealed small size kidney, loss of architectural details with indistinct core.

The urinary bladder was visualized in the ventral pubic area as an anechoic vesicular structure distended with urine after 3 hours of last micturition. Moveable cystic calculi of variable sizes were observed as hyperechoic areas with distal acoustic shadowing in distended anechoic bladder in 4 dogs. Urethral calculi could not be diagnosed by ultrasonography due to presence of os-penis in dog. Hyperechoic crystalline moveable sands at the floor of the bladder were diagnosed by ultrasonography. The cystosonogram of ruptured urinary bladder due to Urethral obstruction in two animals, revealed small anechoic bladder & hyperechoic parallel lines (intestinal loops) freely floating in anechoic intra-abdominal fluid. Extremely enlarged urinary bladder with excessive post voidal volume and excessive thickening of bladder wall in one bitch in case of sphincter muscle incompetence (SMI) was diagnosed. Sonography revealed diffusely thickened bladder wall with decreased echogenicity, pronounced corrugation of mucosal layers, increase presence of hyperechoic cellular debris and cast at floor of the bladder in case of cystitis (n=3).

Sonography revealed prostate gland as normoechoic to hyperechoic, nearly ovoid structure at the caudal to the neck of the urinary bladder surrounding the urethra. Well-defined hyper echoic gland capsule, echogenic parenchyma and lobular distinction were important sonographic findings in case of prostatomegally (n=2).

3.9 Ultrasonographic Findings of Four Unusual Conditions in Dogs

Mohindroo J., Verma Pallavi, Singh S. S., Anand A., Mahajan S. K., Singh N., Chaudhary M., Kumar A., Raghunath M., Cheema J. S. and Toor A. S.
College of Veterinary Science, Ludhiana, (Punjab)

Ultrasonography was performed in four unusual cases in dogs using a 3.5MHz microconvex transducer. The first case was a foreign body (a rubber nipple) in the stomach of a 3 month old, female Labrador pup. The rubber nipple was confirmed radiographically. Ultrasonography revealed the presence of a foreign body in the gastric region, characterized by 2 hyperechoic lines and presence of bubbling of fluid between them. A phantom image of the nipple retrieved after gastrotomy confirmed the ultrasonographic features noted in vivo. The second case was of a cervical tumor in a 4½ year old female spitz. Ultrasonographically a tumour was suspected in the cervix and confirmed on exploratory laparotomy which was later diagnosed as a leiomyosarcoma on histopathology. This is a rare tumor reported in dogs. The third case was of a mesenteric abscess in a 3½ year old female German Shepherd. Ultrasonography revealed a hypoechoic mass lined by a hyperechoic capsule in the abdomen. Exploratory laparotomy confirmed a massive mesenteric abscess. The fourth case was of a hepatic abscess in a 12 year old female spitz. Ultrasonographically a hypoechoic circumscribed mass with hyperechoic mobile particles was evident suggestive of hepatic abscess. Radiography and haematology corroborated the ultrasonographic findings.

3.10 Digital Radiographic Study on Some Aspects of Canine Cardiac Silhouette. A Study of 121 Clinical Cases

Vishwasrao S.V.
Bombay Veterinary College, Parel, Mumbai, (M.H.)

Canine patients manifesting clinical sign cardio respiratory disorders such as dyspnoea, e intolerance, syncope, coughing, cyanosis and compatible with heart diseases were subjected to radiographs of the chest.

A short exposure time of 1/60 seconds was use radiographic exposure was made at peak of inspi The standard right lateral and dorso-ventral proje were taken.

The age group of patients ranged from 7 years. Changes in cardiac silhouette were seen m males than in females. General cardiac enlarge (28%), Right ventricular enlargement (11%) ventricular enlargement (9%), Left atrial enlarge (7%), Pulmonary artery segment enlargement Aortic arch enlargement (6%), pulmonary v congestion and edema (3%) was observed. C conditions such as diaphragmatic hernia and pneum were also seen in some cases.

Cardiac silhouette can be schematically divided various chambers. Lateral thoracic digital radiog were found most useful in determining enlargeme heart as a whole or disproportionate enlargement o or more chambers.

3.11 MRI Findings in Some Clinical C of Canines

Wakankar C.C.
Practicing Veterinary Surgeon, Mumbai (M.H.)

MRI (Magnetic Resonance Imaging performed on clinical cases of dogs for d conditions including convulsions and paraplegia imaging was done under general anaesthesia.

Pachymenengitis, oedema and spinal compression were some findings. Details w presented and discussed.

SMALL ANIMAL SURGERY

4.1 Effect of *Curcuma longa* on Open Wounds in Albino Rats

Wadi, Vidhi and Bhandari, K. S.
College of Veterinary Science and A.H., Jabalpur, (M.P.)

Study was performed in four groups of rats for nine days. In group 1, only petroleum jelly was applied topically, it showed 70.50 percent healing on 5th day and 82.42 percent healing on 9th day after the treatment. In group II, 10 percent ointment of Curcuma longa was applied daily upto 9 days, and the healing was 86.65 percent and 97.91 percent on 5th and 9th day respectively. In group III, alcoholic extract of Curcuma longa was administered in the dose of 600 mg/kg body weight intraperitoneally up to 9 days showed 74 and 91 percent healing on 5th and 9th day respectively. In group IV, alcoholic extract of Curcuma longa was administered @ 600 mg/kg body weight intraperitoneally along with the topical application of 10 percent ointment of Curcuma longa daily up to 9 days, showed 92 and 100 percent healing on 5th and 9th day respectively. Curcuma longa ointment application topically enhanced the healing of wound significantly ($P<0.05$). The intraperitoneal administration of Curcuma longa enhances the healing process but not comparable to the topical application. Topical application of Curcuma longa along with the systemic administration produces additive effect.

4.2 Practices in Canine Dentistry

Saxena, Amit and Chandrapuria, V.P.
College of Veterinary Science and A.H., Jabalpur (M.P)

Canine dentistry is one of fastest growing field of specialization and is gaining popularity not merely for esthetic purpose, but preventing condition like formation of plaque, tartar, gingivitis and other periodontal disease. Dental and oral surgical cases make up a significant portion of small animal surgical practice. These will be discussed.

4.3 Surgical Management of Cleft Sternum (Cranial Ventral Abdominal Hernia) in a Pup

Thilagar, S. and Yew, S.C.
Faculty of Veterinary Medicine, UPM, (Malaysia)

An one-day-old golden retriever pup was presented with signs of small size reducible lump cranial to the umbilicus. The covering of the swollen lump was moderately thickened. Physical examination revealed ventral abdominal hernia and advise to provide soft bedding for the pup and report for further check up after 6 weeks During the second visit presentation after four months a reducible hernia with skin covering over the lump was noticed. Radiographic examination revealed ill developed three sternebrae from 6-8. The animal was subjected to surgery. A cleft in the 9th sterenbra with a split was seen. Both left and right lobes of the liver were seen under the skin on laparotomy, which was herniated from the abdominal cavity due to a fissure in the ninth sternum. The splitted sternum was sutured with cerclage wire and fibres of tendinous aponeurosis of external abdominal muscle, internal abdominal and transverse abdominal muscle were opposed using vicryl 3-0. The animal made an an uneventful recovery.

4.4 Repair of Extensive Ventral Hernia in Two Dogs

Bhokre, A.P, Sarkate, L.B.,. Khandekar, G.S and. Lokhande, D.U
Bombay Veterinary College, Parel, Mumbai, (M.H.)

Two Pomerian adult dogs one male and another female with huge abdominal swelling were presented for the treatment. Clinical examination revealed rupture of ventral abdominal wall and laceration of the hernial sac due to constant hitting of the hernial sac with the ground in one dog. Both the dogs were weak, debilitated

and anaemic. Complete blood count revealed leucocytosis and neutrophilia in both the dogs. The dogs were operated under diazepam sedation and propofol anaesthesia. Herniation of intestine, spleen, liver, distented uterus with pus and bladder were seen as the content of hernia in bitch, while mesentery and intestine were seen in another male dog. Large quantity of whitish creamy fluid in the peritoneal cavity suggestive of peritonitis was seen in one dog, where ovariohysterectomy was performed in the bitch before closing the abdominal wound in female dog, while routine abdominal wound was closed by excising excess of the abdominal skin, subcutaneous tissue and fascia in another case. Both the dogs recovered completely.

4.5 Prosthetic Perineal Herniorrhaphy in a Bitch

Chandrapuria, V.P., Agrawal, Pawan and Saxena, Amit
College of Veterinary Science and A.H., Jabalpur, (M.P.)

A Pomeranian cross bred bitch aged 12 years and weighing 17 kg with the signs suggestive of perineal hernia with diversion of rectum and urinary bladder was treated by herniorrhaphy. Prosthetic herniorrhaphy with proline mesh was planned .As the pet owner showed his inability to afford the cost of proline mesh hence herniorraphy with the mosquito net was decided. Animal was secured in ventro- dorsal position and under triflupromazine sedation and epidural anaesthesia, a semicircular incision was given over the hernial sac and overlying tissues were separated to visualize the ring. Distended bladder was identified in the sac and evacuated by centesis. The collapsed bladder and diverted rectum were reduced by freeing its adhesions. The edges of the ring were freshened and available external anal sphincter muscle was sutured with the levator ani and coccygeus by interrupted sutures of 1/0 Vicryl material. A sterilized double folded round piece of the nylon white mosquito net measuring [illegible] 4" in diameter was placed over the ring and anchored by 1/0 proline interrupted sutures with the edges of ring. The perineal fascia and external anal sphincter were sutured over the mesh by 1/0 Vicryl interrupted sutures. Skin edges were approximated by cross mattress sutures of No. 1 monofilament nylon.

Routine antibiotic,analgesic,fluid,luxating dressing made an uneventful recovery.

4.6 Bronchoscopy for Removal of a Tooth from the Trachea in a Bitch

Chandrapuria, V.P., Shahi, Apra, and Jawre, S[illegible]
College of Veterinary Science and A.H., Jabalpur (M.P.)

A Pomeranian bitch aged 11 year and weighing 10.5 Kg, was presented with signs of severe respiratory distress and coughing since 3 days. On oral examination the animal was suffering with pyorrhea. Radiographic examination of the cervical region revealed presence of the molar tooth lodged at the level of 3rd- 4th rings in the lumen of thoracic trachea. Under diazepam-ketamine anaesthesia a bronchoscope tube was passed in the trachea and by endoscopic scissors adhesion were freed and with the help of forceps tooth was withdrawn at the level of epiglottis. By cervical tracheotomy [illegible] the epiglottis tooth was taken out. The bitch made uneventful recovery.

4.7 Laparoscopic Liver Biopsy through Cauterization in Small Animals

Maiti, S. K., Singh, G.R., Kumar, Naveen, Sharma, A. K. and Hoque, M.
Indian Veterinary Research Institute, Izatnagar [illegible]

Liver biopsy was collected through laparoscope with simultaneous cauterization. Further, the biopsy specimen collected by laparoscope was also tested histopathologically for their viability. For this study clinically healthy adult goats, 3 dogs and 12 New Zealand white rabbits were taken and hepatic biopsy

was obtained under Xylazine-Ketamine anesthesia through biopsy forceps connected to the cautery. Cautery was performed by applying radio- frequency energy at 25-45 watts. Twenty hepatic biopsies through 5 mm, 300 oblique rigid laparoscope were collected from these animals (one hepatic fragment per animal). The results revealed that the procedure was very safe and effective for hepatic biopsy in these animals. There was no alteration of vital clinical signs related to the technique. The liver biopsy samples collected were suitable for histopathology. Hepatic biopsy through laparoscopy with simultaneous cauterization is an effective and useful method in these small animals.

4.8 Bacteriological Evaluation of Urine, Bladder Mucosal Biopsy and Uroliths for Post-Operative Management of Urinary Tract Infection in Canine Urolithiasis.

Singh, Kuljit, Raghunath, M. and Gill, J P S.
College of Veterinary Science, Ludhiana, (Punjab)

The study included nine clinical cases of canine urolithiasis of which uroliths were present at multiple sites in five cases, urinary bladder in three cases and urethra in one case. Either cystotomy or urethrotomy or both were carried out according to the location of calculi in the urinary tract. Comparative bacterial culture examination of urine, bladder mucosal biopsy and uroliths were collected at the time of surgical intervention revealed Escherichia coli, Proteus mirabilis, Staphylococcus spp and Klebsiella pneumoniae infection in different cases. Identical bacteria were isolated from urine, bladder mucosal biopsy and urolith cultures. Antimicrobial sensitivity patterns of different isolated bacteria indicated tobramycin, amikacin, cefazolin and ciprofloxacin were the most sensitive antibiotics. Oxytetracyclin and nalidixic acid were found to be the most resistant antibiotics. Antimicrobial therapy based on CST helped in effective planning of postoperative management in preventing recurrence of canine urolithiasis.

4.9 Clinical Study on Diagnosis and Management of Canine Urolithiasis

Singh, Kuljit , Raghunath, M. and Mohindroo, J.
College of Veterinary Science, Ludhiana, (Punjab)

The study was conducted on 9 clinical cases of canine urolithiasis. The occurrence was mostly observed in six to nine year old male Spitz dogs fed on high protein diet. Most of calculi were radiopaque and could be detected by different views of radiography, but ultrasound provided precise information regarding number, size, shape and exact location of calculi in the urinary tract. Most common uroliths found were calcium oxalate seen in neutral to acidic urine and $CaCO_3$ and $CaPO_4$ uroliths seen in alkaline urine. Surgical removal of uroliths, antimicrobial therapy based on CST of isolated bacteria from urine, bladder mucosal biopsy and urolith, and dietary management could effectively treat and prevent recurrence of urolithiasis with/without UTI. The systematic diagnosis helped in planning effective management procedures for preventing the recurrence of canine urolithiasis.

4.10 Studies on Urethral Healing in Dogs by Urethrorrhaphy and Urethrroplasty

Ranganath, L. and Basavraj
Veterinary College, Bangalore, (Karnataka)

The work was carried out to compare the conventional urethrorraphy with urethroplasty using rectal abdominis fascia in 12 dogs divided into two groups of six each. The urethral healing was assessed by local wound symptoms, retrograde urethrography, biopsy and hemato-biochemical parameters upto one month after the surgery. The results indicated urethroplasty as a better procedure than conventional urethrorraphy in preventing the usual complications of urethral healing.

4.11 Hydronephrosis in Two Dogs and One Cat

Kumar, Pawan
C.U.P.A. Veterinary Emergency Hospital and Animal Shelter, Hebbal, Bangalore, (Karnataka)

Two female dogs aged 5 and 7 years were presented for spaying without any specific clinical symptoms. Clinical examination revealed massive round growth at sublumbar and mid abdominal region. Hematological, serum liver and kidney function test were within normal range. Left flank laparotomy revealed an enlarged (12 and 14 cm) cystic left kidney in both the dogs. Unilateral nephrectomy was performed along with ovariohystectomy. Dogs recovered without any postoperative complication. One cat was presented with sudden onset of vomiting, anorexia, anuria and faecal stasis with highly increased serum creatinine (9.87 mg/dl) and BUN (136 mg/dl). Abdominal radiograph and palpation revealed bilateral renomegaly. Peritoneal dialysis was performed when therapy for azotaemia and anuria remain unsuccessful. Cat died after 3 days. Gross and microscopic examination of dogs and cat kidneys revealed multiple large cystic dilatations of pelvis and tubules with pressure atrophy changes and connective tissue proliferation. Beside these focal zone of inflammation was observed in kidneys of cat.

4.12 Partial Cystectomy and perineal herniorrhaphy in a dog with bladder retro version

Nagarajan, L., Rao, G.D., Surehkumar, R. and Ameerjan, K.
Madras Veterinary College, Chennai, (T.N.)

A 9 year old male Spitz with the symptoms suggestive of perineal hernia was brought for treatment. Dog had dysuria since 3 weeks. Urinary catheter could not be passed a little beyond the ischial arch.

Perineal herniorrhaphy was carried out under GA. A fully distended bladder was visualized with severe adhesion between the bladder and surrounding tissues. A small nick was made on the bladder wall and the urine was suctioned. 50% of the bladder was severely damaged and the mucous membrane appeared bluish black in colour. The damaged portion of the bladder was resected and the healthy portion was closed with simple continuous followed by Lembert suture pattern with 2/0 catgut. Perineal hernia was corrected by classic method. The animal recovered uneventfully.

4.13 Unusually Large Pyometra in Dogs – A Report on Two Cases

Nagarajan, L., Rao, G.D., Sureshkumar, R., Balachandran, C., Senthiveal, and Ameerjan, K.
Madras Veterinary College, Chennai, (T.N.)

A 5 year old Labrador and a 3 year old Spitz were brought with a history of abdominal distention and anorexia for the past 4 days. Both the dogs were reported to have heat symptoms one month back. Grossly distended uterus was palpable in both cases. Routine haematological and radiographical assessment were carried out and pyometra was confirmed. Both animals were subjected to standard ovariohysterectomy procedure through right lower flank incision. The Labrador had severely distended uterine horns and body and nearly 5 litres of purulent material was evacuated from the uterus. The Spitz had unilaterally distended uterine horn on the left side and about 3 litres of purulent material was evacuated.

The uterine fluid was subjected to culture studies and the uterine tissue was subjected to histopathological studies. Recovery was uneventful.

4.14 Surgical Management of Glaucoma by Trabeculectomy in Three Dogs

Ramani, C., Nagaraja, L., Sureshkumar, R., Ameerjan, K. and Prathaban, S.
Madras Veterinary College, Chennai, (T.N.)

A six months old Great Dane, a 2 years old non-descript dog and a 3 years old Lhasa apso

brought to the ophthalmology unit with clinical signs suggestive of increased intraocular pressure. In the Great Dane the condition was congenital, in non-descript dog trauma was the cause and in Lhasa apso, due to sub clinical uveitis All the three cases were managed initially with β adrenergic blockers - Timolol maleate 0.5% and non-sterodial anti-antiflammatory drug - flurbiprofen. Since the signs showed recurrence on withdrawal of drugs it was decided to increase the drainage pathway of aqueous humor sugically by performing trabeculectomy. The detailed procedure on trabeculectomy and postoperative assessment of IOP are discussed.

4.15 Surgical Management of Secondary Glaucoma due to Luxated Lens in Dogs - Review of Four Cases

Kumani, C., Ganesh, T. N., Prathaban, S., Nagaraja, Sureshkumar, R.and Ameerjan, K.
Madras Veterinary College, Chennai, (T.N.)

Three cases of Spitz above 10 years and one case of Cocker spaniel aged 12 years were brought with complete loss of vision for the past 3-5 months. Detailed ophthalmic examination revealed completely developed cataract in one eye and luxated cataract lens in the other eye. The dogs were suffering from secondary glaucoma in the luxated eye due to displaced lenses.

Intra capsular cataract extraction (ICCE) was prevented further damages to the intraocular structures due to ocular hypertension. The effects of ICCE to alleviate the signs of secondary glaucoma at various stages were studied.

4.16 Therapeutic Management of Otitis in Canine

Kale, S.D., and Aher, V.D.,
College of Veterinary and Animal Sciences,
Udgir (M.H.)

Fifteen clinical cases of otitis in canine presented during April 2003 to September 2003 were subjected for present study. Therapeutic management was done by conservative treatment viz. cleaning of ear canal with normal saline and instillation of 1% mercurochrome by using endosufflation tube in combination with parentral administration of antibiotic and instillation of ear drops depending upon antibiogram. Satisfactory results were observed in twelve cases. Zepp's technique was performed in three cases in which conservative treatment was unsatisfactory. Surgical technique provided satisfactory results in three cases.

4.17 Etio-Pathophysiology of Nutritional Secondary Hyperparathyroidism in Growing Dogs- A Review of 38 Cases

Kushwaha, R.B., Aithal, H.P., Amarpal, Kinjavdekar, P., Singh, G.R., Varshney, V.P., Pawde, A.M. and Setia, H.C.
Indian Veterinary Research Institute, Izatnagar, (UP)

The study was aimed to find out the etio-pathophysiology in the growing dogs presented during the year April 2002 to March 2003. History, clinical signs, radiological signs and haemato-biochemcial and hormone level were recorded. Among the 387growing dogs, nutritional secondary hyperparathyroidism was diagnosed in 38 cases with an incidence of 9.81%. German Shepherd and Great Dane breeds of dogs were more commonly affected than the others. Male dogs were more affected than the females and most of the dogs were aged below 6 months. Clinically, dog showed varying degree of lameness, anterior bowing of forelimb, broadening of metaphyses, hind quarter weakness, carpal valgus, pain on palpation of affected bone and pathological fracture. Hypocalcaemia, hyperphophataemia, increased plasma PTH, hypocalcitoninism and hypovitaminosis - D3 were the common biochemical changes. Radiographically, dogs showed marked thinning of cortices of long bones,

widening of medullary cavity, broadening of distal metaphysis of radium and ulna and a characteristic radiodense band adjacent to the physis with saucer shaped distal metaphysis. Pathological fractures were not uncommon.

