XXVIth Annual Congress of Indian Society for Veterinary Surgery

9th - 11th NOV. 2002

DR. S. D. TRIPATHI

INDIAN SOCIETY FOR VETERINARY SURGERY 19 77

Department of Surgery & Radiology
Bombay Veterinary College
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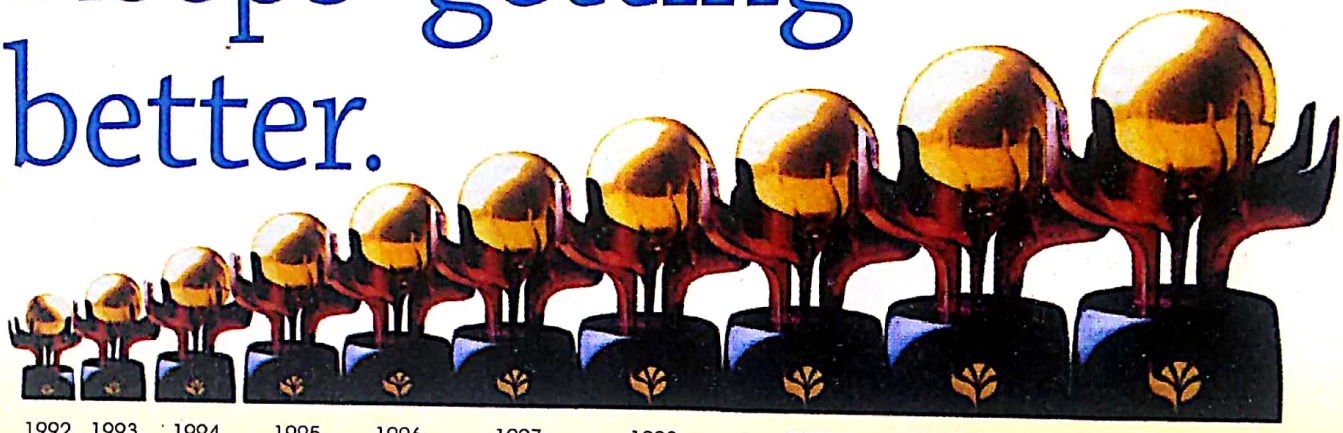

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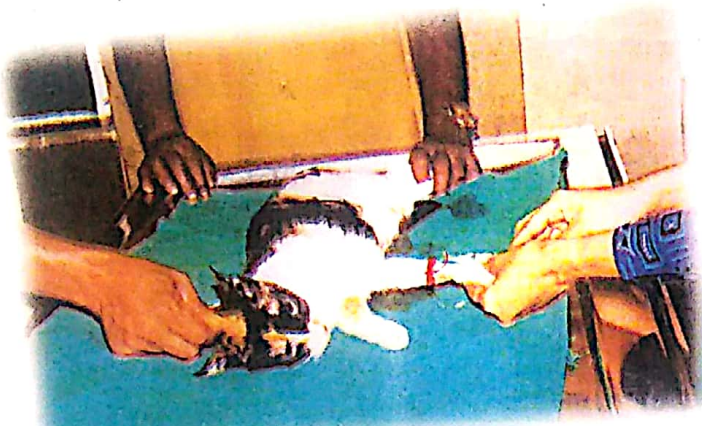

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ABSTRACTS

26TH ANNUAL CONGRESS OF INDIAN SOCIETY FOR VETERINARY SURGERY AND NATIONAL SYMPOSIUN

ON

"Recent Trends In Small Animal Surgery"

November 9-11-2002

BVC

Department of Veterinary Surgery & Radiology,
Bombay Veterinary College,
Parel, Mumbai.
(Maharashtra Animal And Fishery Science University Nagpur)

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Animal Husbandry, Prohibition
Propaganda, Mines
Government of Maharashtra
Mantralaya, Mumbai - 400 032.

MESSAGE

I am happy to learn that the Indian Society for Veterinary Surgery, has proposed to host 26th Annual Congress at Bombay Veterinary College from 9 - 11th November 2002 and to mark the occasion, it is bringing out a souvenir. I appreciate the theme of convention viz., "Recent trends in small Animal Surgery." The Veterinary Surgeons have played a vital role in the health management of pets and large animals for enhancing the milk and meat production of India. The veterinary surgeons of India have developed many new techniques for alleviating the sufferings of animals and they are next to none.

I hope, the convention will discuss new anesthetic and surgical techniques for improving health of pets and milks production in cattle and buffaloes.

I wish the convention all the success.

(DR. DASHRATH BHANDE)

भारतीय कृषि अनुसंधान परिषद
कृषि भवन, डॉ. राजेन्द्र प्रसाद मार्ग, नई दिल्ली - ११०००१

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New Delhi - 110001

Dr. V.K. Taneja
F.N.A.A.Sc.
Deputy Director General
(Animal Sciences)

MESSAGE

I am happy to learn that the Indian Society for Veterinary Surgery is organizing the 26th Annual Congress on 9th to 11th November, 2002 at Department of Surgery and Radiology, Bombay Veterinary College, Maharashtra Annual and Fisheries Sciences University, Parel, Mumbai.

In recent years, there has been increased emphasis on treatment of animals suffering from trauma and related problems. The nees is to establish health clinics, which have all the facilities including surgery available at one place. The annual congress of surgeons will provide a platform to deliberate and assess the requirements of veterinary health clinics and enable the participants to have an exposure on the latest development in this field. I am sure, the recommendations of the congress will suggest the future areas of research in the field of veterinary surgery.

I wish the Congress a success.

(V. K. TANEJA)

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MESSAGE

I have great pleasure to learn that the Indian Society for Veterinary Surgery is holding 26th Annual Congress and National Symposium at Bombay Veterinary College from 9-11th November 2002. The network of veterinary surgeons that established in our country during the last 25 years has helped a great in focusing attention on different techniques of anaesthesia and surgery. The services provided by veterinary surgeons as academician, researcher and extension worker is really widely accepted by dairy owners and farmers of the country.

It is appropriate that a forum like ISVS has been established to discuss the various issues of common interest and concern to development of various anaesthetic, radiographic and surgical techniques. ISVS annual convention is definitely providing a good platform for experts from various fields to come together and interact constructively for maintaining the health and production of livestock. I extend by greetings to participants and wish the deliberations all success.

(A. T. SHERIKAR)

WELCOME

Dear colleagues

I am happy to welcome you all on the auspicious occasion of 26th Annual Congress and National symposium of Indian Society For Veterinary Surgery at Bombay Veterinary College, Parel-Mumbai. The department of surgery was established in the year 1962 and since then this department is providing selfless, gratuitous services round the clock to Bai Sakarabai Dinshaw Petit Hospital for Animals. The department of surgery is richest as far as clinical material available for teaching and research is concerned. A good linkage is established recently by the Department with several medical and dental institutes. The theme of congress and national symposium on "Recent Trends In Small Animal Surgery" was selected to develop and apply recent techniques of anaesthesia and surgery in small animal surgery. An attempt is also made to demonstrate live a new technique of general anaesthesia in canines, which will be definitely useful to field Veterinarians.

I am happy to thank Dr. A.K. Sherikar, Hon. Vice-Chancellor, of Maharashtra Animal and Fishery Sciences University, who inspired me to host this conference, at Bombay Veterinary College, Parel-Mumbai. I thank my staff members Dr. D.U. Lokhande and Dr. G.S. Khandekar, who were with me like shadow during last one year. I highly appreciate the co-operation extended by the Veterinarians, who are working in different departments of Maharashtra. I am also thankful to the members of Private Pet Practioners Association, Mumbai, Royal Canin - A Pet Food Company, Co-operative Dairies, Meat Companies and different pharmaceutical companies. Lastly I thank the staff and students of Bombay Veterinary College and the office bearer of Indian Society for Veterinary Surgery, who has given me a chance to invite you all to this great institute of Mumbai.