4.18 The Haemato-Biochemical and Hormone Changes in Growing Dogs Affected with Rickets and Secondary Hyperparathyroidism: A Comparative Study in 69 Cases

Kinjavdekar, P., Aithal, H.P., Amarpal, Varshney, V.P., Pawde, A.M. and Singh, G.R.
Indian Veterinary Research Institute, Izatnagar, (UP)

Among the various skeletal diseases recorded during the year 2003-04 (total of 78 cases), nutritional secondary hyperparathyroidism (NSH) was maximum (44-56.41%), followed by rickets (25-32.05%). Most common breeds affected with NSH were German Shepherd (38.89%), Doberman (22.22%), non-descript (16.67%) and Great Dane (8.33%). However, rickets was more frequently seen in mongrels (37.50%), followed by Spitz (25.00%), Doberman (20.83%), Great Dane (12.5%) and German Shepherd (4.17%). Both the conditions were more frequently affected in the age group of 0-3 months of the dogs. Clinically the animals affected with either of the diseases showed almost similar signs like broadening of distal metaphysis of radius/ ulna (more in rachitic cases), angulation of fore limbs, bowing of long bones and variable degree of lameness. The haemato-biochemical and hormone profile in these dogs revealed that mean plasma calcium values were below the normal range. Hyperphosphataemia was recorded in most of the dogs affected with either of the diseases. In NSH cases, hyperphosphataemia was more pronounced with more reduction in the Ca:P ratio. Majority of the dogs affected with bone diseases showed reduced plasma protein levels. Plasma creatinine levels were within the normal range in [illegible] disease conditions. Plasma intact parathyroid hormone levels increased both in rickets and NSH cases. The increase was more in NSH cases. Osteocalcin also showed an increase in both disease conditions. However no marked difference was seen in the levels of calcitriol and osteocalcin between the two disease conditions. From the results of the study it can be concluded that imbalance in the Ca:P ratio was the root cause of both disease conditions. It is probable that severe hypocalcemia and or hyperphosphataemia (severe reduction in Ca:P ratio) may lead to secondary hyperparathyroidism.

4.19 Evaluation of Electroacupuncture Effect on Regeneration of Sciatic Nerve in Dog (Histomorphological Study)

Sharifi, D ; Bakhtiari,. J, Gharagozlou ,J and Sarhadi, M
Faculty of Veterinary Medicine; Tehran, (Iran)

This study was conducted on 10 adult male mixed bred dogs, weighing 25+2.2 kg with age of 36+6 months, which were divided into two groups of (control and experiment) 5 dogs each. The right sciatic nerve was exposed in each dog under deep general anaesthesia then it was completely crushed using artery forceps for 30 seconds. No treatment was given to control dogs where as experimental ones were subjected to electroacupuncture therapeutic regimen daily for 10 minutes for period of 15 days by locating GV 60, SP 6, GB 30, and ST 36 acupoints using Hwato needles of 0.3 +40 mm with 50 Hz frequency and 30 to 100 mA intensity. Nerve Sample was collected from site of crush on 15 days.

Clinically there was quite obvious right hind limb paralysis in all dogs of both groups immediate after full recovery from anaesthesia. There was a significant improvement and changes in weight bearing and coordination on 3rd week in experimental group and showing complete normal coordination and weight bearing on 5th week in all of these dogs as compared to control one. There was regular and parallel arrangement of neural fibers and axon with compact cells in uniform distribution in normal sciatic nerve tissue. Oedema, haemorrhage and increase in lymphoid cells in perineural connective tissue with neural fibers pathway in one direction and localized schwann cells were characteristics features of neural changes in control group, whereas there was inflammatory reaction with increase in schwann cells and neovascularization in experimental group.

4.20 Surgical Management of Malignant Lymphoma of Tongue in a Dog

Wakankar, Neha C., Rego, Nicole and Saranha, Jill
Private practitioner, Mumbai, (M.H.)

A nine year old Boxer was presented with the history of growth on the dorsal aspect of the tongue. The growth was of the size of araecanut. Subsequently, it increased to a size of table tennis ball within a period of 2 weeks, with the involvement of mandibular lymph nodes, which appeared swollen.

Under general anaesthesia, partial ablation of tongue with the tumor was performed. The remainder of the tongue was sutured using through and through mattress sutures of 1-0 vicryl. The original shape of the tongue was established to the maximum possible way. The dog started eating from the next day of surgery. On the 10th day of surgery the sutures were damaged resulting into bifid tip. This however did not interfere with the feeding. During this period the chemotherapy with vincrysticin and methyl prednisilone were given to the dog. However later, the dog developed anorexia, dyspnoea and on the 40th day of surgery the dog died due to metastases. The tumor was diagnosed as malignant lymphoma of the tongue.

4.21 Mammary Tumors in Canines- Analysis of 33 Cases

Maiti , S. K., Bhattacharya, T.K., Paliwal, O. P. and Pawde, A. M..
Indian Veterinary Research Institute, Izatnagar, (U.P.)

The present study was conducted in 33 clinical cases of canine mammary neoplasm (CMN'S). The incidence of mammary tumors was highest in the age group of 6-8 years. Higher incidence was seen in German shepherd (54%), followed by Pomeranian (26%), Doberman (6%), Labrador (5%) and non-descript dogs (9%). Incidence in the male dog was one out of 33 case. Majority of the animals were nulliparous. Second and fourth pairs of mammary glands were most commonly affected. Seventy percent cases had slow rate of growth. Size of neoplasm were varied from 1- 20 cm and majority were recorded with diameter > 5 cm. Extensive mode of growth was recorded in 60% cases and the animals had better survival rates than those with infiltrative type of growth. In 27 animals out of 33 surgical excision (simple mastectomy (n=20) and en bloc dissection including lymph nodes (n=7) was done under xylazine- ketamine anesthesia. The remaining six animals (tumor size less than 4 cm) treated with vincristine sulphate @ 0.025 mg/kg intravenously, at weekly interval. Three animals showed complete regression whereas in other 3 animals,

partial regression was seen along with transient signs of vomiting and anorexia. Chemotherapy was also given for 3-4 weeks in 9 animals out of 27 animals of surgical excision in which X-ray examination showing signs of metastasis. The surgical excision gave satisfactory results with a success rate of 66.6%, whereas, surgical excision followed by chemotherapy was found to be most effective with a success rate of 86.33%. Significant decrease in TLC, accompanied by neutropenia, eosinopenia, lymphocytosis and monocytosis was observed in animals subjected to surgical excision followed by chemotherapy. Histologically, mammary tumors constituted of solid type mammary carcinoma (32%), malignant mixed tumor (8%), papillary adenocarcinoma (20%), fibroadenoma (12%), benign mixed tumor (12%), mammary adenoma (8%) and fibroadenochondrama (8%).

4.22 Spleenic Tumor in a Dog- A Case Report

Ranganath, L. and Nair, S.S.
Veterinary College, Bangalore(Karnataka)

A 14 year old Tibetian terrier was presented with symptoms of inappetance and vomiting. A mass was palpable in the cranial abdomen. Plain radiograph of lateral abdomen revealed a soft mass in the abdomen. A large spleenic mass with multiple neoplastic nodules and blood filled cavernous areas creating asymmetric spleenomegaly, was found on exploratory laparotomy. Histopathology confirmed hemangiosarcoma of spleen.

4.23 Surgical Management of Multiple Complication in Senile Doberman Bitch - A Case Report

Khandekar, G.S., Sarkate, L.B., Lokhande,D.U., and Chauhan,A.R.
Bombay Veterinary College, Parel, Mumbai, (M.H.)

A 12 Year old Doberman bitch was admitted with history of vaginal discharge, vomition, anorexia and was dehydrated and a large mammary tumour was present in caudal mammary gland. A clinical evaluation suggested pyometra and mammary tumour. The blood sample was collected for CBC, KFT, LFT and radiographs of chest and abdomen were taken. Radiograph revealed a big size 2" diameter radiopaque foreign body in the stomach and enlargement of uterine loops suggestive of pyometra. General anaesthesia was obtained with thiopentone sodium along with atropine and trifluopromazine hydrochloride. About 3" incision was given for gastrotomy and ovariohysterectomy was also carried out successfully through the same incision. Further removal of mammary tumour was performed under local anaesthetic infiltration. During postoperative care the bitch was given intravenous fluids for 48 hrs with ringers lactate and dextrose 5%. Daily antibiotic of Cefotaxime hydrochloride eight hourly along with Ascorbic acid and B Complex injections were given intravenously. Sutures of midline and site of mammary tumour were removed after 8 days and bitch was discharged.

4.24 Surgical Management of Teratoma in an Alsatian Bitch

Chandrapuria, V.P., Shahi, Apra, Bhagava, M. P., Jawre, Shobha and Swamy, M.
College of Veterinary Science and A.H., Jabalpur, (M.P.)

An Alsatian cross bitch aged 6 years weighing 20 kg was brought for the treatment of anorexia and vomiting since last three days. The bitch had tense abdomen with the sign of colic. The palpation of abdomen revealed a hard mass showing outward bulging in the mid-caudal abdomen. Radiography revealed radio-opaque masses occupying almost the entire cavity. The case was tentatively diagnosed as foreign body

the abdomen and exploratory laparotomy under diazepam-ketamine anaesthesia was performed. A dark brownish mass was seen in the abdomen extending from diaphragm to the pubis, covering the entire abdominal cavity. Incision was extended and entire mass was exteriorized. The tumerous mass was mildly adhered to the capsule of left kidney, which were cleared off digitally. The tumor was identified on left ovary including the cranial portion of horn with severe congestion and dilatation. Ovariohysterectomy was performed in usual way. The recovery was uneventful within 10 days and skin sutures were removed on 10th postoperative day. The affected horn and ovary weighed approximately 4.5 kg. The size of the mass was 50 cm in diameter and 75 cm in length. The gross examination of the mass revealed a cystic wall with fine hairs in the proximal portion of horn adjoining to ovary with suppurative pockets and hard masses like cartilage. The gross and histopathological findings were suggestive of teratoma with torsion of left uterine horn.

4.25 Acellular and Glutaraldehyde Preserved Diaphragm for the Reconstruction of Abdominal Wall Defects in Rabbits

Singh, Jagsir, Kumar, Naveen, Sharma, A. K., Gupta, O. P., Sharma, Anil Kumar and Goswami, T. K.
Indian Veterinary Research Institute, Izatnagar, (U.P.)

The study was conducted in 20 experimental rabbits divided into two groups (I and II) of 8 animals each and remaining 4 animals served as control. In all the animals abdominal wall defect of 2 X 3 cm was created under Xylazine and Ketamine anaesthesia and the defect was repaired with acellular and glutaraldehyde preserved diaphragm of porcine origin in group I and II respectively. In control group (Group III) the defect was repaired with autograft. The healing was evaluated clinically, macroscopically, biochemically, immunologically and histopathologically at different time intervals up to day 90 postoperatively.

Clinically animals of all the three groups were dull and depressed and partially anorectic for 1-2 postoperative days. Significant ($P<0.05$) increase in rectal temperature up to 3 days was observed in groups I and II. Mild to moderate swelling, exudation, warmth and pain at the site was observed which subsided after 3 to 5 postoperative days. No adhesions with abdominal organs were observed at different time intervals in all the three groups. However, increase in vascularity at the site on day 7 was relatively more in group II. Significant ($P<0.05$) increase in serum glucose and alkaline phosphates was observed up to day 14 in all the groups and on day 30 onwards the values returned near to base line values. A Significant ($P<0.05$) neutrophilia and decreased lymphocyte count up to day 5 was observed in all the three groups. Hydroxyproline and collagen contents showed a gradual increase up to day 21 followed by slight decrease. Hexosamine contents gradually decreased up to day 21. Immunologically both the grafts exhibited immune response which was relatively more in glutaraldehyde treated grafts as compared to acellular grafts. Histopathological findings revealed better incorporation of fibrous connective tissue in acellular grafts as compared to glutaraldehyde treated grafts. The process of graft resorption was seen in all the grafts including auto grafts. The resorption was relatively faster in acellular grafts.

4.26 Glutaraldehyde Preserved Diaphragm for the Reconstruction of Large Umbilical Hernia in Two Dogs

Kumar, Naveen, Singh, Jagsir, Sharma, A. K. and Gupta, O. P.,
Indian Veterinary Research Institute, Izatnagar, (U.P.)

Glutaraldehyde preserved diaphragm of porcine origin was used for the reconstruction of large umbilical hernias in two dogs. The first case was a three

months old female Great Dane having a swelling at umbilical region since birth and was gradually increasing in size. Clinical examination revealed congenital umbilical hernia having hernial ring of 6 cm in diameter. The second case was a female non-descript dog having a congenital defect of about 8 cm in diameter at umbilical region. Both the dogs were operated under general anaesthesia. An elliptical skin incision was given over the swelling and the hernial sac was opened. The glutaraldehyde preserved diaphragm was placed as inlay graft and sutured with the abdominal wall by interrupted mattress sutures using poly glycolic acid suture material. The hernial sac was closed and the skin was closed with mattress sutures using nylon. Postoperative antibiotics and analgesics were given for 7 and 5 days respectively. Two months postoperatively none of animal showed any post operative complications and uneventful recovery was recorded.

4.27 Acupuncture Therapy for Treatment of Hind Quarter Weakness or Posterior Paresis in 73 Clinical Cases

Pawde, A.M., Sharma, Arvind Kumar, Gupta, O.P., Pratap, K., Singh ,G.R. and Maiti , S.K.
Indian Veterinary Research Institute, Izatnagar, (UP)

Seventy three clinical cases of hind-quarter weakness/posterior paresis were presented to the polyclinic with the complaint of disability to bear weight on both hind limbs and hind quarter weakness, diminished pin prick reflexes and fecal and urinary incontinence. Plain radiography of spine revealed no skeletal abnormalities, except in 6 dogs suffering from spondylitis. Conventional approach with nervine tonic and corticosteroids was futile. Electroacupuncture therapy with a multipurpose electronic acupuncture unit was given using 9 Volts dense and disperse wave current at 50 Hz frequency and an intensity of 35-100 mA through needling of GV-6, GB-30, BL-54, GB-34, ST-36, BL-60, BL-65, BL-64, LI-3 and [illegible] 10 minutes on every alternate days for 12 [illegible] sessions). Fifteen dogs out of 18 treated [illegible] with full weight bearing without any side effects [illegible] leukocytosis with lymphocytosis was observed.

A case of posterior paresis due to vertebral fractrue in a dog was also treated successfully using electrostimulation of GB-34,ST-36,TW-[illegible] 37 and GV-1 bilatrally for 10 minutes daily for [illegible] sessions. The dog made uneventful fecovery.

Three dogs with posteior paresis were also treated by field vets referred after 45 days failed to respond to electrostimulation.

LARGE ANIMAL SURGERY

5.1 Surgical Management of Congenital Sarcoid in a Foal : A Case Report

Parikh, P.V., Patil, D.B., Gupta, Poonam., Tank, P.H., Kelawala, N.H. and Rane, G. U
College of Veterinary Sciences and
A.H., Anand (Gujrat)

A new born foal with a swelling bigger than coconut size involving the base of right ear and horizontal ramus upto external maxillary vein was referred for treatment. Anaesthetic, surgical and postoperative management is discussed. The animal made an uneventful recovery and is clinically normal after 30 days of operations.

5.2 Albucasis one the Greatest Surgeon of Eastern Civilization

Tadjbakhsh, H.
Faculty of Veterinary Medicine, Tehran, (Iran)

Al-Zahrani known as Albucasis, was the greatest surgeon of Islamic civilization in the middle age (476-1500). He was born in the 10th century A.D in Al-Zahra, a place neighboring Cordova. Albucasis wrote the voluminous book of Ai-Tarrif in 30 volumes which is a medical encyclopedia. The chapter on surgery in Al-Tarrif was translated into Latin in the 12th century in the name of Alsaharavius, this volume was published in Oxford in 1878. Persian translation of this book encompasses almost 200 drawings of various surgical tools and equipment, many of which are his innovations. This article will describe some opinion and innovations of Albucasis.

5.3 Efficacy of Seabuckthorn (*Hippophae sp.*) Oil in the Healing of the Aseptic Incisional Wounds in Calves: A Clinical and Haematological Study

Singh, Sukhminder, Sharma, S.K., Varshney, A.C. and Tyagi, S.P.
College of Veterinary and Animal Science,
Palampur, (H.P.)

The present study was conducted on 9 male calves, 6-12 months old. Six cutaneous incisional wound (2 inch in length), 2 inch apart, 3 on either side of the vertebral column on the dorsal aspect of the thoraco-lumbar region were created under local infiltration anaesthesia in each animal. The animal were divided into 3 Groups of 3 animals each, viz., Group I (liquid paraffin, negative control, betadine ointment) and Group III (test, seabuckthorn (SBT) oil). The efficacy of liquid paraffin 5% povidone -iodine ointment / SBT oil on wound healing process was monitored by clinical and haematological parameters at 0, 3rd , 7th, 10th, 15th, 21st and 28th day after creation of wounds Irrespective of the treatment, the rectal temperature, respiration rate and heart rate remained within the normal range in the animals. In seabuckthorn and 5% povidone-iodine treated animals the signs of inflammation started subsiding by 3rd day but in paraffin treated animals signs subsided by 10th day. There was no exudation in seabuckthorn throughout the study indicating possible antibacterial activity of the SBT oil. In all three groups there was continuous gain in healing tissue, tensile strength and on 28th day, maximum gain was seen in SBT group (14.28%). There were no significant changes in various haematlogical parameters i.e. Hb, PCV, TLC, TEC and DLC in any of the animals of group I, II and III.

5.4 Experimental Evaluation of Wound Healing with the use of Juice and Quath of *Azadirachta indica* in male Buffalo Calves

Kale, P.G., Patil, S.N., Dhakate, M.S., Gahlod, B.M., Panchbhai, V.S. and Upadhey, S.V.
Nagpur Veterinary College, Nagpur, (M. H.)

In experimental studies total 36 wounds of the size 2X2 cm were created on thoraco-lumbar region in three male buffalo calves which consisted of 12 wounds in each group A, B and C. In group A and B the wounds were treated with juice and quath of

Azadirachta indica respectively whereas the group C served as positive control in which the wounds were treated with Neosporin ointment

The efficacy of juice and quath of *Azadirachta indica* on wound healing was assessed on the basis of clinical parameters such as pain, edema, presence of granulation tissue, wound contraction as well histopathlogical observation during process of healing. The clinical and histopathlogical observations revealed that the healing of wounds in both the groups of *Azadirachta indica* were comparable with that of Neosporin ointment, which was indicative of better wound healing properties of *Azadirachta indica*.

5.5 Clinical Studies on Cold and Hot Extracts of *Argiyreia nervosa* and Swellnil Ointment

Patel , S.M., Patil, D.B., Kelawala, N.H., Parikh, P.V., Tank, P.H. and Barvalia, D.R.
College of Veterinary Sciences and
A.H., Anand, (Gujrat)

In clinical trials, *A. nervosa* dry leaves husk showed anti inflammatory properties with absorption of exudate and early establishment of granulation tissue, while cold and hot alcoholic extracts ointments and Swellnil helped in normalization of wound condition. The husk acts as a scaffold and traps the exudate, which provides warmth to the wound, thus providing ideal environment for granulation tissues to form. Cold and hot extracts of *A. nervosa* leaves showed marked antifungal activity against fungi isolated from the clinical cases of wounds. The bacterial growth was noticed through out the study and in vitro antibacterial activity of the cold and hot alcoholic extracts of *A. nervosa* leaves could not be established. Clinical cases treated will be presented and discussed.

5.6 Histological and Biomechanical Studies on Cold and Hot Extracts of *Argyreia nervosa* and Swellnil Ointment - An Experimental Study

Patel , S.M., Patil, D.B., Kelawala, N.H., Parikh, P.V., Tank, P.H. and Barvalia, D.R.
College of Veterinary Sciences and
A.H., Anand, (Gujrat)

12 healthy male buffalo calves were subjected to eight excisional wounds, four on each side of the lumbar region to evaluate the wound healing properties of *A. nervosa* and an ayurvedic ointment 'Swellnil'. The wound healing was evaluated histologically and biomechanically of excised tissues at 7, 14 and 21 days and it was concluded that, cold and hot alcoholic extracts of *A. nervosa* leaves, dry leaves husk of *A. nervosa* and Swellnil ointment have no deleterious effect on wound healing.

5.7 Haematobiochemcial Studies of the Vinyl Pyrrolidone (PVP) in Prevention of Adhesions of Buffalo Calves (*Bubalus bubalis*)

Gupta, K.K., Shukla, B.P. and Pandey, S.S.
College of Veterinary Science and
A.H., MHOW, (M.P.)

The present study was conducted on twelve healthy male buffalo calves in the age group of 4 to 5 months, to evaluate the efficacy of PVP as an antiadhesive in prevention of intraabdominal adhesions following adhesions of transmural etiology. Venous blood samples from each animal were aseptically collected prior to operation and postoperative days 1, 2, 3, 10 and 12. Mean haemoglobin (gm%) values showed non significant increase ($P<0.05$) difference in the control and treated groups. Mean TLC and neutrophil showed significant increase ($P<0.05$) on day 1 in control group than in treatment group. Lymphocytes showed significant decrease ($P<0.05$) on day 1 in control and treatment groups. Eosinophil, basophil, monocyte showed non significant changes in both control and treated groups.

Mean plasma fibrinogen serum CPK and

urea nitrogen values showed significant ($P<0.05$) difference in both the groups at different periods and also between control and treated groups. Mean serum total protein values did not differ significantly in both the groups. Mean serum creatinine values showed significant increase ($P<0.05$) on day 1 only in control group. These results revealed that use of PVP (30% solution) reduced the abdominal adhesions in treatments group as compared to control group.