(Dr. L. B. SARKATE)
Organising Secretary

XXVI TH ANNUAL CONGRESS OF INDIAN SOCIETY FOR VETERINARY SURGERY

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PROGRAMME

Date. 9.11.2002

Break Fast	**07.30hrs to 08.30hrs**
Registration	08.30hrs to 10.00 hrs
Inaugural Function	10.00hrs to12.30hrs
Lunch Break	**12.30hrs to13.20hrs**
Theme Session	13.30hrs to15.30 hrs
Small Animal Session	15.40hrs to 16.40 hrs
Anaesthesiology Session	16.50 hrs to 19.00 hrs
Dinner & Entertainment	**20.00hrs to 22.30 hrs**

Poster Presentation Small Animals during Session hour

Date. 10.11.2002

Break Fast	**07.30hrs to 08.30hrs**
Live Demonstration	08.30hrs to 09.30hrs
Large Animal Session	10.30 hrs to 13.30 hrs.
Lunch Break	**13.30 to 14.30 hrs**
Orthopaedic Session	14.35 hrs to 16.20 hrs.
Wild Session	16.30 hrs to 17.50 hrs.
Dinner	**20.00 hrs onwards**

Poster Presentation Large Animals during session hour

Date: 11/11/02

Break Fast	**07.30hrs to 08.30hrs**
Lead Paper	09.00 hrs to 09.30 hrs.
Award Session	09.30 hrs to 11.30 hrs
Field Veterinarians Session	11.30 hrs to 13.30 hrs.
Lunch Break	**13.30 hrs to 14.30 hrs.**

Mumbai Darshan

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THEME SESSION

RECENT TRENDS IN SMALL ANIMAL SURGERY

Chairman : Dr. P.E. KULKARNI

Rapporteur : DR. KAILASH MARWAH

THEME LECTURE

DR. G.R. SINGH

SESSION NO. : 2

SMALL ANIMAL SURGERY

Chairman : DR. A.P. BHOKRE

Rapporteur : DR. M.S. VASANTH

SESSION NO. : 3

ANAESTHESIOLOGY

Chairman : DR. RAMAKUMAR

Rapporteur : DR. SURESH KUMAR

LEAD PAPER : Dr. AMRESH KUMAR

SESSION NO. : 4

LARGE ANIMAL SURGERY

Chairman : DR. A.P. SINGH

Rapporteur : DR. B.P. DANDGE

SESSION NO. : 5

ORTHOPAEDIC SURGERY

Chairman : DR. HARPAL SINGH

Rapporteur : DR. S.M. USTURGE

LEAD PAPER : Dr. T.N. GANESH

Challenges of Small Animal Orthopaedic Surgery.

SESSION NO. : 6

WILD LIFE SISSION

Chairman : DR. P.O. GOERGE

Rapporteur : DR. V. HONALIKAR

SESSION NO. : 7

FIELD VETERINARIANS SESSION

PANEL OF EXPERTS

DR. C.C. WAKANKAR

DR. RAMESH KUMAR

DR. G.R. SINGH

DR. J.M. NIGAM

DR. T.N. GANESH

SESSION NO. : 8

AWARD SESSION

Enhancing quality learning & teaching of Surgery through Education Technology by Dr. Harpal Singh

Chairman : DR. K.S. DESHPANDE

Rapporteur : DR. DIPAK KUMAR DE

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Theme Paper

Recent Trends in Small Animal Surgery

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The last two decades have seen major advances in the field of small animal surgery. The pace of development is so fast that it has become difficult for the practitioners to stay abreast with the current development. During this period our understanding of the patho-physiological mechanism of diseases has improved considerably. Furthermore, with the advent of more sophisticated diagnostic techniques and introduction of many new forms of therapy, our ability to effectively treat and more objectively assess the progress of animals placed under our care has greatly enhanced.

Currently, most anaesthetic and pain management techniques require a combination of anaesthetic drugs because single drug-therapy offering adequate chemical restraint with minimal cardio-pulmonary side effects is not available. The use of alpha-$_2$ agonists, opiates, dissociative anaesthetics etc. alone or in combination for spinal anaesthesia is another trend picking up in the field of small animal anaesthesia.

Advances in imaging technology have created a dilemma for progressive small animal practitioners. The clinician is faced with many imaging choices including survey radiography, contrast studies, fluoroscopy, ultrasound, computed axial tomography, positron emission tomography magnetic resonance imaging, thermography and nuclear medicine. While trying to provide high quality veterinary services, the clinician must often choose between advanced and relatively costly imaging techniques that provide high yield of diagnostic quality and routine diagnostic techniques, which are widely available and cost-effective but less reliable.

Endoscopy has become a valuable diagnostic and therapeutic tool for small animal clinicians. Endoscopy allows direct inspection of gastrointestinal, respiratory and lower urogenital tract and provides a noninvasive method to obtain cytology, biopsy and culture samples. Therapeutically, endoscopy provides a non surgical method to remove foreign bodies from airways, esophagus and stomach. Similarly laparoscopic

examination, biopsy collection and surgery of various visceral organs has become popular in small animal practice.

The small animal practitioner is more confident in handling the cases of fracture, thoracic and abdominal surgery. Surgical oncology in veterinary medicine has improved significantly in recent years. "Early, deep and wide" is frequently quoted as one of the most important aspects of oncologic surgery. The use of and potential exposure to chemotherapeutic agents is rapidly expanding as benefits of these anticancer agents, become more apparent. There is no disease of dogs whose management has changed as dramatically over the preceeding years as that of cataract. Development of phacoemulsification technique and the advent of viscoelastic materials and intra-occular lens have contributed to the success of cataract surgery.

The days of "the sutures were removed at 10 days and patient made uneventful recovery" are gone. Veterinarians are more aware of need for detailed patient follow up and implementation of rehabilitation plan for surgical patients. The goal of physical therapy is to hasten the function return to normal. Veterinary critical care has become more sophisticated and an important consequence of knowledge explosion in clinical research studies. Nursing has also become vital component in the successful treatment of many critically ill patients and even with the most sophisticated diagnostic testing and advanced monitoring techniques, such patient has little chance of recovery without competent nursing care .

Session No. 1
Theme Paper Section

1.1 Evaluation of Tissue Adhesive for Closure of Ventral Abdomen Skin Incision in Dogs-A Clinical And Histological Study.

Anu Arora and S.M. Behl

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The present study was undertaken in twelve surgical cases of dogs divided into two groups of six animals each, requiring incision on the ventral part of the abdomen. In group I (n=6) skin incisions were closed with silk whereas in group II (n=6) Amcrylate (Iso Amyl -2 Cyanoacrylate) adhesive was applied. Clinically and histologically, cyanoacrylate glue was found to be time efficient with reduced chances of infection. In addition, inflammatory response was mild. The adhesive allowed skin closure with minimal scarring and less trauma to the patient. Time required to close the incision using adhesive was ¼th as compared to suture technique. Adhesive closure left aesthetically pleasing single linear faint scar as against crosshatching marks of suture tracts in sutured incisions.

1.2 Evaluation of Tissue Adhesive for Closure of Ventral Abdomen Skin Incision in Dogs -A Mechanical and Biochemical Study.

Anu Arora and S.M. Behl

Department of Surgery and Radiology,
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Mechanical and Biochemical studies were conducted on twelve surgical cases of dogs requiring incision on the ventral part of the abdomen to evaluate the efficacy of tissue adhesive 'Iso Amyl-2 Cyanoacrylate" vis a vis silk sutures. In group I (n=6) skin incisions were closed with silk, while in group II (n=6) Amcrylate adhesive was applied. Breaking and tensile strength values were less in the initial phase of healing (upto 7 days postoperatively) in adhesive group, thereafter it was comparable to that in suture group on 14th and 21st day. Hydroxyproline and collagen content were low in adhesive group on 7th day, but no significant difference was observed on 14th and 21st day when compared with suture group.

1.3 A New Bio-implant for the Endoscopic Treatment of Vesicourethral Reflux in Dogs.

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During the last decade the endoscopic treatment of vesicourethral reflux has become an accepted method with a cure rate of 60-80%. Various foreign material such as

polytetrafluroethylene (Teflon) and silicone, have been used for subureteral injections. These materials stay forever in the human body. Little is known of their long-term effects. Many natural materials have been tested experimentally, but to date, search on safety and clinical effects of a new biocompatible, biodegradable treatment for the grade III and IV vesicourethral reflux continues. The purpose of this study was to investigate the safety, practical manipulation, short and long term clinical effected of a new biocompatible implant and to investigate migration rate of new material and also to prepare reflux surgically and by endoscopic ways in comparison with many other material so far.

During this study no adverse reaction were seen, easy experimental production of reflux with surgical method were excellent as compared to endoscopic method. No adverse tissue reactions were noted and bladder mucosa was unchanged. The injected material, remained stable in situ with no sign of migration.

1.4 Evaluation of Skin Wound Healing with Conventional Suture and Tissue Adhesive in Canines.

Nihar Ranjan Biswas and Vasanth M S

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Skin wound was experimentally created in 12 adult dogs of either sex. They were into 2 groups of 6 animals each.

Skin wound was united in group I animal using poly propylene by simple interrupted suture technique. in group II animals a tissue adhesive, iso-amyl cyanoacrylate was used. Clinical, hematological and histological parameters were studied. Conventional suturing with polypropylene was found to be a better and reliable suturing technique for closure of skin wound when compared to tissue adhesive using iso-amyl cyanoacrylate.

1.5 Techniques of Laparoscopy for Disease Diagnosis in Dogs-A Clinical Study.

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Role of laparoscopy in the diagnosis of certain diseases in dogs was aimed in this study. Fourteen clinical cases reported to Madras Veterinary College Hospital with ailments involving abdominal cavity were selected and subjected to laparascopic examination after routine clinical examination and investigation. Biopsy of the diseased organs was taken using biopsy forceps wherever necessary followed with electro coagulation. The diseases viz. Cirrhosis, Hepatocellular adenoma, Tumours involving mesentry and splenic pathology were diagnosed by laparoscopy.

1.6 Evaluation of Fracture Healing with Therapeutic Ultrasound (0.5 watt/cm2) following Fragmented Autogenous Cortical Bone (ACBF) Grafting in Dogs -A clinical study.

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Five clinical cases of comminuted fractures of long bones viz. Humerus (1), femur(2), tibia(1) and radius(1) were included in this study. A 2-3 cm. gap was made between the major fragments of the long bone after nibbling the fracture ends. The fracture was immobilized with bone plating. The gap was filled with fragmented autogenous cortical bone grafts (2-5mm in diameter) prepared from the chips present at the fracture site and were implanted in the gap. Pulsed therapeutic ultrasound @0.5 Watt/ cm^2 was applied on the grafted area on day 4 after grafting for 10 minutes daily for 10 days. The fracture healing was evaluated clinically and radiographically for a period of 30 days. The surgical wound healed by first intention in all the cases except in one. The operated site showed moderate to severe swelling for the first 4 days after operation which decreased remarkably after the first treatment of ultrasound in all the cases. Moderate pain was recorded for first 3 days after operation and decreased to mild pain after initiation of ultrasound therapy. Mild to moderate exudate from suture line was observed for 2-6 days but that decreased after the treatment of ultrasound therapy applied. The animals started bearing weight both on standing and while walk variably but weight bearing improved remarkably after ultrasound therapy. The radiographs taken immediately after operation revealed that fracture ends were in good apposition and the gap was adequately filled with fragmented autogenous cortical bone graft.The bone plates and screws were in proper position. The radiographs taken on day 30 showed radiodense callus invading the graft area from both the fracture ends. The fragments of cortical graft seemed to be incorporated in grafted area. It was concluded that pulsed therapeutic ultrasound @ 0.5 Watt/cm^2 following fragmented autogenous cortical bone grafting was a useful adjunct therapy for the repair and early healing of comminuted fracture of long bones.

1.7 Uses Of Therapeutic Ultrasound in Different Surgical Affections of Domestic Animals.

S. K. Maiti, Naveen Kumar, G.R. Singh, N. Kumar, M. Hoque and A. M. Pawde.

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Therapeutic ultrasound was used in the treatment of a wide variety of musculoskeletal and soft tissue disorders in experimental and clinical cases. Two different doses of therapeutic ultrasound (pulsed (1:1) 1 W/cm^2 and continuous 3 W/ cm^2) were used to evaluate its efficacy in fracture healing and it was revealed that low-intensity ultrasound (1W/ cm^2) was far better than high- intensity ultrasound (3W/ cm^2).

In cases of peritendinous adhesions and tendon healing, it was found that ultrasound therapy @ pulsed (1:1) 0.5-1 W/ cm^2 given daily for 4-5 minutes for 8-10 days was useful. For treatment of aural haematomas, 0.25-

0.05 W/ cm^2 to periphery of ear pinna for 3-5 minutes for 3-5 days in acute cases and 0.5-1W/ cm^2 for 4-5 minutes for 6-7 days in chronic cases was useful. For the treatment of pain relief in cases of tear or damage of muscle, tendon or ligament ultrasound at the intensities of 1.0-1.5 W/ cm^2 to peripheral nerve fibers for 3-5 minutes was very helpful. Therapeutic ultrasound was also very helpful to resorb the inflammatory exudates @ 0.25-0.75 W/ cm^2 for 3-5 minutes in acute and 0.5-1.5 W/ cm^2 for 5-6 minutes in the chronic cases. Infection/contamination is the main limitation of ultrasound therapy. In conclusion, there are no set dosage criteria; the condition of each case must be reviewed daily and experience is the best guide and finally, the lower the frequency, the better the results.

1.8 Dorsal lumbar laminectomy (L_{1-2}) in a Labrador – A Case Report.

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A 2 ½ year old male Labrador was brought to the Department of Surgery & Radiology with a history of bilateral paraplegia, which initially was unilateral, suspected of traumatic origin. Myelography and CT Scan revealed extradural lesion in L1-2 region. On dorsal laminectomy no gross spinal cord pathology was detected. However, following one month of physiotherapy, the dog bears weight occasionally. Clinical case management is discussed.

1.9 Acupuncture Therapy for Posterior Paresis in Canines and Caprines.

A.M. Pawde, K. Pratap, O.P. Gupta, H.P. Aithal, S.K. Maiti and A.K. Sharma

Division of Surgery
Indian Veterinary Research Institute, Izatnagar, UP- 243 122

Eight dogs and two goats were presented to the Institute clinics with the complaint of disability to bear weight on both the hind limbs, diminished pin prick reflexes and faecal and urinary incontinence. Plain radiography of the pelvis (VD) and thoracolumbar spine (lateral) revealed no skeletal abnormality. These animals were conventionally treated by referring vets with nervine tonics, but no improvement was seen. Electroacupuncture therapy with a multipurpose electronic acupuncture unit was initiated using 9 Volts dense and disperse wave current at 50 Hz frequency and an intensity of 35-100 mA through needling at VG-6, GB-30, BL-54, GB-34, ST-36, BL-60, BL-64, BL-65, LI-3 and LI-2 for 10 min every alternate day for 12 days. Eight animals (6 dogs and 2 goats) out of the 10 treated recovered with full weight bearing without any side effect.

1.10 Management of Paresis in a Dog with T-10 Vertebral Fracture with Acupuncture Therapy

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A non-descript dog was presented to the clinics after it jumped from terrace (20 feet height) with a complaint of inability to support weight with hindquarters. Radiographic examination of lateral thoraco-lumbar spine revealed fracture of T-10 vertebra. The dog was treated with B-complex and steroids by referring veterinarian. Electrostimulation of acupoints BG-34, ST-6, TW-8, ST-36, BL-67 and GB-1 was done bilaterally at 130 Hz frequency using 8 mA dense and disperse mode of current for 10 minutes for 10 sessions on alternate days. The dog made an uneventful recovery.

1.11 Enteral Dialysis : An Effective Alternative Procedure of Dialysis to Combat Uraemia in Dogs.

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To evolve an effective alternative procedure of dialysis i.e. "Enteral Dialysis" utilizing colon as dialyzing membrane, 12 clinically healthy mongrel dogs of either sexes between the age group of 2-6 years and weighing about 10-15 kg., were randomly used in two groups having 6 animals in each group. Urethral obstruction was performed for setting up of uremia only in group I. The animals of both group were subjected to enteral dialysis following 48 hours of urethral obstruction with the persistence of urethral obstruction in group-II during enteral dialysis.

The dialysis was performed for 24 hours in broadly two phases having 4 interrupted cycles in each phase. In each cycle, 200 ml of commercially available peritoneal dialysis fluid was introduced per rectally and retained for 20 minutes and siphoned out into a bottle for recovery of dialysate and again repeated for 4 times to complete the cycle with the duration of 100 min. per cycle. Partial evacuation of bladder was done following 12 hr of dialysis to avoid bladder rupture. Blood samples were collected at 0, 24, 48, 60 and 72 hrs of experiment for determination of different haematological and biochemical parameters. Significant increase in blood urea nitrogen (BUN) following 48 hrs of urethral obstruction and successively significant decrease in BUN following 24 hrs of enteral dialysis was observed.