5.8 Histopathological Evaluation of Poly Vinyl Pyrrolidone (PVP) as Antiadhesive Agent in Buffalo Calves (*Bubalus bubalis*)

Gupta, K.K., Shukla, B.P. and Pandey, S.S.
College of Veterinary Science and
A.H., MHOW, (M.P.)

Efficacy of PVP as an antiadhesive in prevention of intra-abdominal adhesions in buffalo calves was evaluated. Twelve male buffalo calves were used to investigate histomorphological aspects of peritoneal adhesions and to assess the effectiveness of 30% PVP solution in their prevention. Samples of ileum for histopathological examination were collected by resecting the portion of intestine, where the trauma was given for producing adhesions. Intestine was repaired by end to end anastomosis with schemedian technique and routine closure of laparotomy incision was performed. Ileum tissue with or without adhesions were collected, which showed serosal thickening with proliferation of fibroblast and invasion of inflammatory cells in control group. In treatment group serosal thickening and presence of inflammatory cells were not observed.

5.9 Gross Evaluation of Poly Vinyl Pyrrolidone (PVP) as Antiadhesive Agent in Buffalo Calves (*Bubalus bubalis*)

Gupta, K.K., Shukla, B.P. and Pandey, S.S.
College of Veterinary Science and
A.H., MHOW, (M.P.)

An attempt was made to evaluate the efficacy of PVP as an anti adhesive agent in prevention of intra - abdominal adhesions in 12 buffalo calves subjected to adhesions of transmural etiology. Animals of control and treatment groups developed intra-abdominal adhesions of varying degree and severity. In control group adhesions scores of +4 grade was observed in 4 out of 6 animals. However, in two animals adhesions were localized and dense (+2). Adhesions (1+ to +3 Grades) were also observed in three animal of control groups between omentum and sutured peritoneal incision. In treatment group, there were no adhesions in five out of six animals. However, in one animal, a thin transparent film of adhesions (+1) was present over the entire affected loop. These results revealed that use of PVP (30% solution) reduced the abdominal adhesions in treatment group as compared to control group.

5.10 Clinical Study on the Use of Corrugated Drainage Sheet for the Management of Gore Wound in Bovine

Rameshkumar, B., Balagopalan, T.P., Aruljothi, N. and Alphonse, R.M.D.
Rajiv Gandhi College of Veterinary and
Animal Sciences, Pondicherry

The study was conducted in14 clinical cases of gore wound on various sites of the body in bovine, between 2003-04. The site of was prepared for aseptic surgery and sutured with non absorbable suture by cross mattress pattern. The dependant part of the wound was left unsutured and fixed with a corrugated drain sheet by stay sutures. Post operatively antibiotic and analgesic administration in all the cases was continued. Observation of the wound site, adaptation of the drain sheet, nature of discharge, quantity of the effusion and the healing pattern were made for 10 post operative days. All the animals recovered with satisfactory wound healing.

5.11 Clinical Evaluation of a Herbal Drug Formulation for the Treatment of Swelling of Shoulder and Joints: A Study of 27 Clinical Cases

Sharma, A.K., Kumar, Naveen, Swarup, D. and Swarup, H. P. S.
Indian Veterinary Research Institute, Izatnagar, (U.P.)

A herbal drug combination was evaluated for its efficacy for the treatment of swelling of shoulder and joints in 27 clinical cases. The mixture of ingredients was heated and after cooling at luke warm stage was applied on the affected part twice daily on the clinical cases presented at veterinary polyclinics and dairy farm. The paste was very effective in the treatment of swelling of shoulder and joints. The parameters for evaluation of shoulder swelling were decrease in swelling, pain and warmth scores. For joint swelling the scores of weight during standing position and during locomotion were recorded. On application of this paste reduction in swelling, decrease in pain, warmth and lameness was observed. Further trails are in progress.

5.12 Comparative Studies on Utility of Chromic Catgut and Silk as Suture Materials for Repairing Peritoneum and Muscles in Laparotomy Incision in Caprine

Kumari, Archana, Sharma, S.P., Dwivedi, R.K. and Kumar, Avinash
Bihar Veterinary College, Patna, (Bihar)

The present study was conducted on eighteen clinically healthy female goats ageing about 1-2 years and weighing in between 16-20 kg. Laparotomy was made on the middle of the left flank under xylazine hydrochloride intramuscularly and linear infiltration of 2% xylocaine hydrochloride locally. Peritoneum and muscles were repaired with 2/0 chromic catgut and 2/0 black braided silk on fifty percent of the animals. The observations were made on the basis of clinical manifestations and microscopic studies of tissues. The operated animals were active and started [illegible] 3rd day of surgery. Although healing was [illegible] grossly and histologically after use of these [illegible] materials. Formation of nodules and mild [illegible] detected in cases where chromic catgut was [illegible]

5.13 Non Surgical Management of [illegible] Rectal Abscess in a Horse

Bhagava, M. K., Shahi, Apra, Jawre, [illegible] and Chandrapuria, V.P.
College of Veterinary Science and A.H., Jabalpur, (M.P.)

An adult horse was attended with the [illegible] of anorexia and difficulty in the passage of [illegible] last one week. On per rectal examination a big [illegible] was palpated at about 1 feet depth from the [illegible] opening, over the right wall of the rectum. The [illegible] was soft on palpation. Per rectal needle [illegible] by a 16-gauge needle attached with a drip set [illegible] revealed presence of pus in the swelling. The case [illegible] diagnosed as peri rectal abscess. Due to unapproachable position of abscess for operation, non-surgical management of the abscess was decided.

Due to inssipated pus it was not possible to drain the abscess completely, therefore, the pus was liquefied by administering 10 ml of povidon iodine diluted with 50 ml of distilled water twice daily. After draining the pus 10 ml of povidon iodine diluted in 50 ml of distilled water was left in the abscess for 48 hours. Same treatment was repeated at the interval of 48 hours for 15 days. After 15 days 2.5 gm dicrysticine diluted in 30 ml of distilled water was placed in the abscess for 5 times at 48 hours interval after cleaning with diluted povidon iodine. Parenteral 2.5 gm dicrysticine was administered twice daily for 5 days. The animal recovered completely within a short period.

5.14 Surgical Management of Equine Eye Worm (*Setaria equina*) in 20 Cases

Mahajan, S.K., Toor, A.S., Singh , S.S., Anand, A., Mohindroo, J., Chaudhary, M., Singh, N., Raghunath, M., Kumar, A. and Cheema, J.S.
College of Veterinary Science, Ludhiana, (Punjab)

20 cases of equine (18 female and 2 male) presented, with history of corneal opacity from a period of 24.32±1.74 day. Opacity was unilateral in 18 cases and bilateral in two cases. Examination revealed the presence of a rapidly moving worm inside the anterior chamber of eye. In all cases surgery was performed under xylazine (1.1 mg/kg) and ketamine (2.2 mg/kg) induction in combination with 4% lignocaine topically. Surgical removal of the parasite was done by giving a stab incision on the limbus at 12 o clock position. *Setaria equina* was seen in all the cases. In all but three cases, corneal opacity resolved after a period of one month on an average. Ivermectin @ 200µg/kg body weight was administered. In two cases there was recurrence of parasite in opposite eye. Aqueous humor analysis revealed no significant observation in cytology but the total protein content was almost double in all cases in the affected eye as compared to normal eye.

5.15 An Unusual Case of Enlarged Rima Oris in a Buffalo Calf

Chawla, S.K., Bhel, S.M., Tayal, Rishi and Kumar, Ashwani
College of Veterinary Sciences, CCS Hisar, (Haryana)

Oozing of milk from sides of mouth while suckling was seen in two days old buffalo calf. The examination revealed an abnormally enlarged rima oris and oral commissures were seen at the level of the last cheek teeth on both the sides. Surgery to shorten and normalize rima oris was performed under local infiltration of the labia oris. Thin labial strips from both, upper and lower sides were removed along with labial papillae in that region from the level of first to last cheek teeth. The wound was sutured in two layers. Inner labial edges were apposed by chronic catgut in continuos pattern while outer edges were sutured with silk in interrupted pattern. Owner was advised for careful bottle feeding of the calf for 2-3 days. Antibiotic and analgesic were advised for 5 days and antiseptic dressing up to the removal of sutures. The calf recovered uneventfully without any complications.

5.16 Studies on Effect of Electroacupuncture in Management of Pneumonia in Sheep

Singh, K.P.K, Kumar, A. and Jadon, N.S.
College of Veterinary and Animal Sciences, Pantnagar, (Uttaranchal)

Eight clinical cases of sheep suffering with pneumonia, cough and cold were divided into two groups. The animals of group 1 were treated with electrostimulation of GV-14, LU-5, LI-4, LU-7 and ST-36 acupoints. While the animals of group 2 were treated with electrostimulation of BL-13, CV-17, BL-12 and PC-6 acupoints for 10 days. Electrostimulation was given 15-20 minutes at a frequency of 60-80 Hz. daily upto 5 days and then on alternate days upto 10 days.

There was early return of the clinicophysiological parameters in the animals of group 2 as compared to group 1. A significant increase in total leukocyte count, glucose, plasma total, protein, globulin and decrease in sodium level observed in group firsts. Pneumonic patients returned near normal on day 5th and 7th in the animals of group 2 and group 1 respectively.

5.17 Peculiar Equine Surgeries at Bikaner

Gahlot, T.K., Jhirwal, S.K., Bishnoi, P. and Quershi, S.M.
College of Veterinary and Animal Sciences, Bikaner, (Rajasthan)

An 8 years old mare with rectovaginal fistual

was attended. It was repaired by a six-bite suture pattern under epidural anaestheisa in standing position. A laxative diet and postoperative treatment led to recovery in two weeks. Second case was a laminitis caused by endometritis, which resulted due to a vice-wind sucking from vagina. This case didn't respond to NSAIDS and corticosteroids treatment and finally Caslick's operation was done for partial closure of vulvar tips. Third case was a hygroma turned into fibroma at elbow of a stallion. It was surgically resected under general anaesthesia and open wound healing was allowed. Healing took place in 3 weeks. Fourth case was a laceration of skin at frontal and nasal region with multiple fractures of frontal and nasal bones, following automobile accident. A reconstructive surgery was done under local anaesthesia in standing position. Sepsis occurred at few sutures at the junction of frontal and nasal region. Sutures were removed at this region and open wound healing was allowed. Healing took place in 3 weeks.

5.18 Unusual Case of Reticular Fistula in Buffalo Treated under Field Condition

Singh, Rajendra
Veterinary Surgeon, Regional Artificial Insemination Center, Panchkula, (Haryana)

A 7 years old buffalo was presented with wound at the ventral side of abdomen caudal to xiphoid cartilage. The examination of wound revealed presence of ingesta and fribrotic mass encircling the wound. Laparorumenotomy was done under local infiltration. Foreign bodies were removed from reticulum and perforation of reticulum was felt at the wound site. Next day the animal was restrained in dorsoventral position. The wound was little incised caudally and the recticulum was separated from adhesions and repaired. The damaged abdominal muscles and skin were debrided and then sutured. Postoperatively, animal was given streptopenicilin 2.5 gm for 7 days. Recovery was uneventful.

5.19 Pre and Postoperative Haem... Biochemical Status of Buffaloes Suff... with Traumatic Reticuloperitonitis (TRP)

Chaudhary, R.N., Tayal, R. and Singh, J...
College of Veterinary Science, Hisar, (Ha...

The present study was conducted ... two adult she buffaloes suffering from ... reticuloperitonitis (TRP) to evaluate pre and ... operative haematological and blood biochemica... Animals were of 5-8 years of age and second to ... lactation. Laparorumenotomy was done with ... surgical technique. Extrareticular abscesses were ... in three cases. Postoperatively, animals ... streptopenicillin, analgin, liver extracts and rume...

No significant change in pre and post-... values of Hb, PCV, ESR, TEC and total plasma ... were observed. The preoperative TLC and ... neutrophil count decreased considerably and ... proportion of lymphocyte increased at 48 hours ... surgery.

The blood glucose level increased ... significantly postoperatively. There was ... hyponatraemia in 50% and hypochloraemia in ... of the cases while hypokalaemia was present in ... all the animals, which showed no significant improv... even 48 hours after surgery.

5.20 Preoperative Rumen Fluid Profile... Buffaloes Suffering with Traum... Reticuloperitonitis (TRP)

Chaudhary, R.N. Tayal, R., Behl, S.M. ... Chawla, S.K.
College of Veterinary Sciences, Hisar, (Ha...

The preoperative rumen fluid mean ... concentration (estimated by auto-analyzer) ... buffaloes suffering with TRP was 25.8 mmol/L ... hypochloremic buffaloes the mean was more than ... mmol/L indicating the concurrence of anterior/ ... functional disorder while in other three the ... range >27 mmol/L indicates the condition ... toward anterior / posterior functional disorder. The ...

uid pH was normal except in one case (6.0). The ean buffering capacity of rumen fluid was 109.4 3.93 mmol/L. It was lower in five cases 2.8±4.89 mmol/L) in comparison to others.

The protozoal motility in rumen fluid was fair five cases, subnormal in 11 cases while, in 6 cases, was significantly lower.

5.21 Extra Reticular Pathology in Buffaloes - Report of 50 Clinical Cases

ingh, Prem , Singh, Rajender, Kumar, Ashwani nd Singh, A.P.
ollege of Veterinary Sciences, Hisar, (Haryana)

50 clinical cases of buffaloes suffering from hronic tympany were subjected for radiological amination. These were grouped into three main ategories

1. Contracted and lifted reticulum with radiolucent one.
2. Distinct radiolucent area at the site of reticulum with regular diaphragmatic line towards ventral side.
3. Radiopaque bands between reticulum and diaphragmatic line.

When the laparo-rumenotomy was performed, n first category adhesions between ruminal wall and peritoneum were present in 6 cases and a lot of foul melling purulent material in the peritoneal cavity (9 ases). In first type, the adhesions between rumen and peritoneum could be broken in five cases only but in ach case, the adhesions were severe and extensive nd the buffalo was euthanised. In second type, a sterile wab was collected from the peritoneal cavity for culture amination and sensitivity testing. The purulent material as siphoned out and 5-6 litters of normal saline mixed ith cephelexin was poured into the peritoneal cavity. ost-operative treatment followed was antibiotic, nalgesic B-complex and fluid therapy. Out of 9, only 5 could be saved. These cases were categorized into eritonitis both aseptic and septic.

In second category of cases, the peritoneum and ruminal wall were normal. Hypermotility was observed in rumen. When the rumen was opened, a big swelling was palpable at the floor of reticulum. On puncturing the swelling, either watery or yellowish creamy pus got filled in the syringe confirming these cases to be extra-reticular abscesses (25 cases). In five cases, abscesses were opened toward right ventral side and in remaining twenty cases, the abscesses were drained in to the reticulum itself. The recovery rate was better in this type of cases. Only 15 cases could be treated.

In third category of cases, the reticulum was adhered with the surrounding structures confirming these cases to be of extra reticular adhesions (10 cases). After evacuation of the ruminal contents and closing the rumen wall, the rumen can be easily pushed cranially and the outer surfaces of reticulum can be easily felt. The reticulum could be separated from surrounding structures in four cases only.

5.22 Recovery of 114 kg Foreign Bodies through Rumenotomy in a Cow

Bajpai, Sangeeta, Bajpai, S. K. and Agrawal, Sanjay
Veterinary Hospital, District Mandla, (M. P.)

A 14-year-old crossbred (Jersey-Sahiwal) cow was presented in lateral recumbency having off feed, bloat, diarrhoea and distended belly. Rectal temperature, heart rate and respiration rate was within normal limits. The rumen was felt hard, atonic and impacted on palpation. Per rectal examination revealed impacted rumen. No relief was observed by symptomatic treatment. Left flank laparo-rumenotomy was performed under triflupromazine hydrochloride sedation and local infiltration with 2% lignocaine hydrochloride. Rumenotomy revealed rumen filled with large solid mass of plastic and other unusual material viz., iron nails, pins, wire and leather piece etc. After about 4 hours efforts all foreign bodies weighing 114 kg were removed by cutting of unusual pieces. Rumen, peritoneum, muscles

and skin were sutured with usual manner. Post operatively animal was administered with antibiotic for 7 days, anti-inflammatory analgesics for 5 days, B-complex for 4 days, metronidazole IV for 2 days and fluid therapy was given continuously for 7 days. Animal started taking feed on 7th day of operation. After 12th day of operation, she was unable to stand and not responding to any symptomatic treatment and died on 14th day.

5.23 Diagnostic and Prognostic Indicators of Ruminoreticular, Omasal and Abomasal Disorders in Bovines

Toor, A.S. and Saini, N.S.
College of Veterinary Science, Ludhiana, (Punjab)

The study was conducted on 46 clinical cases of surgically treated ruminoreticular, omasal and abomasal disorders. The cases were diagnosed as reticular abscess (n=10), omasal impaction (n=12), diaphragmatic hernia (n=11), abomasal impaction (n=5) and generalised atony (n=8) after surgical exploration. Hematology and ECG was of no diagnostic significance. Pregnancy acted as a predisposing factor and animals with advanced pregnancy did not survive even after surgical intervention. Atony of GIT was most severe in cases with least plasma potassium levels. Increased rumen motility and higher total protein levels in plasma and peritoneal fluid accompanied by increased total nucleated cell count in peritoneal fluid were indicator of reticular abscess while increased rumen motility, frothy consistency of rumen liquor, persistent tympany and increased total plasma proteins were consistent findings in DH. Loss of reticulo-omasal orifice tone in abomasal impaction and generalized atony were indicator of poor prognosis and most of the animals with abomasal impaction were unresponsive to laparo-rumentomy. A plasma chloride level more than 80 mmol/L was indicator of good prognosis in all the disorders.

5.24 Successful Surgical Management of Intussusception in Bullocks-Report of Two Cases

Salunke, V.M., Kale, V.D. and Zambre, P.C.
College of Veterinary and Animal Science, Parbhani, (M.H.)

Four clinical cases (non-discript bullocks) presented with the history of complete cessation defection, anorexia abdominal pain, stretching of dehydration, dullness with bilateral distension abdomen. All the cases were diagnosed for intestinal obstruction on the basis of clinical signs and per-rectal examination. Right flank exploratory laparotomy performed under sedation and local infiltration anaesthesia. The point of obstruction was identified exteriorized. It was confirmed as intussusception and end to end anastomosis was performed. Bullocks passed faces 4-6 hours after repair. Postoperatively animals were maintained on intravenous fluid, multivitamins, antibiotic ciprofloacin and metronidazole for 5 days. All the cases recovered uneventfully without any complications.

5.25 The Effect of Hyaluronic Acid Membrane " Seprafilm" on Prevention of Adhesion following Intestinal Anastomosis in Sheep

Nowrouzian, I., Kotnabi, Najafi, F. and Javad, Seyed, Karbalaei, S.M
Faculty of Veterinary Medicine, Tehran, (Iran)

The effect of bioresorbable HA membrane on postoperative adhesion formation was evaluated by using an established model of end-to-end jejunal anastomosis with one layer simple interrupted suture pattern in sheep. Sheep were randomly allocated to control (5 sheep) and treatment group (Seprafilm treated) considering 3 anastomoses sites in each sheep. The sheep treated with the HA membrane, proper size of Seprafilm was applied on the jejunum to cover completely the anastomosis site. Adhesion formation was assessed on

blinded fashion after one month according to extent, type and tenacity, using scale 0 to 4. Gross and microscopic histological wound healing processes were also evaluated according to the established scores. Median scores of extent, type and tenacity of adhesions were reduced significantly in seprafilm treated sheep ($P<0.05$). There was no evidence of diffuse peritonitis, perianastomotic abscess formation or stricture at the anastomotic site in any of seprafilm case. Good healing with resultant acceptance of seprafilm repair of intestinal anastomosis was achieved.

5.26 Congenital Evisceration of Intestine in a Calf

Bhagava, M. K. and Shahi, Apra
College of Veterinary Science and A.H., Jabalpur, (M.P.)

A newborn cow calf with the hanging mass from the umbilical region was examined. The examination revealed presence of intestinal loops covered with the thin mesentery were protruding out from the umbilical opening and diagnosed as congenital evisceration of intestine.

The operation was performed immediately under local infiltration anaesthesia. The protruding mass was cleaned thoroughly with normal saline solution and wrapped in a sterilized moist gauge piece. Laparotomy was performed by giving elliptical skin incision on either side of mass. The adhesions between the mesentery and peritoneum were removed by blunt dissection. After incising the mesentery the loops of small intestine were examined for the presence of any injury and then replaced back in the abdominal cavity. Laparotomy incision was closed in routine manner. Post operatively daily dressing was done for 10 days with the removal of sutures on the 8th postoperative day. Animal recovered completely within 10 days.

5.27 Clinico -Surgical Management of Recto-Vaginal Tear in a Mare

Tank, P.H., Kasundra, J.K., Patil, D.B., Parikh, P.V., Kelawala, N.H., Desai, T.J. and Hadiya, K.K.
College of Veterinary Sciences and A.H., Anand, (Gujrat)

An adult mare with history of one month old recto-vaginal tear following normal foaling was admitted as an indoor patient. Clinico-surgical management led to initial recovery but subsequently developed recto-vaginal fistulae. Details of the case will be discussed.