1.12 Use of Static Intramedullary Interlocking Nailing for Repair of Comminuted / Segmental Femoral Diaphyseal Fractures in Four Dogs.

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Four clinical cases of comminuted/segmental fractures of femur were stabilized with static intramedullary interlocking nailing (SIILN). Along with SIILN, ancillary support was provided with full cerclage wiring. The

technique provided satisfactory stability at fracture site and weight bearing in all the four cases was evident as early as on 3rd-4th post-operative day. Periosteal reaction was seen on 10th post-operative day. Bridging callus and cortical continuity was seen by 50th-60th post-operative day. All the dogs had good limb function. It was concluded that SIILN is an effective fixation technique for comminuted/segmental femur fractures and has less complication and high success rate.

1.13 Surgical Management of Fracture of Radius and Ulna in an African Grey Parrot.

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Chennai-600007

A six-year-old African Grey parrot was brought to Madras Veterinary College hospital with a history of accident two weeks back. The bird was alert, unable to lift the wing with a septic wound on the lateral aspect of the wing. Detailed examination was carried out after sedation with Ketamine and radiological examination revealed midshaft fracture of both radius and ulna. Under Xylazine – Ketamine anaesthesia through medial approach the fractured fragments were approached. The fragments of the ulna were reduced and intramedullary pinning was done using a 1mm K- wire. Post operative radiographs revealed good reduction of the fractured ulna. The bird could use the operated wing normally one month after surgery.

1.14 Repair of bilateral fracture of radio-ulna in Dog.

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A small Pomerian dog of 1 year and weighing 3 kg was brought to the Dept of Surgery of BVC for the treatment of bilateral fracture of radio-ulna. A careful examination of both the forelegs showed simple fracture of left radio-ulna and a compound fracture of right radio-ulna. The wound on left radio-ulna was cleaned, shaved, disinfected and sutured under Xylazine sedation. Radiological examination of both the limbs revealed slightly oblique fracture of both the radio-ulna. Following angulation and proper reduction of fracture of both the legs, plaster of Paris cast was applied from paw to just above elbow however due to hyperactivity and non co-operation of the dog breakage of plaster cast was reported on 3rd day of plaster cast application. LDPE mould and light plaster cast was reapplied on both legs. A mini walker was fabricated with 4 wheels in such a way that the dog will not be able to touch the fore leg on the ground.
Diazepam tablet (5 mg) was given orally twice a day along with food for controlling the activity of dog. The dog was maintained on egg liquid diet and fruit supplement. Complete rest for 21 days showed clinically progressive fracture healing. The dog started complete weight bearing on both the fractured forelegs on 35th day and fracture healing was seen 45th post fracture day.

1.15 Endoscopic Guided Retrieval of Oesophageal Foreign Bodies in Dogs.

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Many cases of oesophageal foreign bodies in dogs like bone pieces, sewing needles, wood particles are diagnosed by radiography and endo scopic procedures. The symptoms like vomition attempts, pain on palpation, unable to take food retching cough are observed .The location of foreign bodies are diagnosed by both radiography and Endoscopy. The same were retrieved under general anaesthesia by endoscopic guidance without surgery. The animals made uneventful recovery without any complications.

1.16 Some Observations on Ultrasound, CT and MRI in Clinical Cases in Dogs.

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Observations at Ultrasound (USG), computed tomography (CT) and magnetic resonance imaging (MRI) in clinical cases of dogs are presented.

1.17 Cryosurgical Treatment of Malignant Small Round Cell Tumour in a Dog – A Case Report.

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A six year old, golden retriever dog was presented with a History of ulcerating wound at the lateral aspect of Right elbow joint .The wound was persisting since 6-8 months which was not responding to routine wound treatment and had a tendency to spread. Histopathology of the tissue of the wound suggested presence of malignant small round cell tumour.
Cryosurgery was performed using compressed CO_2 as cryogen at weekly interval. Significant wound healing was seen in 4 weeks and good healing was seen by the end of 7 weeks.

1. 18 Veterinary Nuclear Imaging: present and Future Perspectives.

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The sophistication of imaging in veterinary practice has increased tremendously in last 5-10 years. Many advanced type of imaging modalities are available for the assessment of diseased patients.
Nuclear Imaging / scintigraphy involves the use of administered radiopharmaceuticals

that localizes to an area of interest in the body by physiologic process. Images obtained from nuclear studies do not provide the anatomic detail attainable with other imaging techniques. However their functional dependence on physiologic process added an important dimension.

99m Technetium, a radionuclide, workhorse of nuclear medicine department has excellent imaging qualities, a short half-life of 6 hrs and easily binds to localizing pharmaceuticals. Most frequently applied clinical examinations are bone, thyroid, hepatic, renal, brain, cardiac and tumour imaging. New techniques like sentinel lymph node detection in oncological patients refines surgical management. There are several other scintigraphic procedure like splenic sequestration, bone marrow scintigraphy, lymphoscintigraphy, gastrointestinal motility and mucociliary transport. All these procedures provide a very specific information about system involved and besides a main advantage is qualification of these physiological functions.

1.19 Scintigraphic Study of Canine Mammary Glands Neoplasia

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Twenty-four clinical cases of mammary glands neoplasia in female dogs referred to BSPCA hospital were studied.

History taking, clinical examination and TNM classification of tumors was done Radionuclide scintigraphy was undertaken in 11 female dogs using 99m Technetium (V) Dimercaptosuccinic aid (DMSA), a tumor specific radionuclide agent. The tumors were subjected to histopathological examination after surgical removal. On scintigraphic imaging tumors was demonstrated with good details in five cases. These tumors were confirmed by histopathological examination as fibrosarcoma (1) and adenocarcinoma (4).

Session No.2
Small animal Surgery

2.1 Therapeutic and Surgical Management of Canine Otitis.

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Fifty-nine dogs suffering from otitis were examined and grouped into acute (n=17), recurring (n=30) and chronic (n=12) groups. All of them were treated with antimicrobials / antifungals based upon antibiogram. The unresponsive cases (n=10) were subjected to surgery. Lateral ear canal resection (n=7), Vertical ear canal ablation (n=2) and Ear canal ablation with lateral bulla osteotomy (n=1) was performed according to the extent of otitis. Acute cases of otitis responded to treatment completely without any recurrence up to a period of one year. Only 66 percent of recurrent cases were amenable to treatment while chronic cases showed 40 percent response. Of the animals subjected to surgery, a good response was observed from 60 percent cases while 20 percent showed a fair response.

2.2 An Unusual Case of Large Testicular Tumor in a Doberman.

Natasha. Couto, C.L. Badgujar, B.P Shende, S.M Tripathi and D.U. Lokhande.

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A 10-year-old male Doberman was admitted to the BSPCA Hospital with a history of a huge swelling in the inguinal region. Clinical examination revealed a large mass on the right side of the penis, occupying a large area in the inguinal region. Radiographic examination revealed an extra-abdominal soft tissue mass in the inguinal region and prostate enlargement. Routine hematology and serum profile were performed, hematogical parameters were within the normal range.Serum chemistry revealed the creatinine value to be 3.96mg/dL. After preliminary stabilization,the dog was operated under triflupromazine HCl and Thiopentone Na general anaesthesia. An extensive testicular tumor with cystic swelling on the rostral end of the testicle was seen along with enlargement and vascularisation of the spermatic cord. The mass weighed 3kgs and was 21x17x15cms, in size. Histologically the mass was confirmed as a sertoli cell tumor. The other testicle was normal. Postoperatively, Cefotaxime was administered @ 15mg/kg along with fluid support .The wound was dressed with Nitrofurazone ointment for 7days.The serum creatinine came down to 1.8mg/dL 2 days after operation. The wound healed satisfactorily and the dog recovered in 10 days.

2.3 A Case of Hermaphrodite in Dog.

Kevin D'Mello and Astrid Almeida

International Animal Rescue, Animal Tracks, Murdungo Vaddo, Assagao, Goa-403507

An adult dog with male external genitalia was operated for castration under Xylazine and Thiopentone sodium general anesthesia. On external examination the penis and scrotum were found underdeveloped. Skin incision revealed only one testicle and a well-developed uterus, with both horns and the body. The ovaries were not observed. The uterine body was ligated and cut. A further examination failed to reveal the presence of a second testicle. The skin incision was closed as routine. The dog showed uneventful healing.