5.28 Clinical Treatment of Perineal Hernia in Animals:A Review of 14 Cases

Kumar, Avinash and Sharma, S.P.
Bihar Veterinary College, Patna, (Bihar)

Total 14 cases of perineal hernia were operated in five year (2000-2004), included dogs (n=6), cows (n=3) and she buffaloes (n=5). On the basis of history there was spontaneous herniation after the half-life in canines probably due to endocrine imbalance, in which open method of castration was done simultaneously with herniorrhaphy. While cows and She buffaloes suffered from perineal hernia after traction by unskilled person during faulty correction of dystocia, in which herniorrhaphy were performed under general anesthesia. All the animals survived after surgery and there was no recurrence or post-operative complication in most of them. Urinary bladder was content in almost all cases while in some loops of intestine and mesenteries were present.

As far as herniorrhaphy was concerned Vicryl (Polyglactin 910) 1/0 was used as suturing material for closing pelvic diaphragm and hank's ligature silk was used for skin suturing.

5.29 Comparative Study of Laparotomy versus Peritoneal Lavage for the Treatment of Uroperitoneum in Male Calves - A Clinical Study

Makhdoomi, D.M. and Hussian, S.S.
Faculty of Veterinary Sciences and A.H.,

Srinagar, (Kashmir)

Male calves up to 7 months of age suffering with uroperitoneum were divided into two groups. Group 1 was treated with laparotomy involving laprocystidiotomy and retrograde intracystic catheterization. The group 2 received peritoneal lavage through a catheter fixed in peritoneal cavity percutaneously. The reversal of the uremic changes was significantly faster in group 2 than in group 1 (72%).

5.30 Etiology, Pathogenesis and Surgical Management of Balanoposthitis -Urinary Obstruction Conplex in Cattle and Buffaloes

Shivprakash, B.V., Usturge, S.M. and Dilipkumar, D.
Veterinary College Bidar, (Karnataka)

Investigations were carried out on clinical cases of cattle and buffaloes suffering from huge swelling on the prepupicial region with obstruction to urine flow. The swellings extended from umbilical region to scrotal region. Fever and drop by drop dribbling of urine and distension of bladder were the other symptoms. Animal of all age groups were affected starting from a 15 day old calf to adult bullock. Three out of 12 were calves of less than 1 month age. The incidence was more in bullocks when compared to buffaloes. Both bulls and castrated animals were equally affected. The season wise incidence revealed that the disease in common is the month of April and May when dust and heat are maximum. The diagnosis was made as balanoposthitis with urinary obstruction complex. Staphylococci organisms was present in majority of the cases. Urinary obstruction was due to adhesions between penis and prepucial canal. The animals were divided into 3 groups to evaluate treatment. Medical management was attempted in four animals (group 1) by injecting broad spectrum antibiotic and application of local oily cream for 3 days. As there was no improvement in this group these animals were subjected for surgical treatment as per group 2. In group 2, 8 animals were operated by combining prepuciectomy and [illegible] the incision beyond glans penis. After [illegible] adhesions and establishing patency, the suture [illegible] put only upto the glans penis leaving the prepucial [illegible] incision open for urine flow. In group 3 after [illegible] the adhesions, the entire surgical incision was [illegible] allow urination through normal prepucial [illegible] Complications and swellings were noticed in [illegible] animals where as all the 8 animals improved in [illegible] Long term observation suggested that keeping [illegible] ventral drainage through prepuciectomy is a [illegible] of choice for balanoposthitis urinary obstruction [illegible]

5.31 Haematological and [illegible] Biochemical Studies Following Retention [illegible] Urine in Clinical Cases of Buffalo-[illegible] (*Bubalus bubalis*)

Sharma, P.D., Singh, Kuldip, Kumar, [illegible] Singh, Prem
College of Veterinary Sciences, Hisar, [illegible]

Study was conducted on 20 male, [illegible] calves aged between 1.5 to 3 months [illegible] obstructive urolithiasis. Preoperatively, [illegible] packed cell volume, total leukocyte count [illegible] alongwith neutrophilia and lymphocytopenia. [illegible] nitrogen and plasma creatinine were also [illegible] animals were hyperkalaemic, hyperphosph[illegible] hypochloraemic and hyperproteinemic. Most [illegible] parameters except total plasma proteins showed [illegible] improvement 24 hrs following surgery. The [illegible] blood urea nitrogen was many times higher [illegible] corresponding chloride value was very low [illegible] with urinary bladder rupture.

5.32 Biochemical Changes in [illegible] Following Urine Retention in Clinical [illegible] of Buffalo Calves (*Bubalus bubalis*)

Sharma, P.D., Singh, Kuldip, Kumar, [illegible] Behl, S.M.
College of Veterinary Sciences, Hisar, [illegible]

Twenty male buffalo calves aged between 1.5 to 3 months suffering from obstructive urolithiasis were selected for the study. Seven out of 20 animals has ruptured bladder Urinary concentrations of sodium, potassium, inorganic phosphorus and magnesium were lower but the total plasma proteins, chloride and creatinine concentrations were higher in all the patient. Urinary concentration of total proteins, chloride, magnesium and creatinine was higher in bladder rupture cases as compared to non-ruptured .

5.33 Bacteriological Studies on Urethral Swabs and Urine in Clinical Cases of Urine Retention in Baffalo Calves (Bubalus bubalis)

Sharma, P.D., Singh, Kuldip, Kapoor, S. and Kumar, Ashok
College of Veterinary Sciences, Hisar, (Haryana)

Twenty male buffalo calves aged between 1.5 to 3 months suffering from obstructive urolithiasis were studied. Urine and urethral swab samples were collected aseptically from these cases for bacteriological isolation. Bacteriological examination revealed infection in 50% of the urine and urethral swabs caused mainly by *E. coli* followed by *Staphylococcus* spp. and *Klebsiella* spp. The *in vitro* chemotherapeutic sensitivity was done using 10 antimicrobials by disc diffusion method on isolates from urine and urethral swab. Gentamycin followed by streptomycin and ciprofloxacin were found to be effective against isolates from both urine and urethral samples.

5.34 Urolithiasis in Domestic Animals: A 3-year Study of Pattern of Occurrence

Singh, Tarunbir, Amarpal, Kinjavdekar, P., Aithal, H.P., Pawde, A.M., Pratap, K. and Singh, G.R.
Indian Veterinary Research Institute Izatnagar (U.P.)

Urinary retention cases constituted 6.39% (302/4227) of the total cases presented to Surgery clinics during the period of August 2001 to July 2004. Urolithiasis is a disease of male animals, however, 10.28% cases have been reported in bitches. Goats (59.93%) were the most affected species, followed by buffaloes (19.21%), canines (12.91%) and cattle (6.3%). The incidence was highest in goats and buffaloes of 4 to 6 months of age, followed by 1 to 3 months. In cattle about 73.68% cases were recorded in adult bullocks. Middle aged (4 to 6 years) canines were having the highest incidence (43.58%) of urolithiasis, followed by dogs of 1 to 3 year of age (35.9%). About 95% caprines were castrated males and 49.72% animals were castrated below 1 month of age. Majority of buffaloes were uncastrated (89.66%). Urolithiasis seems to be a disease of extreme weather as maximum number of cases were recorded during extreme summer (May-June) and extreme winter (Jan-Feb). The lowest number of cases were recorded during rainy season (Sept-Oct).

5.35 Tube Cystotomy for Successful Management of Urolithiasis in Goats: A Study of 181 Cases

Singh, Tarunbir, Amarpal, Kinjavdekar, P., Aithal, H.P., Pawde, A.M., Pratap, K. and Singh, G.R.
Indian Veterinary Research Institute, Izatnagar, (UP)

The cases of obstructive urolithiasis were divided in 4 groups (ABCD)urethral process excision, urethrotomy, tube cystotomy and combination of urethrotomy and tube cystotomy, respectively were performed. The animals of group C also received ammonium chloride @ 0.5 g/kg body weight, daily for 5 to 7 days for dissolution of calculi. Results of the study showed that surgical technique of tube cystotomy was the easiest and took minimum time for application as compared to other techniques. Urethral process excision and urethrotomy were associated with post operative complications like removal of indwelling catheter, blockage of catheter, seepage/ leakage of urine in subcutaneous tissue from urethral incision, urethral stricture and recurrence of urethral obstruction. However,

these complications were not observed in tube cystotomy. The success rate was significantly higher in tube cystotomy group as compared to animals of group A and B.

5.36 Tube Cystotomy and Ammonium Chloride for Surgico-Medical Management of Urolithiasis in Goats

Dubey, Ajay, Pratap, K., Amarpal, Aithal, H.P., Kinjavdekar, P., Singh, Tarunbir and Sharma, M.C.
Indian Veterinary Research Institute, Izatnagar, (UP)

Management of urethral obstruction was done in twelve goats by tube cystotomy. After three days a chemolytic agent (ammonium chloride @ 0.5 g/kg body weight) was given for five consecutive days in these goats. On the basis of physiological, haematobiochemical, urine analysis and radiological observations. Tube cystotomy with ammonium chloride was found useful in the management of obstructive urolithiasis in goats.

5.37 Histopathological Changes following Urine Retention in Clinical Cases of Buffalo Calves

Sharma, P.D., Singh, Kuldip and Jakhar, K.K.
College of Veterinary Sciences, Hisar, (Haryana)

The study was conducted on 20 clinical cases with urine retention in male buffalo calves aged below one year. Post scrotal urethrotomy was performed immediately and urethra was catheterized. In cases of urinary bladder rupture, cystorrhaphy was performed through the left pre-pubic para median approach. The histopathological changes in liver, heart, lungs, kidneys, spleen and small intestine were studied in calves died during the study. The changes were degenerative, vascular, necrotic and infiltrative in various organs. The changes were more severe in liver and kidneys followed by small intestine, heart, lung and spleen.

5.38 Histomorphological Changes ... Urethroprosthesis using Formalin ... Seromuscular Caecal Allografts in Buffalo Calves (*Bubalus Babalis*)

Ansari, Md. Moin, Sharma, S.P., Hussain, S. and Peer, F.U.
Faculty of Veterinary Sciences and A.H., Shuhama, Shrinagar, (J and K)

The study was conducted on eight ... healthy male buffalo calves weighing between ... 115 kg in which formalin preserved seromuscular ... allograft were used as urethral prosthesis. Histomorphological changes were studied on ... 30, 45, and 60 postoperatively. Histopathological sections made from junctional area showed ... development of transitional epithelium. On ... postoperative day there was lack of distinct ... lining at the zone of urethroplasty. Regenerating uroepithelium was evident on day 30. On ... epithelium lining consisting of transitional cells was ... discernible. The results were much satisfactory ... was complete regeneration of uroepithilium and ... evident that formalin preserved seromuscular caecum ... acted as scaffold around which there was ... regeneration of the uroepithelium on 60th ... operative day.

5.39 Cystrourethroplasty ... Caecourothoplasty in Buffalo Calves (*Bubalus Babalis*)

Ansari, Md. Moin, Sharma, S.P., Hussain, S. and Peer, F.U.
Faculty of Veterinary Sciences and A.H., Shuhama, Shrinagar, (J and K)

Sixteen male buffalo calves, divided ... two groups were subjected to Cystrourethroplasty (Group I) and Caecourothoplasty (Group II) ... formalin preserved urinary bladder and caecum ... The urinary bladder and caecal segments are ... opened longitudinally to made it a sheet. The ...

ayer was stripped off and secomuscular graft was sutured to partially urethrectomised urethra. The observation made throughout the study for a maximum period of 60th postoperative day with satisfactory results. There was single death out of eight buffalo calves in cystourethroplasty while in caecourethroplasty there was cent percent success with no postoperative complications. Microscopic studies revealed that the formalin preserved urinary bladder and caecal allografts acted as a scaffold around which there was gradual regeneration of urethral tissue and resolution of grafted material which were completed on 60th postoperative day. Caecourethroplasty might be preferred because it was easier and safer than the cystourethroplasty.

5.40 Thirty Cases of Caesarian Operations in Ruminants

Dilipkumar, D., Shivaprakash, B.V., H., Mahesh, A., Jahangir, D. and Usturge, S.M.
Veterinary College, Bidar (Karnataka)

Thirty animals were subjected to caesarian operation (1992-2003). The left low flank oblique incision was used in all the animals. Out of thirty cases 15 were buffaloes, 10 cows and 5 goats. Out of 15 buffaloes 10 had normal sized dead foetuses, three conjoined twins and two had uterine torsion with emphysematous foestuses. Out of 10 cows one live foetus was recovered and 8 had normal sized dead foetuses and remaining one had uterine rupture. Four goats subjected for caesarian had emphysematous dead foetuses and one animal had normal sized dead foetus. Two buffaloes which had uterine torsion and cow with uterine rupture died after operations.

5.41 Full Term Extrauterine Pregnancy with Malformed Foetus in a Cow: Case Report

Kumar, Avinash and Sharma, S.P.
Bihar Veterinary College, Patna, (Bihar)

A cow was presented with the history of full term gestation with straining from past two days. Per vaginal examination revealed absence of foetus in the uterus.

Laparotomy was performed through right paramedian incision. In the peritoneal cavity another bag like structure was found when it was dissected a well-developed dead malformed foetus was delivered. The foetal limbs and head were contracted in close proximity to each other encapsulated by abdominal wall, subcutaneous tissue and skin having hairs from outside in. The foetal ventral abdominal wall was a not formed and viscera everting and floating inside. The foetus was pulled out and laparotomy incision was closed in routine manner. Animal died on 4th day.

5.42 Caesarian Section for the Removal of a Six Limb Monster in an Indigenous Cow

Bhargava, M.K., Shahi, Apra and Pandit, R. K.
College of Veterinary Science and
A.H., Jabalpur, (M.P.)

An indigenous cow weighing approximately 200 kg with the history of dystocia was examined. Examination of the animal revealed passage of both the forelimbs in the genital tract and the head of dead foetus was resting just near the pelvic inlet. Attempts of normal delivery failed. The caesarian section was performed by left ventrolateral oblique incision under triflupromazine sedation (40 mg IV) and local infiltration anaesthesia. After uterine incision two hind limbs near the incision were taken out and attempts were made to exteriorize the foetus. Due to difficulty in taking out the fetus further palpation revealed presence of two more hind limbs in the uterine horn. After enlarging the incision both the additional hind limbs were also taken out and than the foetus was pulled out. The uterine incision and laparotomy incision were closed in the routine manner after placing antibiotic tetracycline tablets in the uterus and streptopenicillin powder in the peritoneal cavity. The daily dressing of laparotomy incision was done with the parenteral antibiotic, analgesic and fluid therapy. The skin sutures were removed on 10th postoperative

day and the animal recovered uneventfully.

The examination of foetus revealed one head, two fore limbs with common thorax but separate abdominal cavities, hind limbs and tails. The examination of abdominal cavity of foetus revealed common esophagus, which was dividing in the abdominal cavity into separate gastrointestinal tract. The urinary systems were separate in both the abdominal portions where as one part was having female genital organs and other male organs.

5.43 Surgical Management of Traumatic Teat Lesions in Buffaloes

Tiwary, Ramesh, Hoque, M., Maiti, S.K. and Singh, G.R.
Indian Veterinary Research Institute, Izatnagar (UP)

Sixteen buffaloes with teat lesions were included in this study. They were divided into four equal groups (A, B, C and D). Sedation with xylazine @ 0.05 mg/kg local analgesia with lignocaine was found suitable to undertake the entire surgical intervention. The teat wounds were repaired using two different types of absorbable suture materials for internal suturing and monofilament nylon for skin suture. Internal suturing included single layer continuous lockstitch with catgut 3-0 (Gr. A), single layer continuous lockstitch with PGA 3-0 (Gr. C) and double layer simple continuous with PGA 3-0 (Gr. D). Response to treatment was evaluated on the basis of wound healing, suture line leakage, fibrous tissue formation and complications.

Double layer simple continuous suturing with PGA reported best results followed be double layer suturing with catgut. Suture line leakage and complications were more common with single layer lockstitch patterns.

5.44A Field Study on Neoplasm in Domestic Animals: A Review of 52 Cases

Sharma, Arvind
Veterinary Polyclinic, Shahpur,
Distt. Kangra, (H.P.)

A study of 52 cases of neoplasms [illegible] out for the period 2001-2004. Analysis of [illegible] revealed 50% (26 cases) incidence in bovine, [illegible] (19 cases) in canine, 11.5% (6 cases) in [illegible] 2% (1 case) in caprine. In bovine, 11 cases [illegible] were found in female and 15 cases (58%) [illegible] comprising of 30% cross bred and 70% [illegible] descript type. Incidence of horn cancer (42%) [illegible] was more. Neoplasms were equally distributed [illegible] the sexes. Transmissible venereal granuloma was [illegible] common (52%) in canine, followed by mammary [illegible] (26%). Except for transmissible venereal [illegible] the incidence of tumors was more in older dogs. [illegible] incidence of neoplasm was equal amongst horses [illegible] mules. All the neoplasms were treated surgically [illegible] some by chemotherapy. Reoccurrence was reported [illegible] a total of 3 cases after a few months.

5.45 Polydactyly in a Foal- A Case Report

Ghamsari, S. M., Dehghani, M. M., Kariman, A., Adibhashemi, F. and Massoud M.
Faculty of Veterinary Medicine, Tehran, [illegible]

A 2.5 month old Thoroughbred [illegible] referred to the hospital with an extra digit on [illegible] aspect of the left metacarpus and fetlock. Radiography revealed extra metacarpal and digital bones, smaller than the main metacarpus and digits and was located [illegible] Under general anaesthesia, a 15-cm skin incision was made over the medial surface of the affected metacarpus and the dorsal and palmar surfaces of the fetlock. Careful deep dissection was continued and principal arteries, veins, nerves, and tendons to the normal digit were identified and preserved. Flexor and extensor tendons of extra metacarpal were severed close to their origin from the tendons of the normal digit. The metacarpal bone was severed with an osteotome and the digit

removed. Six month after surgery, the limb appeared grossly normal and the filly showed no sign of lameness.

5.46 Application of Intro Cultivated Tenoblasts for Repair of Damaged Tendon in Bovines

Sharma, A., Sharma, V.K. and Pandey, M.
College of Veterinary and Animal Sciences,
Pantnagar, (Uttaranchal)

Parent tenoblasts were harvested from SDFT collected from cadaveric buffalo calves from slaughter houses immediately after slaughter of animal under strict aseptic conditions and cultured in MEM culture medium supplemented with 10% FCS and Ascorbic acid @ 100 mg/ml and incubated at 370 in CO2 incubator with 5% CO2. The culture medium was changed every other day during the period of incubation. When cells attained confluence, they were transplanted in the damaged tendon having a defect of the size of 1.0 cm × 1.0 cm. Tenography and histopathological examination was performed on 21st, 45th and 60th post transplantation day. Post transplantation tenograms demonstrated the variable degree of adhesions between skin and SDF tendon and thickening of operated tendon. In both the groups adhesions reduced gradually as the healing advanced. The adhesions were comparatively more in group B (control) than group A (transplanted group) on 60th day, no adhesions were observed between skin and SDF tendon in group A. Histopathological examination revealed invasion of graft bed with lymphocytes, angioblasts and tenoblasts in group A while in group B, a clear cut gap was observed on 21st day. Cellular reaction decreased in both groups by 45th day along with longitudinal alignment of collagen fibers group A while in group B, collagenous fibrils were oriented in different directions. Predominance of tenocytes was found in newly formed tissue in group A by 60th day however, fibroblasts alongwith few capillaries were observed in group B.

5.47 Efficacy of Freeze Dried Heterologous Tendon Graft for Repair of Tendon Defect in Buffaloes

Kumar, S, Sharma, V.K. and Yadav, D.K.
College of Veterinary and Animal Sciences, Pantnagar, (Uttaranchal)

Experiment was conducted to study the healing property of freeze - dried heterologous tendon graft for repair of Achillis tendon in 3 bufflo calves. Hetrograft was aseptically collected in NSS from the DDF tendon of cow cadaver within one hour after death. Freeze drying of tendon pieces was done at 700 C for 24 hrs. by lypholization and stored at room temperature in hermetically sealed glass vials. Graft was placed in experimently created partial thickness graft bed of 3 cm × 1 cm in size by modified Bunnell-Mayor Technique. Clinical, haematological biochemical, radiological and histopathological studies were conducted to study healing efficacy of graft. Heamatology done on 0th, 7th, 20th, 50 and 90th post transplantation day did not reveal any marked variation in various haematological parameters. Serum alkaline phosphatase registered an increase on day 7 post transplantation. Biochemical studies for elastin, collagen and hydroxyprolene made on day 20, 50 and 90 reveal a gradual increase in the level of these biochemical constituents. Airtenogram obtained on day 20, 50 and 90 post grafting day showed more adhesions between grafted tendon site with the skin. These adhesions regressed gradually with time as healing process continued. Histopathological studies of biopsy tissue collected from the transplanted site on day 20, 50 and 90 revealed rapid ingrowth of fibroblast, proliferation of angioblasts with infiltration of lymphocytes and neutrophils on day 20. Granulation tissue with newly formed capillaries was markedly visible on day 50. Organization of fibroblasts was clearely seen on day 90. The results of study indicated that the freeze - dried heterologous tendon graft possess the potential of repairing tendon defects in buffalo calves.

5.48 Freezed-Dried Homologous vs Freeze-Dried Heterologous Tendon Grafts for Tenorrhaphy in Buffaloes: Biochemical, Radiological and Histopathological Studies

Yadav, D.K., Sharma, V.K. and Kumar, S
College of Veterinary and Animal Sciences, Pantnagar, (Uttaranchal)

Healing efficacy of freeze-dried homologous and heterologous grafts were compared to study their stability for repair of experimentally created partial graft bed of 3 cm x 1 cm in Achilles tendon of six male buffalo calves of 18-24 months old. The grafts were retained in the graft bed by modified Bunnell-Mayer technique using stainless steel wire No 4-1 as suture material. Animals were randomly divided into two groups, A and B. Freeze dried homologous and freeze dried heterologous grafts were used in a group A and B animals respectively. The efficacy of the graft to repair the defect was judged on the basis of biochemical, radiological and histopathological studies conducted on 20th, 50th and 90th post transplantation day. On all the duration of observations an increase in the level of elastin, collagen and hydroxyproline in biochemical study and more adhesions in radiological study were observed in group A. Histopathological observation of biopsy tissue revealed more proliferation of angioblasts, infiltration of lymphocytes, neutrophils and macrophages in group A on day 20. There was more granulation tissue formation on day 50 in group A. More regularly arranged fibroblasts were seen on day 90 in group A.

5.49 Cryosurgery in Animals - 15 Case Reports

Tank, P.H., Kasundra., J.K., Parikh, P.V., Kelawala., N.H. and Patil., D.B.
College of Veterinary Sciences and A.H., Anand (Gujrat)

Cryosurgery using liquid nitrogen was carried out in clinical cases like pedenculated mass (buffalo), sarcoid lesion (horse), papillomatous multiple growth (dogs, goats). Single, double or overlapping freeze-thawing cycle(s) by spraying or contact probe was followed. Overall, cryosurgery yielded positive result in 13 cases and in 2 cases result was not favourable.

5.50 Effects of Diathermy and Therapeutic Ultrasound on Nerve Regeneration in Buffalo Calves

Lattoo, Sarang H. and Chaudhary, Sunil R.
College of Veterinary Science and A.H., Sardarkrushinagar, (Gujarat)

The present study was performed in twelve experimental buffalo calves. Under local infiltration analgesia and peroneal nerve block, peroneal nerve was isolated at the level of stifle joint and compressed with a haemostat for one minute to induce axonotmesis. The animals were divided into three equal groups. Group I animals were kept as control, whereas, animals of group II and III were treated with diathermy and therapeutic ultrasound, respectively. Treatment was given for 10 minutes daily for 10 days followed by similar treatment on alternate days for another 10 days in group II and III animals.

Histopathological examinations of the nerve tissue collected on 45th post-operatively day revealed marked vacuolations, increased interfascicular fibrosis and moderate cellular activity in group I animals. In group II animals, vaacuolations were minimum but interfascicular fibrosis was maximum, whereas, in group III animals vacuolations and interfascicular fibrosis were minimum with marked cellular activity. On the basis of histopathological findings, nerve regeneration was better in ultrasound treated animals followed by diathermy treated and control animals.

WILD LIFE

6.1 Immobilization of Chitals using Xylazine - Ketamine Combination and its Reversal with Atipamezole

Pathak, Rekha and Pankaj
Veterinary Hospital Kichha, Udhamsinghnagar (Uttaranchal)

Five chitals (4 female and 1 male) were immobilized and translocated to the Ramnagar forests, Uttaranchal. xylazine was used @ 100 µg / kg and ketamine @ 2.5µg/kg. Chitals were immobilized in 220 ± 60 seconds and no movements were observed for 60 minutes of immobilization. Two animals developed mild ruminal tympany during immobilization, which resolved immediately after administration of atipamezole. Recovery was rapid, with standing time of 72 ± 35 seconds. The heart rate and respiratory rate recorded were found to decrease and increase after atipamezole administration.

6.2 Immobilization of Leopard Cat using Xylazine - Ketamine Combination and its Reversal with Atipamezole

Pathak, Rekha and Pankaj
Veterinary Hospital Kichha, Udhamsinghnagar (Uttaranchal)

Combination of xylazine and ketamine @ 2 mg / kg and 5 mg / kg respectively, was found effective for immobilizing a leopard cat, by telinject dart syringe. The immobilization lasted for a period of 2 hours. Ataxia and immobilization were rapidly induced with stable heart rate, respiratory rate and body temperature. Atipamezole antagonized xylazine effectively when used intramuscularly, resulting in mobility within 30 minutes, respiratory rate remain elevated. The leopard was relocated into the forests of Ramnagar, Uttaranchal.

6.3 Xylazine-Ketamine Anaesthesia in a Leopard and its Reversal by Yohimbine

Tiwari, S.K., Ali, S.L., Shakya, S., Jogi, S. and Mishra, O.P.
College of Veterinary Science and A.H. Anjora, Durg (C.G.)

Female leopard aged 7 months weighing 20 kg was brought with lacerated wound on both the fore limbs and one hind limb at the phalangeal region. The wounds were infested with maggots.

The leopard was immobilised with xylazine (30 mg) intravenously and ketamine hydrochloride (75 mg) intramuscularly. Haemacel, Ringer's lactate, Dexamethasone (8mg) and Ampicillin-Cloxacillin (2gm) was also given. The duration of anaesthesia lasted 68 minutes and complete recovery was observed in 140 minutes. On the second day, the leopard was reanaesthetized and after the treatment, the anaesthesia was reversed by using yohimbine @ 125 µg/kg IV. The mean arousal time was 2.5 minutes and mean standing time was 5 minutes. There was significant increase in heart rate and respiratory rate immediately after reversal with yohimbine.

6.4 Surgical Management of a Deep Abdominal Laceration in an Asian Elephant

Chandrapuria, V.P., Shrivastav, A.B., Gupta, S.K, Nagar, D. and Mukharia, S.
College of Veterinary Science and A.H., Jabalpur (M.P.)

A musth elephant of Panna Tiger Reserve injured one female Asian elephant by the tusk. The tusk injury led to deep abdominal laceration. On clinical examination, a deep abdominal laceration was observed from caudal abdomen in front of the left stifle joint running obliquely downward close to the umbilicus.

The Park veterinarian gave the first aid and sutured the wound, but on 5th day the wound showed dehiscence with purulent discharge. On 7th day the

animal was sedated with 150 mg xylazine IM. The wound was cleaned with povidone - metronidozole lotion. The edges were cauterised with silver nitrate. The muscles were approximated and skin was sutured with black braided silk thread No. 3 and 4, respectively. An opening was left at upper and lower commeasures of the wound for drainage and dressing purpose. Antibiotic coverage for 7 days with supportive treatment was advised for another 10 days. A mesh was prepared using wide cotton tape (Niwar), applied on the wound and tied over the back of the elephant with pressure to avoid any post-operative protrusion of internal viscera due to increased abdominal pressure. Animal was kept on restricted diet for 15 days with daily dressing and cauterisation of wound. Few sutures disrupted on 5th day but the wound healed without any further complication in 25 days.

6.5 Surgical Management of Lipoma in a Leopard (*Panthera pordue*) - A Case Report

Vasanth, M.S., Shrinivasa, Murthy, G. and Das, Dilipkumar,
Veterinary College, Bangalore (Karnataka)

An 8 year old male leopard (Panthera*pordue*) at Bannerghatta Biological park, Bangalore had a large (25 cm × 20 cm) growth covering the ventral aspect of the neck and jaw region. The animal was anaesthetized using 100 mg xylazine and 300 mg ketamine. After an induction time of 8 minutes, a 4 inches incision was made on mid ventral aspect of neck over the swelling. The contents of the swelling were jelly like and in a loose honeycombed structure, which was carefully excised.

The exposed area was cauterized using $CuSO_4$ crystals and flushed with normal saline. Skin was sutured using No.2, polyamide suture (Linex) with an opening for drainage. terramycin LA, 8 ml was given deep IM to neck muscles. The sutures were mutilated and wound opened by the leopard by 4th day, however the open wound healed in about 4 [illegible]. Histopathology of the growth revealed it lipoma.

6.6 Traumatic Ventral Hernia Repair and Enterectomy in a Nil Gai (*Boslaphus Tragocamelus*)

Vasanth, M.S., Shrinivasa, Murthy, G. and Dilipkumar Das
Veterinary College, Bangalore (Karnataka)

An adult Nilgai (*Boslaphus tragocamelus*) was found to be in a state of distress at the Herbivore [illegible] of Bannerghatta Biological park, Bangalore. The animal had a swelling in ventral abdomen apparently due to fighting. The animal was sedated with 30 mg xylazine and 2% xylocaine was infiltrated around the hernial swelling. Opening of hernial selling showed loops of intestine, which were undergoing necrosis. Enterectomy and hernia repair was done as per standard procedure.

Terramycin LA 10 mg was given deep IM and repeated after 3 days. Two liters of 5% dextrose saline with 10 ml of oxystecline was given daily for 5 days. The animal had an uneventful recovery and discharged on the 8th postoperative day after removal of sutures.

6.7 Intramedullary Pinning of Humerus of Kite

Jayakar, N. N., Wakankar, C. C. and Patel, S. K.
Private Practioner,Mumbai (M.H.)

Compound fracture of left humerus was observed in a kite following accidents. Attempts of external co-optation failed as the kite removed the [illegible] instantly.

Acepromazine (0.5-1.0 mg/kg) and ketamine (25-50 mg/kg) anaesthesia, was employed and intramedullary fixation was performed using 1.5 mm wire. Immobilisation of the wing was achieved by modified dovetailed bandage adopted for kite.

The kite has accepted the procedure well and started flapping the wings.

6.8 Management of Fracture of Humerus in A Pariah Kite (*Malvus migrans*)

John Martin, K.D., Laiju M.P., Julie, B. and Rajankutty K.
College of Veterinary and Animal Sciences, Mannuthy, (Kerala)

A six month old pariah kite (*Malvus migrans*) was presented to the hospital, with a complete, compound, oblique, mid-shaft fracture of the left humerus. The fracture was reduced and immobilized, under ketamine anaesthesia, with retrograde intramedullary pinning using a 2 mm steinmann pin and cerclage wiring. The external wound was sutured with 2/0 braided silk. The affected wing was immobilized with wing strapping leaving the other wing free. After three weeks the fracture site had shown signs of healing with radiographically visible callus.

6.9 Surgical Management of Simple Bilateral Radial Fracture in a Hyena

Kelawala, N.H., Kasundra, J.K. Patil, D.B., Desai, T.J., Gupta, Poonam and Patel, B.M.,
College of Veterinary Science and A.H., Anand (Gujrat)

An unconscious hyena weighing about 75 kg was presented at Veterinary College, Anand. There were traumatic wounds of fore legs, neck and head. Successful medical and surgical management of the case is discussed. The animal was released in the forest following recovery.

6.10 Surgical Repair of Humerus Fracture in an Owl (*Strix seloputo*)- A Case Report

Ranganath, L. and Das, Dilip Kumar
Veterinary College, Bangalore (Karnataka)

An owl aged 2 years, belonging to the Bannerghatta Biological Park was presented to Veterinary College Hospital, with a complaint of wound on right wing. Physical examination, of wound revealed piece of bone protruding outside, in the right arm region. Radiography showed complete, oblique midshaft humerus fracture. Fracture was repaired by open reduction using internal fixation device. Midshaft humeral fractures usually require open reduction, as rebuilding of the fracture and accurate alignment is often impossible by external fixation. In the present case pinning was the ideal choice. With the present line of treatment the bird had an uneventful recovery.

6.11 Management of Humeral Fracture in Birds -Case Report

Singh, Prem, Kumar, Ashwani, Kumar, Rajiv and Singh, A.P.
College of Veterinary Science, Hisar (Haryana)

Present report describe repair of humeral fracture in two birds (a duck and a peacock). Radiographs of fractured wing of both birds showed multiple fracture of humerus. The wings of both birds were temporarily immobilized by a bandage making a figure of eight around the body of the bird. The birds were prepared for intramedullary pinning of the humerus.

The birds were anaesthetized by the ketamine @ 0.2 mg/ kg body weight. After preparing the site, humerus was approached cranio-lateraly. The bleeding was checked by digital pressure. The extra pieces of the bone were removed from the surrounding tissue and a suitable size steinmann pin was inserted in to the marrow cavity of humerus. The muscles and skin were sutured.

Post-operatively, the birds were administered ampicillin, B-complex and antihistaminics. The follow-up of the case of the duck revealed that the bird started using its wing after four weeks and the pin was removed after six weeks. The report received after ten weeks showed full recovery of the wing without any complication.

6.12 Dorsal Laminectomy in Tiger

Murthy, Shadakshar B.N.
Veterinary Surgeon, Veterinary Dispensary, Siddalingapura, Mysore, (Karnataka).

Any injury /bony growth of vertebral column can cause pressure on spinal cord leading to paralysis. Dorsal laminectomy is the recommended surgical procedure to release the compression. The animal was subjected to radiological and CT scan examination for diagnosis. Compression of spinal cord at T13 and L1 area was located. Vertebral column was approached through mid dorsal cutaneous incision; muscles were dissected from their dorsal spinal attachment and retracted to their side. Dorsal spine of L1 and L2 were removed creating space to approach dorsal lamina. Dorsal lamina was removed by nibbling thus releasing the pressure on spinal cord. Gel foam to the window site was fixed. Muscles were sutured back to their position. Skin incision was closed in regular passion. Post-operative care was taken. The tiger recovered completely.

6.13 Radiography and Imaging Techniques for Spinal Column in Tiger

Murthy Shadakshara, B N.
Veterinary Surgeon, Veterinary Dispensary, Siddalingapura, Mysore, (Karnataka)

In this case radiograph was taken after anaesthetising the animal with 84 KVA and 16 MAS, using 16: 1 grid. Radiograph indicated overlapping of spinal column at the level of T13 and L1. A confirmatory diagnosis was done using CT scan.

ANAESTHESIOLOGY

7.1 Studies on Anaesthetic Evaluation ... Propofol - Ketamine as an Induction ... Maintenance Agent in Dogs

Anand, Gautam, Patil, D.B., Kelawala, N... Parikh, P.V., Barvalia, D.R., Tank, P.H. and Manat D.L.
College of Veterinary Sciences and A.H., A... (Gujarat)

Propofol alone (Group 1) and propo... ketamine (Group II) for induction and maintena... anaesthesia and premedication with acepro... (ACP) was conducted in twelve clinically healt... of either sex, divided into two groups of six ... each. Anaesthesia was inducted in group I ... intravenous propofol @ 4 mg / kg body weight ... animals of group II with IV propofol @ 2 mg ... body weight given over a period of 90 sec... followed by rapid bolus dose of IV ketamine @ ... / kg , b.wt. in overnight fasted dogs 20 minutes ... premedication with intramuscular (IM) ACP @ ... mg / kg b.wt., and was maintained over a period ... minutes with a mean maintenance dose of 5.0 ± ... mg / kg b.wt. with IV propofol (Group I) and ... mean maintenance dose 2.5 ± 0.22 mg / kg b.wt. ... propofol and 2.5 + 0.22 mg / kg of ketamine (Group II). Clinical, physiological, haemato - biochemical parameters will be discussed.

7.2 Antagonism of Xylazine-Propofol Anaesthesia by Yohimbine and Atipamezole in Dogs

Dewnagan, Rukmani, Tiwari, S.K. and Sharda, R.
College of Veterinary Science and A.H. Anjora Durg, (C.G.)

Ten healthy mongrel dogs of either sex, weighing 10-20 kg, were divided into two groups of 5 ...

ach. All animals were sedated with xylazine @ 1mg/g IM and 10 minutes later intravenous injection of propofol @ 4mg/kg was given. Heart rate and respiratory rate showed a significant decrease following xylazine-propofol administration. The sedation, physiological and cardiopulmonary effects of xylazine were completely reversed in Group I by intravenous injection of yohimbine (125mg/kg) and group II by intravenous injection of atipamezole (100mg/kg) 20 minutes post xylazine-propofol anaesthesia. The mean arousal time, standing time and walking time were 1.33±0.190, 2±0.273 and 3.3±0.0.244 in group I while in Group II they were 0.98±0.099, 2.26±0.112 and 3.233±0.13minutes respectively. The heart and respiratory rate increased steadily after intravenous administration of yohimbine or atipamezole. However, atipamezole caused more effective and complete reversal than yohimbine. Recovery from sedation was quick and smooth without any relapse of sedation. Excessive salivation and shivering was observed in two dogs after yohimbine administration.

7.3 Clinico-Physiological and Cardiopulmonary Response to Xylazine-Propofol Anaesthesia in Dogs

Dewnagan, Rukmani, Tiwari, S.K. and Sharda, R.
College of Veterinary Science and A.H. Anjora, Durg, (C.G.)

Five healthy mongrel dogs of either sex, weighing 10-20 kg were used for the study. Xylazine (1mg/kg) was administered intramuscularly 10 minutes prior to the intravenous injection of propofol (4mg/kg) resulted in onset 5.5±0.22 minutes., duration of anaesthesia 37±1.99 minutes., with complete recovery in 76±2.10 minutes. Corneal, palpebral, rectal pinch and paedal reflexes were abolished after xylazine-propofol anaesthesia. Heart rate and respiration rate showed a significant decrease however, rectal temperature did not show any significant change.

7.4 Biochemical Studies on Prolongation of Propofol Anaesthesia Using Ether in Dogs.

Jain, Reshma, Bhargava, M.K., Chandrapuria, V.P. and Shahi, Apra
College of Veterinary Science and A.H., Jabalpur (M.P.)

Six apparently healthy mongrel adult dogs of either sex, weighing approximately 10-20 kg were used for the experiment. Each dog was subjected to three different treatments viz. treatment I (atropine sulphate @ 0.05 mg/kg IM + triflupromazine hydrochloride @ 1.0 mg /kg. IV+ propofol 1% I V till loss of paedal reflex + anaesthetic ether for ½ hour), treatment II (atropine sulphate @ 0.05 mg /kg I M + diazepam @ 2 mg/kg I V + propofol and anaesthetic ether as in treatment I) and treatment III (atropine sulphate @ 0. 05 mg/kg I M + xylazine @ 1.5 mg /kg IM+ propofol and anaesthetic ether as in treatment I). Plasma glucose concentration increased significantly in all the three treatments at different time intervals. Total protein and creatinine showed non significant variation, whereas the activity of alanine amino transferase plasma alkaline phosphates and urea nitrogen increased non significantly in all the three treatments.

7.5 Effect of Propofol Anaesthesia on Electrocardiography in Goats

Korde, J. P., Das, A. K., Madan, A. K., Rastogi, S. K. and Kumar, Satyendra
College of Veterinary and Animal Sciences, Pantnagar, (Uttaranchal)

The objective of present study was to know the effect of propofol induction on the electrocardiographic changes in the goats. Four apparently healthy goats of 10-14 months of age weighing between 9-12 Kg were selected. Glycopyrrolate as preanaestthetic was given 2 mg IV.

After 5 minutes, propofol was given IV @ 0.40 mg/Kg and 0.50 mg/kg as bolus. The recordings were taken before and after glycopyrrolate, immediately after propofol and thereafter every 5 minute till goats showed righting reflex. The goat showed mintenance of body temperature through out thr course of the experiment. The average heart rate before injection of glycopyrrolate was found to be 71.56/minute. Tachycardia (120.44/minute) was observed with induction of glycopyrrolate however it increased (123.2/minute) further with low dose of propofol induction within Ist 5 minute and decreased after 10 minutes of induction (99.0/ minute). At higher dose rate the heart rate was 118.66/minute after 5 minute of propofol induction and thereafter decreased to 101.97/ minute after 15 minute. The heart did not recovered even after the animal has shown righting reflex. T waves was found to be inverted in two of the four goats at lower dose while at higher dose it was depicted by three of the four goats. One of the goats at higher dose rate has shown tachycardia with ectopic beats from 5th to 7th minutes post propofol induction.

7.6 Effect of Propofol Anaesthesia on Electroencephalography in Goats

Madan, A. K., Korde, J. P., Huozha, R., Das, A. K., Rastogi, S. K. and Kumar, Satyendra
College of Veterinary and Animal Sciences, Pantnagar, (Uttaranchal)

The effect of propofol induction on the electeroencephalographic changes in four apparently healthy goats of 10-14 months of age weighing 9-12 kg was studied. Glycopyrrolate, preanaesthetic, was given 2 mg IV. After 5 min propofol was given IV @ 0.4 mg/kg body weight and 0.5 mg/kg body weight in bolus. EEG recordings were taken before and after glycopyrrolate injection, and immediately after the induction of propofol anaesthesia, then at every 5 minutes interval till they showed righting reflex. The results showed that the goats went into sleep at a rate with change of wave pattern from α to a degree of δ wave patterns within 1 minute irrespective of the dose. The δ wave patterns then continued for 5-6 minute at lower dose while for 12-13 minutes at higher dose. The recovery was predictable on the basis of EEG pattern from δ wave to α wave after 10-11 minutes at lower dose and 15-16 minutes at higher dose. However , no pain sensation was noticed during initial 5-6 minutes and 12-13 minutes of induction period at either doses. The occurrence of righting reflex was noticed after the disappearance of δ waves. A few till few steps and ear scratching was a common feature in all the goats at both the dose rates after the animal had recovered. This indicates that the induction dose of propofol can only be used to maintain short periods of unconsciousness for short procedures.

7.7 Clinical and Physiological Studies on Propofol as General Anaesthetic with Acepromazine

Mukati, B.D., Singh, Varuna and Shukla, B.P.
College of Veterinary Science and A.H., MHOW (M.P.)