2.4 A Case of Surgical Management of Ovarian Tumour in a Bitch.

Kevin D'Mello and Astrid Almeida

International Animal Rescue, Animal Tracks, Murdungo Vaddo, Assagao, Goa-403507

An adult non descript bitch apparently healthy was brought in for routine panhysterectomy. The abdomen was slightly distended and tender. On palpation a small hard mass was felt in the abdomen. After routine preparation the bitch was operated under Chlorpromazine and thiopentone sodium anesthesia. A Midline laparotomy incision was taken. It was difficult to exteriorize the right ovary and the size of the incision had to be increased. The ovary had a tumor growth which was approximately 6.5x4x3 cm. Histopathological examination of the growth identified it as a CTVT (Canine Transmissible Venereal Tumour). The spay operation was completed uneventfully. The bitch recovered completely and was discharged seven days later.

2.5 Rectovaginal Fistula in a Doberman Bitch– A Case Report.

L. Nagarajan, C. Ramani, T.N. Ganesh, R. Sureshkumar and K. Ameerjan.

Department of Veterinary Surgery and Radiology, Madras Veterinary College Chennai.7

A 11 months old Doberman bitch was brought to the hospital with a history of passing motion through the vagina and absence of anal opening. On examination it was found that there was swelling in the vaginal region. A large fistulous tract extending from the roof of the vagina to the rectum could be observed on vaginal examination. Barium enema given through the vagina delineated the blind pouch of the rectum just cranial to the pubis. However the fistula was not properly outlined. Laparoscopic examination was carried out but failed to demonstrate the fistulous tract clearly since too much of exploration was not attempted because of the fear of rupture of the greatly engorged blood vessels of the rectum. It was decided to explore and undertake possible correction of the anomaly.

A prepubic incision was made and the distended bladder was masking the field of interest. Catheterization was performed and a blind rectal cul-de-sac was seen with greatly engorged blood vessels. Gentle and

careful blunt dissection was carried out to clear the area.

First stage of the surgery was aimed at observing the extent of the fistulous tract. The tract was very large of about 3" in length and entire vaginal floor and rectal was involved.

During the second stage of the surgery the colon was transected and the distal end of the colon communicating with the fistula was closed by inversion sutures. A tunnel was created in the pelvic region and the proximal end of the colon was pulled through the tunnel after making an opening in the anal region. A considerable portion of the mesentery had to be cut to pull the rectum through the tunnel.

The uterine body and the horns were poorly developed. Ovario-hysterectomy was performed during the third stage of the surgery. However the animal collapsed 24 hours following surgery. A rare case of rectovaginal fistula is placed on record.

2.6 Successful Surgical Management of a Case of Tracheal Rupture in a Dog.

L. Nagarajan, R. Sureshkumar, C. Ramani and K, Ameerjan

Department of Veterinary Surgery and Radiology, Madras Veterinary College Chennai.7

A three year old non descript bitch was reported with history of dog bite 2 days before. Clinical examination revealed crepitation and subcutaneous emphysema through out the body. There was respiratory distress and the dog was dull and depressed. Survey radiographs revealed subcutaneous emphysema and pneumothorax. The dog showed improvement after treatment with antibiotics and fluids for 2 days. However the condition recurred and it was decided to explore the trachea for rupture.

Trachea was approached through mid line incision and fracture of 2nd tracheal ring on the ventral aspect was noticed with a small hole through which air was escaping. The vent in the trachea was closed with simple interrupted sutures using 3/0 PGA suture material.

The dog was administered Ampicillin and Cloxacillin 250mg intramuscularly for 5 days during which period the dog became more active and the feeding habits improved; the subcutaneous emphysema was gradually subsiding. Follow up of the case after 20 days revealed complete regression of emphysema.

2.7 Venereal Granuloma in Canines.

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A sexually transmitted disease of canine affecting either sex, age ranged 2-7 years (4.33 ± 0.64 years). They had small to massive granulomatous growth at shaft and tip of penis in male while in females it was located in vulva, vagina and on os uteri.

Animals of group I treated with submucosal resection of granulomatus growth followed by cauterization with 2% solution of copper sulphate solution. Vincrysticin sulphate 0.025

mg/ kg I/V on 7th, 14th, 21st and 28th days revealed no recurrence upto six months with uneventful recovery.
Animals of group II were treated with Vincrysticin Sulphate @ 0.025 mg/ kg I/V on 7th, 14th, 21st and 28th days revealed serial regression of growth.
All the animals showed alopecia, anorexia, vomition, constipation and dehydration. Significant decrease in haematological values i.e. haemaglobin, PCV, TLC, TEC, Neutropenia, Lymphocytosis, monocytosis, eosinopenia and thrombocytosis was observed.
SGOT and SGPT values were not affected.
Animals of group III were treated with submucosal resection and autogenous vaccine. On AGPT, the line of precipitation could not be detected in any of the Ag- Ab reaction.

2.8 A Clinical Survey and Treatment of Urolithiasis in Caprine.

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In the period from January 1990 to August 2002, 512 caprine cases were treated clinically in the Department of Surgery and Radiology, Bihar Patna. Out of those 187 male goats were treated for urine retention due to urethral obstruction. Urethral process was severed from base in 135 and post scrotal urethrotomy was performed in 52 cases. The latter operation was performed in those patients, which exhibited urine retention even after severance of urethral process or without cutting the urethral process. The mortality rate was nil after the surgery. It was evident from the clinical record that 36.50 percent cases suffered from urethral calculosis. In our opinion, severance of urethral process is recommended urethral obstruction as it is simple operation and if required, urethrotomy can be performed after the former.

2.9 A Case of Extensive Granuloma arising from the Nictitating Membrane in a Cat.

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A 10-year-old male cat was admitted to the BSPCA Hospital with a history of a rare growth covering the entire right eyeball with impairment of vision .On clinical examination of the eye, a growth on the margin of the lower eyelid extending from the lateral canthus to the nictitating membrane was observed. However the opacity of the eyeball was clearly visible.
On the second day the cat was operated under Siquil and Ketamine for the removal of the growth. The surgical wound was sutured taking interrupted sutures using 3-0 chromic catgut. Postoperatively the cat was treated with Ampiclox @ 10mg/kg and the wound was dressed with Pendistrin ointment. On the 7th day the cat recovered completely.

2.10 Classical Case of Pyometra in Bitch.

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A boxer bitch aged 7 years with the history, off-fed since one week and creamy pus like discharge from vulva after estrus a week ago. Six months earlier, it was operated for vaginal hyperplasia. On clinical examination Temperature was 103.5 F and animal was dull and depressed. Radiology and ultrasonography were performed and diagnosed as open pyometra. The animal was treated medicinally with Evalon Forte 1 tab daily for 3 days and antibiotic (Enrofloxacin 6 ml IM daily) for six days. The symptoms disappeared hence animal's owner did not turn back for one month. One month later animal's owner came back with complaint of anorexia. Clinical examination revealed distension of abdomen. On abdominal palpation distended uterus was palpated. Radiology and ultrasonography were performed and diagnosed as closed pyometra. Animal was operated for Ovariohysterectomy. Uterus was filled with five litters of blood tinged purulent exudates. Animal survived for two days and then died because of septicemia.

2.11 Cystadenocarcinoma of Ovary in a Bitch and its Surgical Management.

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A Pomeranian bitch aged 10 years and weighing 8 kg was presented to the college clinics with the history of abdominal distention and occasional blood mixed pus discharge from the vagina for the last 6 month. Clinical examination revealed presence of a large hard mass in the abdomen causing bilateral abdominal distention. Considering it to be a case of abdominal tumor, exploratory laparotomy was performed under (Atropine Sulphate @ 0.04 mg /kg I/M. Diazepam @2mg/kg I/V) premedication and general anaesthesia using Ketamine Hydrochloride (@ 5mg/kg I/V). Upon insertion of fingers in the abdomen, a large hard mass was palpated just below the incision. The incision was enlarged and it was observed that the mass was attached to the tip of left uterine horn and ovary was enclosed in the mass. After transfixation of stump, the mass was cut and removed. Then another tumor was also involving right ovary and horn which was also removed. Post operatively, antibiotics, coticosteroids and routine dressing was done for 10 days. Upon histopathological examination of the tumor, it was diagnosed to be cystadenocarcinoma of the ovary. The bitch recovered uneventfully in a period of 10 days.