The study was conducted on six apparently healthy mongrel dogs of either sex weighing 15-20 kg. Atropine sulphate @ 0.04 mg/kg b.wt. was administered IM 20 minutes prior to each treatment in all the dogs. In treatment I, propofol (1%) alone was used @ 8 mg/kg IV as a bolus dose and treatment II acepromazine was administered @ 0.1 mg/kg IV followed by propofol @ 5 mg/kg b.wt. IV as a bolus dose. The rectal temperature (°F), pulse, heart and respiratory rates per min were recorded at 0, 5, 10, 15, 30, 60 and 90 min intervals post treatment. The time of induction of anaesthesia was 43.50±2.18 and 37.00±2.18 seconds whereas duration of anaesthesia was 8.70±0.60 and 11.06±0.80 minutes in treatment I and II, respectively. The

me of complete recovery was 15.16±0.47 and 21.66±0.91 minutes in treatment I and II, spectively. There was a significant increase in pulse nd heart rate and non-significant decrease in body mperature in both the treatments. The respiratory rate as increased significantly in treatment I while decreased gnificantly in treatment II. Duration of surgical naesthesia and recovery time were not affected gnificantly by acepromazine administration.

7.8 Clinical and Physiological Studies on Propofol as General Anaesthetic with Xylazine

Mukati, B.D., Singh, Varuna and Shukla, B.P.
College of Veterinary Science and A. H., MHOW, (M.P.)

Six apparently healthy mongrel dogs of either ex, weighing 15 - 20 kg were used in the present udy. Atropine sulphate @ 0.04 mg/kg was dministered IM 20 minutes prior to each treatment in the dogs.

In treatment I, propofol (1%) was used @ mg/kg IV as a bolus dose and in treatment II, xylazine ydrochloride was administered @ 1 mg/kg IM, llowed by propofol @ 5 mg/kg IV as a bolus dose. he time of induction of anaesthesia was 43.50±1.78 nd 33.83±1.96 seconds whereas duration of naesthesia was 8.70±0.60 and 21.66±1.05 inutes in treatment I and II, respectively. The mean me of complete recovery was 15.16±0.47 and 3.50±1.58 minutes in treatment I and II, spectively. The recovery in both the treatments was mooth and excitement free. Significant increase in pulse nd heart rate and non-significant decrease in body mperature was observed in both treatments. Significant crease in respiration rate in treatment I and decrease treatment II was recorded. Pre-anaesthetic dministration reduced the dose of propofol, prolonged he duration of surgical anaesthesia and recovery time.

7.9 Haemato-Biochemical Studies on Propofol as General Anaesthetic with Acepromazine

Mukati, B.D., Singh, Varuna, Shukla, B.P. and Garg, U.K.
College of Veterinary Science and A. H., MHOW (M.P.)

The study was conducted on six apparently healthy mongrel dogs of either sex, weighing approximately 15 - 20 kg. Atropine sulphate @ 0.04 mg/kg b.wt. was administered IM 20 min prior to each treatment in all the dogs.

In treatment I, propofol (1%) alone was used @ 8 mg/kg IV as a bolus dose and in treatment II, acepromazine was administered @ 0.1 mg/kg IM, followed by propofol @ 5 mg/kg IV as a bolus dose. Non-significant decrease in haemoglobin, packed cell volume, total erythrocyte and total leucocyte count was observed in both the treatments while significant increase was recorded in neutrophil count and decrease in lymphocyte count in both the treatments. The biochemical parameters like glucose and total bilirubin showed significant increase ($P<0.05$) in both the treatment groups while non-significant increase in alanine aminotransferase, alkaline phosphatase and blood urea nitrogen was observed. Serum total protein and serum creatinine revealed no significant alteration in any of treatment.

7.10 Haemato-Biochemical Studies on Propofol as General Anaesthetic with Xylazine

Mukati, B.D., Singh, Varuna, Shukla, B.P. and Nema, S.P.
College of Veterinary Science and A. H., MHOW, (M.P.)

Six apparently healthy mongrel dogs of either sex, weighing 15 - 20 kg were used for the present study. Atropine sulphate @ 0.04 mg/kg was administered IM 20 min prior to each treatment in all

the dogs.

In treatment I, propofol (1%) was used @ 8 mg/kg IV and treatment II, xylazine hydrochloride was administered @ 1 mg/kg IM, followed by propofol @ 5 mg/kg IV as a bolus dose. The haematological parameters like PCV, haemoglobin, total erythrocyte and total leucocyte count showed non-significant decrease in both the treatment groups whereas, significant ((P<0.05) increase in neutrophil count and decrease in lymphocyte count was noticed in both the treatment groups. The biochemical parameters like glucose and total bilirubin showed significant increase (P<0.05) in both the treatment groups whereas increase in alanine aminotransferase, alkaline phosphatase and blood urea nitrogen was non-significant in both the groups. Serum total protein and serum creatinine revealed no significant changes in both the treatment groups

7.11 Clinical Evaluation of Propofol for Short Surgical Procedure in Equine

Raut S.S.; Lokhande D.U.; Sarkate L.B. and Khandekar G.S.

Bombay Veterinary College Parel, Mumbai, (M.H.)

Twelve apparently healthy horses of 2-5 years of age and weighing between 141-328 kg were used to develop a safe anaesthetic technique for short surgical procedure using xylazine and propofol. The horses were divided into two equal groups. Xylazine hydrochloride was administered intravenously at the dose rate of 0.5 mg/kg and 1 mg/kg body weight to the horses of group I and group II respectively 15 minutes prior to the administration of bolus dose of propofol (3 mg/kg).

The quality of induction of anaesthesia varied from fair to excellent in both the groups. Additional doses of propofol was required for maintenance of anaesthesia in two horses of group I. The induction of anaesthesia occurred within 2.83 ± 0.30 and 2.33 ± 0.20 minutes in group I and II respectively. Brief paddling movements occurred in two horses in both the groups following lateral recumbency. Duration of anaesthesia was 11.33 ± 2.34 and 17.33 ± 2.[illegible] minutes in group I and II respectively. During recumbency heart rate and pulse rate increased significantly in both the groups. There was no significant alteration in the rectal temperature. Respiratory rate did not show any significant alteration during the peak level of anaesthesia in both the groups. Duration of apnoea was longer in group II. The complete recovery occurred in 39.5 ± 6.25 and 41.66 ± 7.95 minutes in group I and II respectively. Haematological parameters and kidney function test revealed no significant changes either during anaesthesia or after recovery from anaesthesia in both groups.

7.12 Clinical Evaluation of Clear Solution of Propofol in Cats.

Salvekar, S. P., Khandekar , G.S., Sarkate , L.[illegible] and Lokhande, D.U.

Bombay Veterinary College, Parel, Mumbai, (M.[illegible]

A total of 18 clinical cases of cats of either sex were randomly divided into 3 equal groups of 6 cats in each. A clear solution of propofol was administered intravenously at the dose rate of [illegible] and 11 mg/kg body weight over a period of 60 [illegible] seconds in cats of group I, II and III respectively. Various surgical and non-surgical procedures were performed under propofol anaesthesia. Longer duration of anaesthesia was maintained by continuous infusion of propofol solution at the dose rate of 0.25 mg/kg [illegible] as and when required.

Onset of anaesthesia was 25.83 ± [illegible] 23.16± 2.0 and 24.5 ± 2.2 seconds in group II, III respectively. Duration of surgical anaesthesia was for 16 ± 1.63 minutes in group I, 22.5 ± [illegible] minutes in group II and 27.5 ± 1.25 minutes in group III. The onset of anaesthesia was smooth and recovery without any untoward signs like coughing, apnoea [illegible] on injection in all the three groups except that there

presence of swallowing reflex in 2 cases in group I even during the anaesthesia. During the peak of the propofol anaesthesia the temperature was observed to be 102.91 ± 0.46, 101.38 ± 0.22, and 101 ± 0.54 of in groups I, II, III respectively. A significant decrease in respiratory rate was observed to be 31.83 ± 4.0, 29.16 ± 3.81and 23.66 ± 1.22per minute in groups I, II, III respectively during the anaesthesia. No significant changes were observed in the pulse and heart rate in any of the groups. The muscular relaxation was excellent in groups II and III, and satisfactory in group I. Recovery period of 26.33 ± 1.31 minutes in group I, 29.33 ± 1.47 minutes in group II, and 38.16 ± 1.77 minutes in group III was noted.

7.13 Effect of Clear Solution of Propofol on Hematology and Serum Chemistry in Cats.

Salvekar , S. P., Khandekar , G.S., Bhokre , A.P., Sarkate , L. B. and Lokhande, D. U.
Bombay Veterinary College,Parel, Mumbai,(M.H.)

A total of 18 clinical cases of cats of either sex were randomly divided into 3 equal groups of 6 cats in each. A clear solution of propofol was administered intravenously at the rate of 9, 10 and 11 mg/kg body weight over a period of 60 - 70 seconds in cats of group I, II and III respectively. Various surgical and non-surgical procedures were undertaken. Longer duration of anaesthesia was maintained by continuous infusion of propofol solution at the dose rate of 0.25 mg/kg/minute as and when required. Haematological and biochemical parameters were recorded to evaluate the effect of propofol anaesthesia on various physiological functions. Complete blood count revealed no significant difference in total leukocyte count, packed cell volume, total erythrocyte count, haemoglobin and differential count, in all the three groups. No significant differences were recorded in SGPT, SGOT, BUN and creatinine values in all the three groups during the peak of anaesthesia.

7.14 Evaluation of Propofol in Combination with Ketamine and Fentanyl Citrate in Canine

Singh, Neeti, Gahlod, B.M., Patil,S.N. and Dhakate, M.S.
Nagpur Veterinary College, Nagpur, (M.H.)

The study was carried in twelve healthy male dogs between 10-12 kg body weight and were randomly divided into two groups consisting of six dogs in each group.

In group A, ketamine hydrochloride was administered IV @ 5 mg /kg body weight and propofol, after a pause of 2 minutes @ 5 mg /Kg IV. In group B, fentanyl citrate was administered @ 0.005 mg/kg IV and after a pause of two minute propofol @ 5 mg/kg body weight was IV as a bolus dose. Ketamine hydrochloride and fentany l citrate in combination with propofol for assessment of general anaesthesia in canine with reference to induction time, duration of anaesthesia, recovery period, clinical, haematological and biochemical changes and also electrocardiographic tracing were recorded and result are presented.

The duration of surgical anaesthesia lasted for longer duration in fentanyl + propofol group as compare to ketamine + propofol group.

7.15 Clinico-Physiological and Haemato-Biochemical Response to Xylazine-Propofol Anaesthesia in Pigs

Tiwari, S.K., Sharda, R., Mishra, O.P., Ingole, S.P., Chourasia, S.K., Jogi,S.and Dewangan, R.
College of Veterinary Science and A. H. Anjora, Durg (C.G.)

Clinically healthy pigs (5) of either sex aging 4 to 6 months were administered propofol @ 5mg/kg body weight intravenously 10 minutes after

premedication with xylazine @ 1 mg/kg intramuscularly. The onset of anaesthesia, duration of anaesthesia and complete recovery recorded were 0.87±0.041 minutes, 40.6±2.204 minutes and 64±1.87 minutes, respectively. There was significant but transient rise in heart rate (80±1.00 to 95.2±4.31) after administration of propofol. Initially, there was transient fall in respiratory rate following premedication with xylazine. Haemoglobin, packed cell volume and total erythrocyte count showed decreasing values upto 60 minutes whereas total leucocyte count increased significantly. Serum glucose (87.66±1.453 to 96.33±0.088 mg/dl) BUN (12.66 ± 0.272 to 13.73 ± 0.133 mg/dl) and creatinine (1.43 ± 0.088 to 1.63 ± 0.088 mg/dl) values increased at 30 minutes from base values following propofol administration.

7.16 Evaluation of Atropine as Preanaesthetic to Diazepam-Thiopentone Anaesthesia in Buffalo Calves

Bindlish, Suneet, Singh, Sukhbir, Peshin, P.K., Singh, Jit and Kumar, Ashok
College of Veterinary Sciences Hisar, (Haryana)

Twelve experimental trials were done on healthy male buffalo calves of six months to one year of age to evaluate the safety of atropine-diazepam-thiopentone anaesthesia. Atropine (0.04 mg/kg) and diazepam (0.2 mg/kg) were used as a premedicants and thiopentone was administered 'to effect' i.e. till swallowing reflex was abolished. The combination produced poor analgesia and acute respiratory depression. There were no significant effects on haematological and blood biochemical parameters. However, blood glucose concentration increased moderately after thiopentone administration. The effects of combinations on the cardiovascular and respiratory systems were marked and erratic. Heart rate remained elevated throughout the experiment. Marked reduction in pulse pressure was a consistent feature. [illegible] developed prolonged apnoea and considerable hypoxaemia along with hypercapnia.

7.17 Evaluation of Glycopyrrolate-Diazepam-Thiopentone Anaesthesia in Buffalo Calves

Bindlish, Suneet, Singh, Sukhbir, Peshin, P.K., Kumar, Ashok and Singh, Jit
College of Veterinary Sciences Hisar, (Haryana)

Twelve experimental trials were done on healthy male buffalo calves of six months to one year of age to evaluate the safety of glycopyrrolate-diazepam-thiopentone anaesthesia. Glycopyrrolate (0.02 mg/kg) and diazepam (0.2 mg/kg) were used as premedicants and thiopentone was administered 'to effect' i.e. till swallowing reflex was abolished. There was a significant decrease in rectal temperature after thiopentone administration and significant rise in respiratory rate after the administration of diazepam and thiopentone. The combination produced poor analgesia and acute respiratory depression. There were no significant effects on haematological and blood biochemical parameters. Heart rate remained elevated throughout the period of observation. Prolonged apnoea was a consistent feature. Animals showed decrease in artertial pH with considerable hypoxaemia and hypercapnia.

7.18 Studies on Pentazocine Lactate as Tranquilizer in Diazepam - Ketamine General Anaesthesia in Dogs

Kasundra, J.K., Kelawala, N.H., Dabhi, D.B., Hadiya, K.K., Patil, D.B., Gupta, Poonam, Desai, T.J., Parikh, P.V., and Tank, P.H.
College of Veterinary Sciences and A.H., Anand, (Gujarat)

Studies were conducted in 15 dogs randomly divided in three groups of five animals each. Animals were premedicated with atropine sulphate @ [illegible]

mg / kg, IM 20 minutes prior to experimentation. Animals were given pentazocine lactate 1 mg / kg I/V followed by bolus dose of diazepam @ 0.5mg / kg plus ketamine hydrochloride @ 10 mg / kg, IV in the same syringe (Group I); pentazocine lactate @ 2 mg IV, followed by diazepam @ 0.5 mg / kg plus ketamine hydrochloride @ 10 mg / kg IV (Group 2) and diazepam @ 0.5 mg / kg plus ketamine hydrochloride @ 10 mg / kg IV (Group 3, control). Clinical and haematological parameters were studied. Quality of anaesthesia was judged by performing various operations. Duration of anaesthesia and recovery time significantly increased in animals of group 1 and 2, as compared to animals of group 3, however, no significant difference was noted at different dosage of pentazocine lactate. Pentazocine lactate @ 1 mg / kg IV can be used as an adjunct to diazepam - ketamine anaesthesia in dogs.

7.19 Evaluation of Midazolam as a Sedative in Calves

Chander, Subhash, Singh, Kuldip, Kumar, Ashok and Singh, Jit
College of Veterinary Sciences Hisar, (Haryana)

After pilot trials to standardize the dose, midazolam 0.3 mg/kg was injected in six calves for sedation and haematological, blood biochemical studies. Haemodynamic studies were done in the same animal after a gap of six weeks. Within one minute of midazolam administration, the animals were ataxic and went into lateral recumbency in 2 ± 0.3 minutes of drug administration. There was no analgesia and swallowing reflex was not abolished. They attained standing position with ataxia by 27 ± 3 minutes but complete recovery took 40 ± 3 minutes. There were no significant changes in the rectal temperature, respiratory rate and plasma concentration of total proteins and creatinine, a marginal but statistically significant decrease was observed in the Hb, PCV at the time of recovery. There was a moderate increase in the blood glucose concentration during the peak effect of the drug and at the time of recovery but the values were normal in 24 hours. The changes in plasma cholesterol concentration were variable. Within 2 minutes of administration of midazolam, a statistically significant increase in mean arterial pressure and heart rate was observed along with significant reduction in central venous pressure. After 2 min the mean arterial pressure gradually declined to near base values by 50 minutes. However, the heart rate continued to be elevated along with reduced central venous pressure up to the end of the observation of 70 minutes.

7.20 Evaluation of Midazolam-Ketamine Anaesthesia in Goats: Sedative and Haemato-Biochemical Studies

Singh, Kuldeep, Tayal, Rishi, Kumar, Ashok, Chawla, S.K., Singh, Jit and Behl,S.M.
College of Veterinary Sciences, Hisar,(Haryana)

Studies were conducted to evaluate effects of ketamine HCl @ 5mg/kg body weight in combination with midazolam@ 0.4 mg/kg body weight intravenously in 10 goats. Administration of midazolam was followed by ketamine after 5 minutes. Body temperature, heart rate and respiratory rate were not affected. Animals went into lateral recumbency by 1.20 ± 0.17 minutes of midazolam administration. Abolition of palpebral, corneal and swallowing reflex was observed immidatelly after administration of ketamine. Muscle relaxation and analgesia was good and lasted for about 30 minutes. Complete recovery occurred after 71.43 ± 4.70 minutes. Apnoea was a consistent feature after midazolam- ketamine anaesthesia and therefore intubation of these animals was needed. Blood biochemical($(Na^+$, K^+, Ca^{++}, Mg^{++}, Cl^-)and haematological parameters were not effected significantly throughout the period of study.

7.21 Studies to Evaluate Effects of Midazolam-Ketamine Anaesthesia on Haemodynamics, Acid Base and Blood Gas Parameters in Goats.

Singh, Kuldeep, Tayal, Rishi, Peshin, P.K, Chawla, S.K., Singh, Jit and Behl, S.M.
College of Veterinary Sciences, Hisar,(Haryana)

Effects of midazolam-ketamine anaesthesia on haemodynamics, acid base and blood gases status were evaluated in 10 goats. Administration of midazolam (0.4 mg/kg) was followed by ketamine (5 mg/kg) after 5 minutes. No statistically significant effects were observed on the mean arterial pressure following midazolam-ketamine administration. The cardiovascular parameters indicated that pressor response of ketamine was completely blunted by preadminstration of midazolam in these animals. Primary T wave changes were observed on electrocardiogram (ECG) in most of the animals. Alveolar hypoventilation was evident by hypoxaemia and desaturation of haemoglobin. Considerable hypercarbia was present in most of the animals. There was no evidence of tissue hypoxia as oxygen delivery was compensated by extracting more oxygen from venous site as indicated by considerable increase in oxygen extraction ratio.

7.22 Comparative Evaluation of Different Neuroleptic Combinations in Horses

Hussain, S.S., Makhdoomi, D.M., Moulvi, B.A. and Gupta S.
Faculty of Veterinary Sciences and A. H. Srinagar,(J and K)

A comparative evaluation of different neuroleptics was undertaken in horses of either sex using three combinations at different dose rates. Diazepam 0.5 mg, Lignocaine 0.2 mg, xylazine 1.5 mg and ketamine 3.5 mg / kg body weight intravenously in group I, diazepam 0.4 mg, lignocaine 0.2mg and xylazine 1.5 mg per kg intravenously and triflupromazine hydrochloride 1 mg per 10 kg body weight in group II and diazepam 0.5 mg, ketamine 3.0 mg, xylazine 1.5mg and haloperidol 0.25 mg per kg body weight intravenously in group III. The vital clinical signs and haematobiochemcial parameters were recorded. Animals of group III showed better neuroleptanalgesia 35±2.80 minutes compared to group I (25±2.5 minutes) and group II (20.0±1.80 minutes) and can be given safely in horses for minor surgical interventions. The study revealed no adverse effects on cardiopulmonary, liver and kidney functions.

7.23 Failure of Yohimbine in the Reversal of Xylazine Anaesthesia in Two Cases of Camels

Jadon, N.S. and Kumar Amresh
College of Veterinary and Animal Sciences, Pantnagar, (Uttaranchal)

Xylazine was administered (0.2 mg/kg) intravenously in atropinised camels. Fifteen minutes after the administration of xylazine or onset of sedation, yohimbine was administered intravenously (0.25 mg/kg). Xylazine sedation could not be reversed even after the second dose of the yohimbine (0.25 mg/kg). Symptoms of the bradycardia, respiratory depression, ruminal stasis, hypothermia and hyperglycemia remained for 2-3 hours. Animals recovered after 2-3 hours.

7.24 Comparative Evaluation of Xylazine-Ketamine, Xylazine-Thiopentone and Xylazine-Halothane in Traumatized - Anaemic Canine Patients

Yadav, D.K., Jodan, N.S., Kumar Amresh and Singh, G.D.
College of Veterinary and Animal Sciences, Pantnagar,(Uttaranchal)

The study was conducted on twenty traumatized anaemic dogs divided into 3 groups of 6 animals each. All animals were premeditated with atropine sulfate (0.04 mg / kg IM) and xylazine

mg / kg I.V.). Ten minutes after the administration of xylazine the animals of group 1, 2 and 3 were subjected to administration of ketamine (6.5 mg / kg IM), thiopentone sodium to effect intravenously and halothane @ 4% (v/v) respectively. Efficacy of anaesthetic drugs was evaluated by determining various clinico-physiological, haemato-biochemical parameters at different time intervals.

7.25 Reversal of Epidural Detomidien with Yohimbine and Atipomezole in Camels

Jadon, N.S., Kumar, Amresh and Kandpal, Manjul
College of Veterinary and Animal Sciences, Pantnagar, (Uttaranchal)

Twelve atropinized adult camels used in the study were subjected to the epidural administration of detomidine (40 µg / kg). Theses animals were divided into 2 groups and effect of detomidine was revered by intravenous administration of yohimbine (0.125 mg / kg) and atipamezole (15 µg/kg) in the animals of group 1 and 2 respectively. The epidural administration of detomidine produced bradycardia, hypothermia, respiratory depression and hyperglycaemia and these effects were completely reversed within 5 to 10 minutes after the intravenous administration of atipamezole and yohimbine without any sign of excitement. Atipamezole reversed the detomidine sedation more rapidly than yohimbine.

7.26 Reversal of Sedative and Clinicophysiological Effect of Epidural Xylazine with Yohimbine and Atipamezole in Camels

Jadon, N.S., Kumar, Amresh and Kandpal, Manjul
College of Veterinary and Animal Sciences, Pantnagar, (Uttaranchal)

Sedative and clinico-physiological effect of xylazine (1.0 mg /kg.) administered epidurally to a group of 12 camels equally divided into two (group 1 and 2) were reversed by intravenous administration of yohimbine (0.125 mg / kg) and atipamezole (15 µg / kg). Epidural administration of xylazine produced bradycardia, respiratory depression, decrease in body temperature and ruminal stasis. These effects were completely reversed within 4-5 and 8-10 minutes after the intravenous administration of atipamezole and yohimbine respectively.

7.27 Evaluation of Acepromazine as a Sedative in Calves

Chander, Subhash, Singh, Kuldip, Singh, Jit and Kumar, Ashok
College of Veterinary Sciences Hisar, (Haryana)

After pilot trials to standardize the dose, acepromzine 0.2 mg/kg was administered intravenously to six calves for sedation and haematological and blood biochemical studies. After a gap of six weeks haemodynamic studies were conducted in the same calves. After administration of the drug, the calves were ataxic in 14±4 minutes, penis was relaxed and sternal recumbency was assumed on 21±4 minutes. Swallowing reflex was not abolished. There was no analgesia. Animals were standing with ataxia after 46±5 minutes although complete recovery took 86±3 minutes. There were no significant changes on the respiratory rate, rectal temperature, and haematological parameters and plasma concentration of cholesterol, total protein and creatinine. Significant hyperglycaemia was observed during the peak effect of the drug and at recovery time. The blood glucose levels were near the base value by 24 hours after drug administration. Moderate hypotension and compensatory tachycardia developed gradually after administration of acepromazine, on a percentage basis. There was 25% reduction in mean arterial pressure along with 67% increase in heart rate. The values fail to return to normal within the period of observation of 110 minutes. The changes in central venous pressure were not significant.

7.28 Use of Neostigmine as an Additive to Epidural Analgesia in Dogs

Kelawala, N.H., Dabhi, D.M., Kasundra, J.K., Hadiya, K.K., Patil, D.B., Parikh, P.V., Desai, T.J. and Tank, P.H.
College of Veterinary Sciences and A.H., Anand, (Gujrat)

Studies were conducted in 15 dogs randomly divided in to three groups of five dogs each for use of neostigmine as an additive to lignocaine for epidural analgesia in dogs. Animals for group I were given epidural lignocaine @ 1 mg / kg, while that of groups 2 and 3 were given epidural lignocaine @ 1 mg / kg and additionally neostigmine @ 25 μg/kg (Group 2) and 50 μg/kg (Group 3). Total volume of injection was made uniform (2 ml) by adding Normal saline solution. Duration of anaesthesia and recovery time was significantly longer in animals of group 2 and 3 compared to group I. However, there was no significant difference between animals of group 2 and 3.

7.29 Effects of Xylazine, Ketamine and Combination of Xylazine-Ketamine as Epidural Anaesthesia in Male Buffalo Calves - An Experimental Study

Sharda, Raju, Dutta, G.K., Sharda, Namrata and Tiwari, S.K.
College of Veterinary Science and A.H., Anjora, Durg (C.G.)

Eighteen healthy male buffalo calves aged between 6 to 10 months, used in this study were divided equally in three groups of 6 animals each. In group I, xylazine (0.1 mg/kg), group II, ketamine (2.5 mg/kg) and in group III, both xylazine and ketamine (0.1 mg + 2.5mg/kg) were used as epidural anaesthesia after diluting it in sterile normal saline. The onset of analgesia was 6.12 ± 0.23 minutes in group I, 3.35± 0.18 minutes in group II and 3.78 ± 0.21 minutes in animals of group III. The duration of analgesia was 66.0± 2.98 minutes, 46.0 ±2.[illegible] minutes and 89.0 ±2.68 minutes in group I, II and III respectively. The loss of sensation to pinprick was observed from tip of tail, perineum, scrotum and inner aspect of thigh up to sacral region. The duration of salivation was 20.0± 1.08, 12.0 ± 1.09 and 29.0 ±1.12 minutes in animals of group I, II and III respectively. Following epidural administration of drugs in group I and III, animals showed severe hind limb incoordination, which was comparatively less in animals of group II. Administration of xylazine alone (group I) and in combination with ketamine (group III) produced bilateral analgesia which extended cranially up to sacral region and caudally up to tip of tail, perineum, scrotum and inner thigh. In animals of group II, the anaesthesia was bilateral, but did not extend up to sacral region. Sedation, frequent urination, decreased respiration, heart rate and rectal temperature were observed in animals of all the groups. The duration of anaesthesia was longer in xylazine-ketamine (Group III) as compared to xylazine (Group I) and ketamine (Group II) groups alone.

7.30 Clinico-Physiological Studies on Epidural Effects of Buprenorphine in Combinations with Bupivacaine, Xylazine and Ketamine Hydrochloride in Dogs

Sharma, Y.K., Pandey, S.S., Pandey, S.K. and Sharma, R.K.
College of Veterinary Science and A.H., MHOW, (M.P)

Six healthy mongrel dogs of either sex, weighing 10- 20 Kg were used for the present experiment. Atropine sulphate @ 0.04 mg/kg was administered IM 20 minutes prior to each treatment in all the dogs. In treatment I, each animal received buprenorphine hydrochloride@ 0.05 mg/kg and bupivacaine hydrochloride 0.5% @ 1 mg/kg treatment II buprenorphine hydrochloride@ 0.05 mg/kg and xylazine

hydrochloride @ 0.75 mg/kg and in treatment III, buprenorphine hydrochloride @ 0.05 mg/kg and ketamine hydrochloride @ 3 mg/kg was administered epidurally at the lumbosacral space.

The mean induction time was 2.40 ± 0.15, 2.72 ± 0.19 and 3.65 ± 0.30 minutes for treatment I, II and III respectively. The onset value of analgesia in treatment III differ significantly ($P<0.05$) with treatments I and II. Similarly the average duration of analgesia for treatment I was 70.93 ± 3.92 minutes whereas it was 88.44 ± 2.70 and 112.68 ± 3.40 minutes in treatment II and III respectively. The duration of analgesia of treatment III differed significantly ($P<0.05$) from treatment I and II. Significant decrease in pulse, heart and respiratory rates was seen in treatment I and II, while there was increase in treatment III. The body temperature was decreased significantly in all the three treatments.

7.31 Haemato-Biochemical Studies on Epidural Effects of Buprenorphine in Combination with Bupivacaine, Xylazine and Ketamine Hydrochloride in Dogs

Sharma, Y.K., Pandey, S.S., Pandey, S.K., and Sharma, R.K.
College of Veterinary Science and A.H., MHOW, (M.P)

The study was conducted on six healthy mongrel dogs of either sex weighing approximately 10-20 Kg. In treatment I, each animal received buprenorphine hydrochloride@ 0.05 mg/kg and bupivacaine hydrochloride 0.5% @ 1.0 mg/kg treatment II, buprenorphine hydrochloride@ 0.05 mg/kg and xylazine hydrochloride @ 0.75 mg/kg and in treatment III, buprenorphine hydrochloride as in treatment II and ketamine hydrochloride @ 3.0 mg/kg was administered epidurally at the lumbosacral space.

Significant increase in plasma glucose, serum ALT, serum ALP, plasma total bilirubin, blood urea nitrogen and serum creatinine levels was observed in all the three treatments whereas in the serum total protein, packed cell volume, haemoglobin, eosinophil, monocyte, erythrocyte count and leucocyte count were non significant however significant changes was observed in neutrophil and lymphocyte count.

7.32 Mapping of the Area of Desensitisation of T_{10} to L_3 Spinal Nerves in Goats Using Proximal Paravertebral Anaesthesia

Martin, John, Syam, K.D., Deepak, K.V., Tulpule, S. and Sarada Amma T.
College of Veterinary and Animal Sciences, Mannuthy, (Kerala)

The tenth thoracic to third lumbar spinal nerves were blocked individually in three Alpine- Malabari adult male goats, each using the technique of proximal paravertebral anaesthesia with bupivacaine hydrochloride 0.5 % solution and the area of desensitisation was mapped. The area of analgesia started from dorsal midline in all cases, extended caudo-ventrally and terminated at varying distance between the level of costal arch and the ventral midline. The areas of desensitisation in all these nerves had shown a posterior bend at the upper third of the body wall. The extent and the direction of the mapped area were decided by the direction of the course of individual nerves and overlapping of dermatomes of other nerves.

7.33 Clinico-physiological and Haemato-biochemical Studies on Electroacupuncture of Acupoint, LIV-14, LI-30 and GV-20 in Cow Calves

Singh, K.A.P., Kumar A. and Jadon N.S.
College of Veterinary and Animal Sciences, Pantnagar, (Uttaranchal)

Eight clinically healthy male cow calves were divided into two groups. The animals of group I were

subjected to electrostimulation of LIV - 14, BL-30 and GV-20 acupoints and animal of group 2 were treated with LIV-14, BL-30 and GV-20 with sedative (Diazepam) @ 0.5mg/kg body weight. Efficacy of the electrostimulation analgesia was determined by observing clinico-physiological and haematological parameters.

A non-significant ($P>0.05$) increase in temperature and heart rate up to 15 minutes followed by a gradual and non-significant ($P>0.05$) decrease was observed in both the groups. The respiratory rate was comparatively higher in the animals of group 2 at respective time intervals. A significant ($P<0.05$) increase in TLC level was observed in both the groups. The extent of analgesia and area of desensitization of abdomino-pelvic region was more in the animals of group 2 as compared to group 1.

LARGE ANIMAL SURGERY

8.1.1 Surgical Correction of Enopthalmos in a Bull - A Case Report

Kelawala, N.H., Parikh, P.V., Patil, D.B., Rane, G.U., Desai, T.J.and Patel, B.M.
College of Veterinary Science and A.H., Anand, (Gujrat)

A Gir bull (550 kg) with the history of enopthalmos due to dropping of hypertrophied frontalis muscle over the orbital crest was treated. Surgery was performed under xylazine sedation and local infiltration analgesia. Elliptical skin was excised and vision was restored.

8.1.2 Surgical Management of Ocular Dermoids in Crossbred Calves- Case Reports

Ansari, Md. Moin, and Bachoo, B.A.
Faculty of Veterinary Sciences and A.H., Shuhama, Srinagar, (J and K)

Successful surgical repair of dermoid cysts in the eyes of two crossbred calves was reported. Dermoids cysts located at conjunctiva in one calf and bilateral dermoids located at both conjunctiva and cornea in the other calf. Dermoidectomy was performed under retrobulbar and auriculopalpebral nerve blocks.

8.1.3 Different Congenital Anomalies in Animals

Jaiswal, S. and Singh, H. N.
College of Veterinary Science and A.H., Kumargunj, Faizabad, (U. P.)

During last one year different cases having congenital anatomical malformation were reported. Three cases are of contracted tendon, two were atrasia ani, one of atrasi ani with recto-vaginal fistula, one case of vaginal atrasia and one case of congenitally joined monozyotic twin. All the cases except congenitally monozyotic twins were treated surgically.

8.1.4 Surgical Removal of Bilateral Nasal Growth in Bovine

Gangwar, A.K. and Singh, H.N.
College of Veterinary Science and A.H., Kumargunj, Faizabad, (U. P.)

A five year old non-descript cow was presented with the history of slight bleeding from both the nostrils and difficulty in breathing. Clinical examination revealed bilateral nasal growths. Aseptic surgery was carried out under xylazine sedation and local infiltration of 2% lignocaine hydrochloride. Unilateral rhinotomy was performed. A 5" long incision was made on dorso-lateral aspect of the nostril incising skin and cartilage. A strip of 0.5" wide nasal bone was removed to provide sufficient working space. Multilobulated nasal growth was excised and removed. The wound was closed in routine manner. Same procedure was performed on contra-lateral side after a gap of 20 days.

8.1.5 Microbial Status of Peritoneal Cavity and Extra Ruminoreticular Abscesses in Buffaloes Suffering with Traumatic Reticuloperitonitis (TRP)

Chaudhary, R.N. and Tayal, R.
College of Veterinary Sciences, Hisar, (Haryana)

The swab from peritoneal cavity, of 22 buffaloes on which laparo-rumenotomy was performed for treatment of TRP, taken just after incising parietal peritoneum showed no infection on cultural examination.

Out of these 22 buffaloes 3 had extra reticular abscess. The swab of pus in two cases revealed a mixed infection of *Corynebacterium pyogenes* and

Gram negative rods. In antibiotic sensitivity test these microbes were sensitive to neomycin, amikacin and other recently developed antibiotics.

8.1.6 Caecal Impaction in Buffalo- A clinical Case Report

Sahu, Anoop, Sharma, P. D., Hansraj and Behl, S. M.
College of Veterinary Sciences, Hisar, (Haryana)

A two-month pregnant, 5 year old buffalo was admitted with the history of anorexia and no defaecation since last 8 days. There was metabolic alkalosis (pH»7.6) with hypochloraemia (Cl»75mmol/L), hypokalaemia (K»2.4mmol/L) and hypocalcaemia (Ca»1.40mmol/L) preoperatively. The exploratory laparo-rumenotomy revealed normal cardiac opening and reticulo-omasal groove but there was omasal impaction. Exploration of the abdominal cavity revealed small intestinal distension with gas and ingesta. The caecum was in its normal position but highly distended and firmly impacted. Typhlotomy was performed at the apex and hard impacted ingesta was evacuated manually. Post-operatively 2.7% hypertonic saline solution, antibiotic (oxytetracyclin + streptopenicillin), analgesic, neostigmine and B-complex was administered for 5 days.

8.1.7 Successful Management of Fecolith in a Rhinoceros

Sarkate, L. B., Lokhande, D. U. and Khandekar, G.S.
Bombay Veterinary College, Parel, Mumbai, (M.H.)

A 25 year old male rhinoceros of Veer Jijamata Zoo of Mumbai were refered for the treatment of loss of appetite and suspended defecation. Rhino showed signs of straining, abdominal pain and lateral recumbancy with frequent sitting and getting up for 4 days. Later the animal stopped moving around in the open space and did not enter in the pond. Further the condition of rhino deteriorated and it became [illegible] depressed and dehydrated. Blood examination [illegible] show any alterations in the cellular pattern. [illegible] examination did not reveal presence of any cyst or [illegible]

Treatment with injectable perinorm and [illegible] with esabgoal remained unsuccessful. Per [illegible] examination conducted under xylazine sedation on [illegible] day revealed hard ball like structure in the pos[illegible] abdomen. Hence enema was given using 25 [illegible] castor oil, twice in a week. Attempts for pas[illegible] stomach tube for administration of oral laxative [illegible] Calcium gluconate was given intravenously while 30[illegible] of neostigmine was administered daily for 3 days. [illegible] big faecolith on 28th day were expelled following [illegible] onset of abdominal pain. Later rhino gradually recover[illegible] completely.

8.1.8 Urethral Rupture Distal to Sigmoid Flexure in a Buffalo Calf

Sharma, P. D., Sahu, Anoop., and Singh, Kuldeep
College of Veterinary Sciences, Hisar, Haryana

A buffalo calf aged four months was presented with the complaint of anuria since five days. There was subcutaneous infiltration of urine throughout whole ventral aspect of the body from brisket to perineal region. The urinary bladder was intact and animal was constantly straining for urination. Post scrotal urethrotomy revealed inflamed urethra and appeared hard cord like. Again post scrotal urethrotomy was performed and 1.5 cm long rupture was found distal to sigmoid flexure. Urethra was flushed with normal saline and catheterized from the site of rupture. Animal started urination just after catheterization. Multiple stab incisions were given in the skin along the sheath over the oedamatous area. The wounds were regularly dressed with magnesium sulphate and glycerin paste. The odematous skin was infiltrated with antibiotics and anti-inflammatory drugs subcutaneously. Uremia was characterized by increased blood urea nitrogen and plasma creatinine concentration.

hypocalcaemia hypomagnesaemia, hypoproteinemia and hyperphosphatemia. Bacteriological examination revealed mixed infection of *Escherichia coli* and *Staphylococcus* spp. Post-operative therapy included antibiotics, anti-inflammatory, vitamin B complex and fluid therapy for five days with daily antiseptic dressing.

8.1.9 Ectopic Pregnancy in Goat: A Case Report

Patil., D.B., Kelawala., N.H, Tank, P.H., Parikh, P.V., Patel., B.M. and Desai T.
College of Veterinary Sciences and A.H., Anand (Gujrat)

A goat with a history of abnormal abdominal enlargement anterior to udder and difficulty in parturition was presented. X-ray revealed foetal skeleton inside the distended abdominal cavity. Following laparotomy, the macerated foetus was removed.

8.1.10 Penile Osteactomy in Calf

Gupta, R. P.
Veterinary Hospital, Bijuri Disst - Annuppur (M.P.)

A calf aged approximately 8 months was reported to have protrusion of penis from ruptured scrotum following extensive injury. Penis become edematous and hyperaemic. Catheterization was not possible. The animal was unable to pass the urine from last 24 hours. Operation was performed under triflupromazine premedication @ 1 ml/100 kg body weight IV and epidural anesthesia using 2% lignocaine hydrochloride. Post scrotal urethrostomy was performed in usual manner and protruded part of penis was amputated.

8.1.11 Scrotal Abscess in a Bullock and its Management

Tiwari, S.K., Dewangan, Rukmani and Raju , J. V. B.
College of Veterinary Science and A.H., Anjora, Durg (C.G.)

A bullock aged 7 years was brought with the complaint of scrotal swelling. The animal was dull and depressed with rise in temperature and difficulty in moving due to abducted hind legs. The testicles were swollen and painful. Animal was controlled in lateral recumbency and 2% lignocaine HCL was infiltrated on the top of the scrotal sac. On palpation of swelling, a fluctuating point was observed. Exploratory puncture reveals it an abscess. The abscess was incised and all the pus was removed. After evacuation, abscess was irrigated with betadine solution and was packed by gauze soaked with tincture benzoin.

8.1.12 Hydatid Cyst in a She-Goat

Kumar, K. and Sarika
Shri Nathji Pets Clinic and Parlour, Sadar, Lucknow (UP)

There were two hard and fluctuating masses in the inguinal region in a goat. 10-15 ml of clear fluid was aspirated from each mass. Intamox 0.5 gm and dexamethasone 0.5 ml was infused for 3 days without any significant result. The masses were excised and skin was sutured routinely. Examination identified it as hydatid cyst.

8.1.13 Surgical Management of an Unusual Cyst in a Cow

Gupta, R.P.
Veterinary Hospital Bijuri Distt- Annuppur (M.P.)

A cyst on the jugular furrow was seen in a cow. Aspiration of the swelling revealed straw coloured fluid. Operation was performed under triflupromazine premedication (1 ml/100 kg body weight) and local infiltration of 2% lignocaine hydrochloride. A linear incision was made over the cyst and fibrous adhesion of the capsular lining of cyst from the surroundings tissue was dissected and excised from the base. The wound

was closed in the routine manner.

8.1.14 Surgical Treatment of Parasitic Cysts in Ruminants

Dilipkumar, D., Usturge, S.M. and
Shivaprakash, B.V.
Veterinary College, Bidar, (Karnataka)

In four cows the cysts were located in abdominal muscles and quadriceps muscles and in sheep it was located in the lateral aspects of thigh. Complete excision of cyst was possible in sheep whereas, the cyst were large in cows hence they were incised and drained in three out of four animals.

8.1.15 An Unusual Cyst in a Buffalo Heifer

Asgar, Mohd., Chandrapuria, V.P. and
Rao, M.L.V.
Veterinary Assistant Surgeon, Salichouka, District Narsinghpur (M.P.)

The animal after pre-operative preparation was sedated with 1.5 ml of xylazine by intramuscular route and operative area was infiltrated with 2% lingoecaine hydrochloride. After elliptical skin incision over brusied area the complete cyst was enucleated carefully without rupture. The subcutaneous tissue and the skin edges were approximated. Animal recovered without any complication.

8.1.16 Lactoliths in a Buffalo

Jain, V. K.
College of Veterinary Sciences, Hisar, (Haryana)

Lactoliths were creating problem while milking the animal by causing frequent teat obstruction in a buffalo. On external palpation and applying pressure a few lactoliths of pearl millet size were extracted from the teat. Antibiotics (amoxicillin and cloxacillin), antioxidant (ascorbic acid) and nonsterodial anti-inflammatory drug (asprin) were administered for five consecutive days.