Session No. 3
Anaesthesiology

3.1 Evaluation of Diazepam - Detomidine – Ketamine Anaesthesia in Bovine - A Clinical Study.

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Study on evaluation of diazepam detomidine-Ketamine anaesthesia was undertaken on 32 clinical cases of bovines presented at Veterinary polyclinic, College of Veterinary & Animal Sciences, Udgir and Parbhani for different surgical affections viz. Amputation of horn, enucleation and extirpation of eye ball, removal of cancerous growths, suturing of laceration of cornea and tongue, ventral & umbilical herniorrhaphy, oesophagotomy, reticular fistulaectomy, radical excision of yoke gall, surgical drainage of sub conjunctival abscess and reduction of fracture of metatarsal and application of plaster of Paris etc. requiring anaesthesia. Based on the results of pilot and experimental study, the dose combinations of diazepam @ 0.25 mg/kg I/V, 0.5 mg/kg I/M, 0.5 mg/kg I/V and 1 mg/kg I/M were administered in group A2, B2, C2 and D2, respectively, comprising of 8 clinical cases selected randomly. Detomidine @ 20mg/kg and Ketamine @ 2mg/kg were mixed in one syringe and administered intravenously 5 minutes followed by intravenous administration of diazepam in group A2 and C2 and after 15 min. followed by intravenous administration of diazepam in group B2 and D2. Clinical and physiological parameters were studied in these cases.

The onset of anaesthesia was within 2.46 ± 0.17 min., 2.79 ± 0.9 min., 1.75 ± 0.26 min. and 2.50 ± 0.18 min. in group A2, B2, C2 and D2 respectively. The surgical anaesthesia ranged from 23.37 minute to 34.5 minute in all the four groups. All animals showed smooth recovery in 60.25 minute to 79.37 minute. The depth of anaesthesia and muscle relaxation was excellent in the animal except sluggish palpebral and corneal reflex in group B2 and D2.

3.2 Evaluation of Ropivacaine (Naropin 0.75%) for Epidural Anaesthesia in Buffaloes.

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Ropivacaine HCl, a relatively newer long acting local anaesthetic was evaluated for the first time for epidural anaesthesia in buffalo calves. Six buffalo calves of 6-8 months of age and weighing between 100 and 120 kg were utilized in two groups of 3 animals each for the evaluation of 5 ml (group A) and 10 ml (group B) of ropivacaine for lumbosacral epidural anaesthesia in two phases. In phase I, clinico-physiological effects and in phase II, haemodynamic and acid base changes were studied.

The onset of analgesia was in 2 to 3 minutes in both the groups Analgesia extended up to

tail, perineum and hind limbs in group A and up to tail, perineum, hind limbs, flank and posterior thorax in group B. Complete analgesia was recorded up to 5 to 6 hrs. In group A and up to 7 to 8 hrs in group B. Complete recovery was observed in 6 to 7 hrs and 8 to 9 hrs in groups A and B, respectively. Heart and respiratory rates did not change significantly in group A, but a significant fall slight up to 120 minute in HR was recorded in group B. Similarly, MAP, CVP and blood gas changes were only minute in both groups and did not reveal any significant changes. It was concluded that 5 ml of ropivacaine (0.75%) is suitable for producing lumbosacral epidural analgesia in young buffalo calves of 6-8 months of age. Increasing the dose up to 10 ml increased the duration of analgesia, but was associated with some cardiopulmonary side effects.

3.3 Intravenous Administration of Halothane in Ethanol (5% v/v) for General Anaesthesia in Sheep.

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The effects of halothane (5%) in ethanol were studied in 5 adult sheep (weighing between 22 and 37 kg) premedicated with diazepam administered intramuscularly @ 0.5 mg/kg body weight. Ten minutes after the administration of diazepam, halothane was given as a drip @ 2.5-3 drops/kg/minute. The onset of anaesthesia was recorded in 10-12 min in all the animals. After induction, anaesthesia was maintained up to 60 minute by administration of halothane solution @ 2 drops/kg/minute. However, the required rate of administration varied from animal to animal and required monitoring to maintain a constant level of anaesthesia. The total dose of 5% halothane required for induction and maintenance of anaesthesia was 1.35 ml/kg/minute. All the animals recovered smoothly within five minutes of discontinuation of halothane administration. No significant changes were recorded in cardiopulmonary parameters, however, slight decrease in respiratory rate and transient increase in heart rate were observed in a few animals. The results suggest that intravenous administration of 5% halothane in ethanol can be used for induction and maintenance of general anaesthesia in sheep, however, the rate of administration should be constantly monitored.

3.4 Clinicophysiological and Hematological Reponse to Medetomidine and its Combination with Ketamine in Dogs.

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Six clinically healthy mongrel dogs weighing 10-20 kg were used. After Atropine premedication (@0.4mg/kg I/M), Medetomidine was given (30mg/kg I/M), 10 minutes post Atropine administration. This was followed 10 minutes later by Ketamine Hydrochloride administration (@7.5 mg/kg I/V). The rectal temperature, pulse rate, respiration rate, systolic pressure, diastolic pressure and hematological estimations were recorded at different intervals. Medetomidine and Ketamine combination produced excellent analgesia and muscle relaxation of longer duration. The

bradycardia, respiratory depression and other cardiopulmonary depressant effects produced by Medetomidine were minimized when it was combined with Ketamine. The hematological profiles of animals remained unaffected. Thus this combination can safely be used for major surgical intervention in canine patients.

3.5 Clinical And Physiological Effects Of Neuroleptanalgesia With Xylazine And Pentazocine In Bovine-A Clinical Study.

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The study was conducted on 18 clinical cases presented for different surgical interventions at veterinary polyclinic, College of Veterinary and Animal Sciences, Parbhani. They were divided into three groups I, II and III consisting of six animals in each group. In group I, xylazine alone @ 0.1 mg/ kg was administered intravenously, in group II, Pentazocine @ 0.5 mg / kg and in group III, Xylazine- Pentazocine @ 0.1 mg/ kg and 0.5 mg/ kg, respectively was administered intravenously in combination.
Induction time, duration of anaesthesia and complete recovery time were observed in all the animals. Heart rate, respiration rate and rectal temperature along with sedation, analgesia and anaesthetic effects were recorded before injection of drug and also at 2, 5, 15, 30, 45, 60, 75, 90, 105 and 120 minutes after administration of drug. Sequential loss of reflexes and sequential appearance of reflexes were studied. The statistical data was done by using paired 't' test at 1% and 5 % level of significance.

3.6 Clinical Experience with Medetomidine and Ketamine Combination in Cats.

Kevin D'Mello and Astrid Almeida

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The clinical study was carried out on 10 queens irrespective of breed and age presented for spaying. All the queens were anaesthetized with combination of Medetomidine (Domitor - Pifzer) and Ketamine (Themis).
After through preparations Medetomidine @ 0.08ml/kg and Ketamine @ 0.1ml/kg were drawn up in the same 1 ml syringe and administered by deep intramuscular injection. The cats were observed for onset, surgical plane of anesthesia and sternal recovery continuously and hourly thereafter. Rectal temperature heart rate and respiratory rates were measured 10 minutes and 30 minutes after injection of anesthesia. Panhysterectomy was performed on all the cats. All the ten cats with stood the anesthetic procedure, sustained the spaying and recovered completely.
There was quiet rapid induction in all cases. Three of the ten cats vomited or retched during induction. Most cats had severe drop in the respiratory rate within ten minutes of anaesthesia, which slowly increased towards preoperative readings at 30 minutes. Apnoea was not observed in any cat. There was a reduction in the heart rate and rectal temperature that lasted for the duration of the anaesthesia. The degree of analgesia and the quality of muscle relaxation was uniformly good in all the cats for the duration of the operation, which lasted approximately 15 to 20 minutes. Only one cat required local an-

aesthetic for skin closure. No cat salivated or had convulsions during anaesthesia. In all sthe cats after induction there was abolition of the pinch and ear whisker reflex. The pupil were dilated and the tongue protruded out in all cases.
The mean time of induction of anesthesia for all the cats was 5minutes and 30 seconds.
All cats were administered Antisedan immediately on completion of the surgical procedure. The mean time from injection of Antisedan to the first signs of voluntary movement was 5 minutes and 37 seconds. The cats regained all reflexes and were sitting sternally without falling in 13 minutes and 18.5seconds.