8.1.17 A Large Oral Squamous Cell Carcinoma in a Buffalo

Sharma, P.D., Singh, Prem and Gupta, R.P.
College of Veterinary Sciences, Hisar, (Haryana)

Examination of the buccal cavity revealed tumourous growth in the premolar and molar area extending up to the angle of jaw on the left side in a year old buffalo. Animal was unable to take feed properly due to growth that causes interference in mastication. Animal was operated under xylazine sedation and pedunculated growth was removed with the help of hook. The animal started taking green grass and gained health and weight. Histopathological examination revealed squamous cell carcinoma along with neutrophilic infiltration due to secondary bacterial infection.

8.1.18 Odontoma in a Cow

Asgar Mohd.
Veterinary Assistant Surgeon, Salichouka, District Narsinghpur (M.P.)

A cow aged about 10 years with a cricket ball size swelling on lower gingival pad was attended. There was anorexia, drooping of saliva and debility. The tumerous mass was adhered with inner gingival margin of right incisor. One of the incisor was embedded by the tumourous mass and projecting outwards through the lower lip.

The cow was sedated with xylazine 1.5 ml intramuscular followed by local infiltration of the mass with 2% lignocaine hydrochloride. The periphery of the mass was incised and embryotomy wire was inserted deep at the base of tumour and the tumour was extirpated. The remnant of the mass was chipped off

with sharp chisel. The gross examination of the tumour mass was suggestive of odontoma. No reoccurrence has been noticed upto one year after surgery.

8.1.19 Surgical Treatment of Squamous Cell Carcinoma of Ventral Abdominal Region in a Heifer - A Case Report

Bachoo, B.A., Ansari Md.Moin, Kamil S.A. and Nashiruddullah N.
Faculty of Veterinary Sciences and A.H., Shushama, Srinagar, (J and K)

A 3 year heifer was presented with an apparent ulcerative growth surrounded by thick horny edges developed over 32 days on its ventral abdominal region was operated successfully under Diazepam sedation and local infiltration analgesia . The skin wound was closed in routine manner. The case was diagnosed as squamous call carcinoma clinically and the diagnosis was confirmed on histopathological examination.

8.1.20 Successful Surgical Excision of Capped Knee in a Buffaloe

Dilipkumar, D., Mahesh, A., Jahangir, D. Manjunath, S.M., Vishwanath, H. and Usturge, S.M.
Veterinary College, Bidar, (Karnataka)

A case of left capped knee in a buffalo has been excised by cranio-lateral curvilinear incision and skin was sutured by vertical matters suture using No. 1 silk. The limb was placed under Bamboo splint support for a week. The sutures were removed after 16 days.

8.1.21 The Abbatoir Study of Radiographic Changes in Bone and Joint of Digital Region in Cattle

Parizi, Meimandi, A., and Shakeri, M.
School of Veterinary Medicine, Shiraz University, Shiraz, (Iran)

This study was conducted to recognize radiographically, bone and joint lesions of digital region in cattle including phalangeal rotation, anatomical changes, bone reaction and density changes, ossification of lateral cartilage of third phalanx, osteomyelitis, displacement of distal sessamoid, fracture, bony ankylosis of joint, arthritis, degenerative joint disease, abscessation and polydactylia. In 29% of cases no radiographic changes were observed.

SMALL ANIMAL SURGERY

8.2.1 Bilateral Cherry Eye in a Young Dog -A Case Report

Patil, D.B., Kelawala, N.H., Rane ,G.U., Parikh, P.V., Desai, T.J., Patel, S.S. Tank, P.H. and Patel, B.M.
College of Veterinary Science and A.H., Anand, (Gujrat)

Successful surgical management of bilateral cherry eye condition in a Great Dane pup under local infiltration analgesia is delineated. Uneventful recovery was observed.

8.2.2 Unusual Bilateral Cherry Eye in a Neapolitan Mastiff Dog

Sheshman, Kumar, Deepesh, Malik, Vivek, Pandey, R.P. and Singh, Bharat
College of Veterinary Sciences, Mathura, (U.P.)

A case of cherry eye in a young Neapolitan mastiff male dog was reported and managed by bilateral excision. The excised glandular mass was unusually large and hard and resembled a small fibroma.

8.2.3 Nonmetallic Penetrating Foreign Body in a Dog - A Case Report

Aruljothi, N., Balagopalan, T.P., Alphonse, R.M.D., and Rameshkumar, B.
Rajiv Gandhi College of Veterinary and Animal Sciences, Pondicherry

A Rajapalayam breed dog aged about one year was brought with a wound on the left wall of abdomen. Fistulous tract was noticed on the abdomen wall with a hard painful swelling on flank region. Dependent edema of the left lower flank and the leg was developing gradually. Hence the animal was prepared for surgical exploration of the abdomen under Ketamine and Xylazine anesthesia. An 8 cm long skin incision was made from the wound site along the fistulous tract caudally to the level of the swelling on flank region. At operated site a 16 cm long cm thick wooden stick was founded embedded in abdominal cavity. It was removed and the area flushed with metronidazole solution and then a corrugated drain sheet was fixed and the wound was closed by routine manner. Injection cefataxim @ gm was given IV for seven days postoperatively.

8.2.4 Laparoscopic Diagnosis of Intestinal Intussusception and its Surgical Management in Dog

Maiti, S.K, Parti, M.K., Singh, M.., Kumar, N. and Singh, G.R.
Indian Veterinary Research Institute, Izatnagar (U.P.)

A non-descript adult male dog was presented with the history of complete anorexia for the last 10 days. Animal's health condition deteriorated drastically. Though urination was normal but defecation was very scanty. Severe straining and occasional rectal prolapse was evident during defecation in a dog. Medicinal treatment was not effective. There was dehydration. Laparoscopic examination revealed large intussusception (Ileo-ileal) in the small intestine. Under atropine-diazepam-Ketamine anesthesia laparotomy was performed and intussuscepted part of intestine was removed. End-to-end intestinal anastomosis was performed using 2-0 poly glycolic acid sutures. Broad-spectrum antibiotic, analgesics and fluid therapy was given for the next 5 days. Animal was maintained completely on liquid diet.

8.2.5 Gastric Obstruction due to Oyster Shells in a Pup

Devanand, C.B ; Narayanan, M.K. and Prasanna, D.
College of Veterinary and Animal Sciences, Mannuthy , Thissur,(Kerela)

Anorexia and vomiting since two days was seen in a German Shepherd pup with history of accidental

ingestion of oyster shells. Distention of abdomen and gritty feeling on palpation on the anterior quadrant was absent. Radiograph of abdomen confirmed the presence of oyster shells packed inside the stomach.

Under premedication with atropine sulfate and triflupromazine hydrochloride followed by thiopentone sodium anesthesia gastrotomy was performed. Ninety five numbers of oyster shells with sharp margins were removed from the stomach itself. Gastrotomy incision was closed in double inversion and laparotomy wound was closed in apposition pattern.

8.2.6 Unusual Adhesive Inguinal Hysterocele with Pyometra in Dog

Malik, Vivek, Kumar, Deepesh, Sheshman, Pandey, R.P. and Singh, Bharat
College of Veterinary Sciences, Mathura, (U.P.)

Herniation of adhesive non gravid uterus via inguinal canal was diagnosed and treated by hysterectomy in a Dachshund bitch aged 7 years. Defaecation, urination and appetite were normal. On clinical examination the hernial ring was not palpable. Reduction was not possible due to presence of unusual adhesions between the abdominal end of the internal inguinal ring and the cervical end of uterus. Total hysterectomy was done. Since reposition of stump at cervical end was not possible a separate 2" midline laparotomy had to be done for adhesiotomy. Following this the hernial ring and abdomen was closed.

8.2.7 Some Clinical Observations on Perineal Hernia in Dogs

Kumar, Deepesh, Malik, Vivek, Sheshman, Pandey, R.P. and Singh, Bharat
College of Veterinary Sciences, Mathura, (U.P.)

Clinical observations on surgical management of six cases of perineal hernia in dogs aged between 8-11 years are reported. Two cases were in German Shepherd and one each in Boxer, Doberman, Lhasa apso and non descript. The content of hernia was either urinary bladder or urinary bladder and a diverticulum of rectum. In one case only, the urinary bladder was found to be undeviated from its normal anatomic location. The surgical treatment consisted of repair of pelvic diaphragm after reduction with cystopexy; cystopexy alone and repair of pelvic diaphragm alone. Cystopexy alone was successful in one case; in other recurrence occurred within a month and herniorrhaphy alongwith cystopexy had to be done. In one case recurrence occurred after four years of herniorrhaphy. Digital rectal examination revealed enlarged prostate gland in every case where the content of hernia was urinary bladder.

8.2.8 Studies on Etiology, Diagnosis and Management of Urolithiasis in Dogs: A Review of 22 Cases

Singh, T., Amarpal, Kinjavdekar, P., Aithal, H. P, Pawde, A. M., Pratap, K. and Singh, G.R.
Indian Veterinary Research Institute, Izatnagar (UP)

The present study was conducted in 22 dogs brought to the clinics with the complaint of urinary obstruction/ incontinence. The confirmatory diagnosis of the cases of obstructive urolithiasis was made by urethral catheterization and radiological examination. Presence of obstruction to catheter and visualization of calculi on radiographs confirmed the diagnosis. Spitz was the most affected breed and the middle aged dogs were more commonly affected. Both male and female dogs were affected but the incidence was more in males. High phosphorus diet and infection were identified as main cause of urolithiasis, however, presence of blood protozoa was also recorded in few cases. Calculi were mostly struvite or oxalates and their exact chemical nature was confirmed by X- ray diffraction studies and physical properties of the calculi were determined by scanning electron microscopy. Surgical treatment varied as per the need of the case and post operative recurrence was

managed by advising suitable feed additive/ control of infection.

8.2.9 Ovarian Growth in Bitch- A Case Report

Lokhande, D. U., khandekar, G. S.,
Sarkate, L. B. and Bhokre, A. P.
Bombay Veterinary College, Parel, Mumbai (M.H.)

An 8 years old Alsatian female dog was presented with history of anorexia since last 15 days. The abdomen was found distended with hard swelling in abdominal cavity. Radiographic finding revealed soft tissue enlarged mass. Exploratory laparotomy was performed under general anaesthesia (Thiopentone sodium). After opening the abdominal cavity a soft tissue mass was located near the right ovary with the mesenteric adhesions. The mass was exteriorized and was found to be growth on right ovary. The mass was 11 inches in diameter. The left ovary, the horns of uterus and body of uterus were anatomically found normal. The growth was then removed by ligating the ovarian artery and ovariohysterectomy was done routinely. The laparotomy wound was sutured in routine manner. On weighing, the growth was found 5.28 kg in weight.

8.2.10 Ocular Manifestations of Transmissible Venereal Tumour in Two Dogs A Report

Ramani, C., Ganesh, T.N., Ancheril, Mathew Jose, Balachandran, C .Nagarajan, L., Suresh Kumar, R. and Ameerjan, K.
Madras Veterinary College, Chennai (T.N.)

A Spitz, female dog, aged 8 years and a non descript male dog, aged 3 years were brought with a history of growth like swelling in the medial canthus of the eye. In case of Spitz there was bleeding from the vagina and nodular thickening of the inguinal mammary gland. Impression smears of the growth in the eye from both the dogs were suggestive of tumour cells. Hence it was decided to perform third eyelid excision and excision biopsy confirmed the tumour mass as transmissible venereal tumour.

8.2.11 Surgical Management of Extensive Lipoma in Cross Bred Female Dog

Sharda, Raju and Tiwari, S.K.
College of Veterinary Science and A.H.
Anjora, Durg (C.G.)

A crossbred Pomeranian with difficulty in walking, restlessness and anorexia was examined clinically, revealed a huge growth occupying almost whole of the abdominal space. After performing laparotomy the whole tumourous mass was removed surgically under general anaesthesia achieved by xylazine @ 1 mg/kg and ketamine @ 5 mg/kg respectively. The closure of the skin wound and postoperative care was done in usual manner. Histopathological examination revealed it lipoma.

8.2.12 Bilateral Rostral Mandibulectomy as a Salvage Procedure for Squamous Cell Carcinoma in a Doberman Pinscher

Kumar, Pawan and Gowda, Basawan
C.U.P.A. Veterinary Emergency Hospital and Animal Shelter, Hebbal, Bangalore, (Karnataka)

An eight months old Doberman female dog was presented with history of inability to eat, halitosis, emaciation and a swelling inside the mouth. On examination there was extensive pinkish red growth of about 4.5 cm size on left rostral region extending upto first premolar and occupying sublingual region. Aspiration cytology and incisional biopsy revealed squamous cell carcinoma. Under halothane anaesthesia bilateral mandibulectomy was performed by cutting the mandible caudal to first premolar level by keeping salivary duct opening undamaged. The oral mucosa and skin were sutured after cutting the extra skin flap

using 2-0 non-absorbable suture with simple interrupted suture technique. Animal was maintained on fluid therapy for three days and parentral antibiotics for 7 days with oral washing with normal saline, wound healed without any severe complication on tenth day.

8.2.13 Chemotherapeutic Management of Canine Osteosarcoma - A Case Study

Ramani, C., Ganesh, T.N; Mathew, Jose; Suresh Kumar, R. and Ameerjan, K.
Madras Veterinary College, Chennai, (T.N.)

A four years old Great Dane bitch with a complaint of anorexia, depression and occasional limping of the right hind limb with no history of previous injury was presented. Clinical examination revealed mild pain while manipulating right hip joint with no neurological deficits. Radiography revealed calcified areas around the femoral head with involvement of soft tissue. Radiographic changes were suggestive of osteosarcoma. Bone biopsy confirmed the radiographic findings. Cisplatin @ 70 mg/m2 in 6 hours diuresis protocol was administered at 3 weeks interval. During the procedure an antiemetic (Metaclopromide) was administered s.o.s. Three doses of injections were given. Focus of the paper is on the chemotherapeutic protocol to be followed during cisplatin administration.

8.2.14 Case Report of Bilateral Hind Limb Fracture in a Great Dane Pup

Prakash, O.S.
Veterinary Officer, Veterinary Hospital, Shimoga, (Karnataka)

A Great Dane pup aged about 7 months was unable to bear weight on hindquarter after accident. After series of radiographic examinations, right limb revealed distal femoral physeal fracture and multiple fracture of tibia. Left limb revealed multiple fracture of tibia. Open reduction and intramedullary pinning was performed under acepromazine (0.25 mg/kg) and thiopental sodium (25 mg/kg) anaesthesia for the fracture of both the limbs. Animal recovered uneventfully.

8.2.15 Surgical Management of Bilateral Mandibular Fracture in a Dog - A Case Study

Ganesh, T.N..,Ramani, C., Halder Samar., Jayaprakash. R., Sureshkumar R. and Ammerjan, K.
Madras Veterinary College, Chennai, (T. N.)

A three year old Doberman bitch was presented with a fractured jaw following an accident. Detail oral examination revealed bilateral fracture of the mandible, and confirmed with radiography. Interdental wiring with No. 22 orthopedic wire was done in a fashion of 'figure 8' around the canine tooth of mandible for fracture stabilization. Fracture of the horizontal ramus of the right mandible was immobilized with orthopedic wire (No. 22) following drilling in both sides of the fracture line.

8.2.16 Surgical Management of Unilateral Mandible Fracture in Dog with an Improvised External Fixator

Balagopalan. T.P., Aruljothi, N., Alphonse, R.M.D. and Rameshkumar, B.,
Rajiv Gandhi College of Veterinary and Animal Sciences, Pondicherry

Radiological examination revealed fracture of right horizontal ramus in a dog. Surgery was performed under inhalation anaesthesia with isoflurane oxygen mixture (2%). The site of the fracture was approached through the lateral incision on the right mandible. Inter fragmentary wiring was done with 20 G stainless steel wire in figure of eight pattern at the fractured site. Precut 1.8 mm K wires were inserted two on either side of the fractured site using bone drill. Projecting ends were aligned and fixed using M. seal in the form of a connecting bar. The animal was maintained with fluid and antibiotic therapy postoperatively. Soft diet was advised during the recovery period.

8.2.17 Surgical Management of Bilateral Femur Fracture in a Dog

Mohindroo, J., Kumar, Ashwani and Singh, Navdeep
College of Veterinary Science, Ludhiana, (Punjab)

A 2¾ year old, female Spitz dog weighing 12 kg was presented with slightly oblique fracture of distal third of the right femur with a split in the proximal fragment and oblique fracture of proximal third of the left femur. Ventro-dorsal view indicated fracture of left ischium also. The right femur was repaired using a combination of an end threaded intramedullary pin, a crossed intramedullary pin from the lateral condyle and a cross pin from the medial condyle engaging the opposite cortex of the proximal fragment. The split in the proximal fragment of the bone was repaired by full circlage wiring (two) using Vicryl No. 1. The left femur was repaired with retrograde intramedullary pinning. Robert Johne's bandaging was done as adjunct to the stabilization for 2 weeks. Animal started bearing partial weight on both the hind limbs within one month of surgery.

8.2.18 Mandibular Fracture and Symphyseal Seperation in a Dog

Syam, K.V., Julie, B., Laiju, M.P., Sachin, J.S., Devanand, C.B. and Sarada Amma, T.
College of Veterinary and Animal Sciences, Mannuthy, (Kerala)

A 10-month-old male German Shepherd Dog, met with an automobile accident. The animal was not taking food since then and there was asymmetry of the jaw. Clinical and radiographic investigation revealed complete oblique compound fracture of the mandible on the left horizontal ramus. Immobilization with cerclage and hemicerclage wiring was resorted under general anesthesia. Postoperative radiographic evaluation confirmed proper alignment and apposition of fracture segments. By the fifth postoperative day, the animal started drinking water and tea and by the end of second postoperative week it started feeding solid food. The dog had an uneventful and complete functional recovery from the injuries and the implants were removed at the end of twelve weeks.

8.2.19 Rubber Jaw Syndrome in a Dog - A Case Report

Ranganath, L. and Vani, S.
Veterinary College, Bangalore, (Karnataka)

A 10 year old male German Spitz dog was presented with a history of polyuria, polydipsia, weight loss and anorexia. On physical examination the jaws were soft and pliable. Radiograph of the skull revealed extensive rarefaction of mandible with loosened canines and incisors and loss of lamina dura around the teeth. The bone density of the facial bones was very low. The haematology revealed anaemia, uraemia, hypocalcaemia (ionized calcium) and high creatinine value, characteristic of chronic renal failure. The animal was put on intestinal phosphate binders and the owner was advised on dietary management. Progression of underlying chronic renal failure may be slowed down by treatment of renal secondary hyperparathyroidism.

8.2.20 Incidence of Osteoarthritis in Dogs - Two Years Survey

Arun,P, Ganesh, T.N, Ramesh, Geetha and Ameerjan, K.
Madras Veterinary College, Chennai (T.N.)

The data regarding the incidence of osteoarthritis in dogs from August 2001 to July 2003 was analysed. The data were analyzed to determine the breed, age group and the joints commonly affected. The study showed that osteoarthritis comprised 8.18 per cent of orthopaedic affections in dogs. The large breeds like Labrador retriever (27.66 per cent) and German shepherd (18.62 per cent) were found to be the most commonly affected. Hip joint was the most

commonly affected joint (66.49 per cent) followed by stifle. Middle aged dogs (23.4 per cent) were mostly affected.

8.2.21 Synovial Fluid Analysis in Canine Osteoarthritis

Arun,P, Ganesh, T.N., Ramesh, Geetha and Ameerjan, K.
Madras Veterinary College, Chennai (T. N.)

Synovial fluid samples were collected from stifle joints of dogs presented with osteoarthritis. Volume, colour, clarity, viscosity, total and differential nucleated cell counts, and synovial fluid biochemistry were studied. Synovial fluid analysis and especially synovial fluid cytology was found useful in confirming osteoarthritis by ruling out inflammatory arthritis. The synovial fluid alkaline phosphatase was found significantly higher and the protein level was significantly lower than the corresponding serum levels.

8.2.22 Prosthetic Limbs in a Pup with Congenital Absence of Forelimbs

Jaykar, Nihar
Practicing Veterinarian, Mumbai, (M. H.)

A puppy was born with congenital absence of both the forelimbs. "Behna", a NGO for welfare of stray dogs decided to adopt the pup and requested for artificial limbs. Low temperature orthoplastic made a good solution to fit the prosthetic limbs with casters. The dog adopted the procedure well.

8.2.23 External-Fixators with Epoxy-Side Bar for Fracture Repair in Animals

Tyagi, S.P., Kumar, Amit, Kumar, Adarsh, Sharma, S.K. and Varshney, A.C.
College of Veterinary and Animal Sciences, Palampur, (H.P.)

The present communication describes the modified way to the application of external fixators which is not only relatively inexpensive, very simple to perform but also does not require any special or expensive orthopaedic instruments. In this technique, an easily available epoxy adhesive was used to connect the transfixation pins. The technique was first perfected over various kinds of bones and carcasses and later was used in a few clinical cases with success.

8.2.24 Repair of One Year Old Bilateral Fracture of Radius-Ulna by DCP in a Dog - A Case Study

Patil, D.B., Kelawala, N.H., Talekar, Shivaji and Desai, T.J.
College of veterinary science and A.H., Anand, (Gujrat)

Seven year old male dog, weighing about 25 kg was treated for one year old bilateral fracture of radius-ulna. Dynamic Compression Plating (DCP) was done in one limb after another at an interval of 3 months. Preoperative, operative and postoperative management and complications would be discussed.