3.7 Propofol as General Anaesthetic in Buffalo Calves- Clinico-morphological Studies.

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Eight, non-descript male, buffalo calves body weight ranging 70-100 kg were put to pilot trials to evaluate the efficacy of Propofol for general anaesthesia. The Propofol solely as induction agent (@5 mg/kg I/V.) could produce general anaesthesia only for 3 minutes, where as Propofol 2 2mg/kg I/V premedicated with Xylazine @0.05mg/kg I/V produced general anaesthesia for longer duration i.e. 8 minutes. General anaesthesia produced with Xylazine –Propofol combination was maintained either with I/V administration of Propofol @2mg/kg (14 min. duration) or with Propofol continuous infusion (5 min. after induction) @0.1mg/kg/min (40 minute duration).
In general, induction and recovery was rapid in al the groups. Slight analgesia was noticed with Propofol alone, where as, it was found to be moderate with Xylazine-Propofol combination and its maintenance with I/V Propofol administration. Resultant analgesia was complete and lasted for 40 minutes with the continuous infusion of Propofol and laparotomy was successfully performed. Animal recovered within 6 minutes of cessation of Propofol infusion.

3.8 Studies on Electroacupuncture of Auricular Points Bilaterally for Abdominal Anaesthesia in Goats.

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Electro-stimulation of auricular abdominal anaesthesia area (bilaterally) or auricular lung points (bilaterally) alongwith Sau Yin Zio (SP-6), Zu San Li (ST-36) and Bai Hui (GV-20) were used for obtaining abdomino-pelvic anesthesia in goat and its effects were compared with stimulation of ST-36, Yin Ling Quan (SP-9), BL-23 (bilaterally) and GV-20. The duration of anaesthesia varied from 15.20 to 20.5 minutes after electroacupuncture stimulation for 30 minutes. Excellent analgesia of anterior quadrant of abdomen, ventral and lateral abdomen, flank region, inner aspects of thigh, pelvic region, teats and udder was produced after stimulation of auricular abdominal anaesthesia area (bilaterally) whereas animals give stimulation at auricular lung points (bilaterally) alongwith other acupoints produced excellent analgesia of ventral and lateral abdomen. Moderate to mild anaesthesia was produced with other combina-

tions. There was transient effect on various physiological, haematological and biochemical parameters which were compensated within 3-6 hrs. after electroacupuncture. There was no post-anaesthetic complication. The onset of effects and recovery from anaesthesia was smooth. The recovery occurred in 10.97 to 11.69 minutes and animals walked unassisted after termination of acupuncture. Rumenotomy, Abomasotomy, Enterotomy and Cystotomy could be successfully performed under the auricular abdominal anaeshtesia area (bilaterally) or auricular lung points (bilaterally) alongwith other acupoints.

3.9 Immunopotentiating Effects of Acupoints Xue Hai (SP-10) and Da Zhui (GV-14) in Goats.

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Electro stimulation of acupoints Xue Hai (SP-10) and Da Zhui (GV-14) using an electric current of 3-5 volts intensity in adjustable waveform with the frequency of 130-150 Hz for 30 minutes daily for 10 days in goats prevaccinated with Brucella abortus (Strain -19) revealed that it had significantly increased the mean antibody titre at day 30. The agglutination titre was significantly ($P<0.05$) higher in acupuncture stimulated animals as compared to control group given Brucella antigen alone. The total protein increased significantly ($P<0.05$) while serum albumin and globulin non-significantly ($P>0.05$) at day 21 and remained elevated at 30 days after electroacupuncture. A significant ($P<0.05$) increase in total leucocyte count and non-significant increase in neutrophils was also seen at day 21 and 30 after electroacupuncture of acupoints GV-14 and SP-10 in these goats.

3.10 Experimental Study on Subarechnoid Anaesthesia in Buffalo Calves.

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Subarachnoid anaesthesia was induced in 18 male buffalo calves with Lignocaine hydrochloride (2% & 5%) and Bupivacaine hydrochloride (0.5%). A quick onset of anaesthesia of lumbo-sacral region, hind quarter, tail anal sphincter and perineum was observed. Animal adopted a dog sitting appearance and knuckling of fetlock and trembling of hind quarter were manifested during recovery period. Early recovery of abdominal wall and stifle was observed in all the groups. The duration was longest in animals where Bupivacaine hydrochloride 0.5% was administered (279.33±9.84minutes) followed by Lignocaine hydrochloride 5% (154.33±7.54minutes) and Lignocaine hydrochloride 2% (110.66±3.53 minutes).
The rectal temperature, pulse rate and respiratory rate were recorded pre and postspinal intervals and when compared non-significant changes were found in all the groups.
The cerebrospinal fluid (CSF) was aspirated aseptically from lumbo-sacral space before induction, half an hour later and at the time of recovery and examined for physical (colour and turbidity) and biochemical (pH, glucose, total protein and chloride) parameters.

Non-significant changes were observed in colour, turbidity, pH, total protein and chlorides between pre and postspinal values in all the groups. However, the postspinal CSF glucose levels rose significantly ($p<0.05$) from prespinal value in animals of group Ia, Ib, IIa and IIb. These changes (pre and postspinal) were however non-significant in animals of groups IIIa and IIIb.

In animals of present study the 2% and 5% Lignocaine hydrochloride and 0.5% Bupivacaine hydrochloride produced satisfactory subarachnoid anaesthesia. The longest duration of anaesthesia was observed with 0.5% Bupivacaine hydrochloride.

The majority of physical and biochemical parameters remained unaltered, barring CSF glucose which rose significantly at postspinal level in animals being administered with Lignocaine hydrochloride (2% & 5%).

3.11 Use of Propofol in Cases of Canines.

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Fifty six clinical cases in dogs of either sex, different age groups and breeds were presented for various surgical intervention which were operated under general anesthesia induced by bolus dose of propofol @ 5 mg./kg. alone in group I, While in group II animals were sedated with xylazine @ 0.5 mg./kg I/V followed by propofol @ 2.5 mg./kg as a bolus dose. Stage of surgical anesthesia was maintained by split dose of @ 0.4mg/kg/minute in both groups. In both the groups satisfactory anesthesia was developed under which following interventions were performed - Bone pinning and nailing, caesarean section, spaying, docking, castration, aural resection etc.

3.12 Haemodynamic Effects of Xylazine-Ketamine and their Combinations for Lumbar Epidural Analgesia in Buffalo Calves.

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The study was conducted in 15 male buffalo calves divided in 3 groups, A, B and C of 5 animals each. In group A, xylazine (@ 0.05 mg/kg), in group B, Ketamine (@2.5 mg/kg) and in group C a combination of xylazine and Ketamine (@ 0.05 mg/kg and 2.5 mg/kg) was administered in the first lumbar epidural space. The drugs/combination were evaluated on the basis of haemodynamic parameters (CVP, MAP and ECG) at different intervals up to 120 minute. The MAP decreased significantly after the administration of Xylazine, however, it increased significantly for a short duration of 30-35 minute after Ketamine administration. The decrease in MAP was less in the combination group and it was seen up to 90 minute. The CVP increased in groups A and C and decreased between 15-20 minute in group B. ECG changes showed tachycardia in group B, while bradycardia was observed consistently in groups A and C. The study showed that the combination of Ketamine and Xylazine was safe and effective as there were minimum changes in haemodynamic parameters.

3.13 Haemodynamic Changes after Lumbar Epidural Administration of Xylazine and

Lignocaine in Buffalo Calves.

Pankaj Singh, K. Pratap, Amarpal,
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The study was conducted in 15 male buffalo calves divided in 3 groups, A, B and C of 5 animals each. In group A, xylazine (@ 0.05 mg/kg), in group B, Lignocaine (@2 mg/kg) and in group C a combination of xylazine and Lignocaine (@ 0.05 mg/kg and 2 mg/kg) was administered in the first lumbar epidural space. The drugs/combination were evaluated on the basis of haemodynamic parameters (CVP, MAP and ECG) at different intervals up to 120 min. The MAP decreased significantly in all groups after the drug/s administration. The CVP increased in all the groups during the post-injection period and remained elevated till the end. ECG changes showed bradycardia consistently in all the groups. The results of the study showed that the lumbar administration of Xylazine and Lignocaine affects the haemodynamic parameters transiently.

3.14 Atropine-Medetomidine-Ketamine as a Balanced Anaesthetic Technique for Neonatal Calves: Clinico-Sedative, Cardiovascular & Electroencephalographic Studies.

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The present study was conducted on 19 clinically healthy neonatal male calves, aged 10 -15 days and weighing 13 to 30 kg (20.47 ± 1.14). Medetomidine (0.015 mg/kg) and Ketamine (10 mg/kg) was evaluated intramuscularly as single solution (MK solution) after standardizing the doses in 7 pilot trials. The evaluation was done in two groups of 6 neonate calves each. All the animals were administered atropine sulfate (0.04 mg/kg, S/C) 15 min prior to MK solution. The onset time recorded was 1.16 ± 0.166 min (Mean ± SE) and down time recorded for sternal and lateral recumbency were 3 ± 0.73 min and 4.5 ± 0.50 min. Recovery time recorded were 79.33 ± 1.05 min (sternal), 108.16 ± 2.18 min (standing ataxia) and 128.5 ± 1.33 min (normal gait). Surgical anaesthesia was induced within 4.5 ± 0.50 min following Medetomidine - Ketamine administration and remained for 28 to 45 min as evidenced by complete muscle relaxation and analgesia. The rectal temperature and heart rate remained within normal range while there was significant hyperpnea. A significant hypotension was recorded. In one animal there was atrial flutter. EEG studies revealed low voltage high frequency waves changing to low voltage low frequency waves with burst suppression.

3.15 Propofol as General Anaesthethic in combination with Preanaesthetic in Dogs: Biochemical studies.

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Six healthy non descript adult male dogs weighing 10-20 kg were used for the experiment. Atropine Sulphate @ 0.05mg/kg

injected intramuscularly to each animal in all the four treatments.

In treatment I Trifluprornazine Hydrochloride @ 1 mg/kg was injected intravenously 15 minutes prior to administration of Propofol iv (1%) till loss of pedal reflex. In treatment II Trifluprornazine and Propofol were given as in treatment I, followed by Propofol intermittently thrice to prolong the duration of anaesthesia. In treatment III, Midazolam @0.3mg/kg was administered iv followed by Propofol as in treatment I, where as in treatment IV, Midazolam was given as in treatment III followed by Propofol as treatment II. The blood samples were collected at 0 hours and subsequently at 1, 3, 6, 12, 24, 48 and 72 hours post treatment for different hematological estimations. The dose of Propofol used to produce surgical anaesthesia was 3.29± 0.20 and 3.88 ±0.59mgh/kg body weight in treatment I & III respectively, where as in treatment II & IV the total dose required was 7.66 ± 0.51 and 7.96 ±0.64 mg/kg body weight to produce the anaesthesia of longer duration. Non significant increase in the values of blood glucose, serum alkaline phosphatase and blood urea nitrogen where as non significant decrease in serum protein was observed in all the four treatments. Serum glutamic pyruvic transaminase, icterus index and creatinine did not reveal any significant variation in any of the treatments.

3.16 Clinicophysiological and Haematological response to detomidine and its combination with Propofol in Dogs.

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Six healthy non descript adult mongrel dogs of either sex weighing 10-15 kg were used for the experiment. Atropine Sulphate @ 0.04mg/kg was injected I/M. to each animal. Detomidine @ 30 mg/kg was injected I/M 10 minutes prior to administration of Propofol I/V @ 4.5 mg/kg. The rectal temperature, respiratory rate, systolic and diastolic pressure and hematological estimations were recorded at different intervals. Detomidine and Propofol combination produced excellent anesthesia and muscle relaxation of longer duration sufficient for major surgical interventions in canine patients. The bradycardia and respiratory depressant effect produced by detomidine were minimized when it was combined with Propofol while the other cardiopulmonary and hematological profiles of animals remained unaffected with this treatment.

3.17 Clinical Signs During Propofol Anaesthesia In Atropine-Xylazine Premedicated Canine Surgical Patients

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Fifteen dogs of different breeds of either sex presented for clinical surgery were divided into two groups – group I consisting eight apparently healthy dogs presented for elective surgery and group II consisting seven dogs presented for emergency surgery. They were premedicated with Atropine Sulphate (0.04 mg/kg IM) and xylazine (1mg/kg IM). Ten minutes later general anaesthesia was effected with intravenous injection of 1% w/v

Propofol and was maintained with incremental dose(s) of Propofol as intermittent boli as and when required. Breath holding for 15 seconds was noticed in group I and 15-25 sec. in group II during induction. Palpebral reflex was sluggish in both groups during induction and throughout period of maintenance. Eyeball rolled down during induction and remained so throughout the period of maintenance. Pedal reflex abolished in all dogs of both the groups on induction. Jaw muscle tone disappeared on induction, relaxation of abdominal muscles and limbs were good in both the groups. Anal sphincter relaxation observed in two dogs of group I. Two animals of group I urinated during induction and dribbled urine throughout the period maintenance. One animal defecated during maintenance. No such signs were noticed in group II. Respiratory arrest occurred in one dog of group II while hiccough in another dog during administration of incremental bolus. Some dogs showed seizure like movements during maintenance and while recovery. Respiration rate showed significant decrease in both groups after premedication and at 15 min. after induction with Propofol. Pulse rate showed mild decrease after premedication, thereafter an increase at 15 min. post induction in group I, while in group II there was significant decrease ($p<0.05$) after premedication, thereafter a mild increase at 15 min post induction. In both groups rectal temperature increased slightly after premedication which then decreased 15 min. after induction.

3.18 Induction Of Anaesthesia, Maintenance And Recovery With Propofol In Atropine-Xylazine Premedicated Dogs – A Clinical Study.

Sooryadas, S. and Sarada Amma, T.
Department of Surgery and Radiology, College of Veterinary and Animal Sciences, Mannuthy, Thrissur.

Fifteen dogs of different breeds of either sex presented for clinical surgery were divided into two groups – group I consisting eight apparently healthy dogs presented for elective surgery and group II consisting seven dogs presented for emergency surgery. They were premedicated with Atropine Sulphate (0.04 mg/kg IM) and xylazine (1mg/kg IM). Ten minutes later general anaesthesia was effected with intravenous injection of 1% w/v propofol and was maintained with incremental dose(s) of propofol as intermittent boli as and when required. The induction dose of propofol needed to effect anaesthesia was 5.09 ± 0.59 mg/kg and 5.04 ± 0.99 mg/kg in group I and group II respectively. There was not much difference in the induction dose between the groups. The time taken for induction was 4.20 ± 1.08 min. in group I and 3.21±0.83 min. in group II. The duration of anaesthesia after initial bolus was 14.03 ± 2.04 min. in group I and 18.54 ± 1.64 min. in group II. There was no significant difference between the two. The average incremental dose of propofol administered was 2.78 ± 0.45 mg/kg in group I and 2.98 ± 0.50 in group II which was almost half of the induction bolus. The average duration of effect obtained with incremental dose was 10.04 ± 0.75 min. in group I and 16.85 ± 2.71 min. in group II. Dogs in group I showed arousal by rejection of endotracheal tube 12.56 ± 1.57 min. after last bolus while in group II it was 22.89 ± 3.95 min. after last bolus which was higher ($p<0.05$) compared to group I. Lifting of head after recovery took 2.41 ± 0.58 min. in group I and 2.29 ± 0.46 min. in group II. Animals of group I resumed sternal recumbency by 7.94 ± 1.42 min. and of group

II by 8.5 ± 1.18 min. Animals of group I were able to stand by 14.72 ± 1.63 min. after recovery while it was 20.9 ± 1.25 min. for group II. The gait of animals of group I became apparently normal by 19.69 ± 1.55 min. while it took 27.2 ± 3.06 min. for group II animals.

3.19 Clinical and Physiological studies on Stress due to Surgical Trauma under Thiopental Anaesthesia with Atropine and Triflupromazine Premedication in Dogs.

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Surgical stress was studied in 20 dogs that underwent surgical operations viz. intestinal anaestomosis, Spleenectomy, Cystotomy, Gastortomy, Castration each in 4 dogs. Clinico physiological parameters i.e. Heart rate, Respiration rate and rectal temperature were noted before and after the start of the surgical operation. All the operations were performed under the thiopentone anesthesia premedicated with Atropine and Triflupromazine @ 0.04mg/kg S/C & 1 mg/kg I/M respectively. Induction and maintenance dose of thiopentone was 150 mg-250 mg and 100 mg-200mg respectively. In Gastrotomy, Surgical Stress was found to be more isntense as evident with significant rise in physiological parameters observed compared to the other surgical operations and thiopentone anaesthesia couldn't stabilize the stress induced physiological changes excellently during and later phase of gastrotomy.

3.20 Comparison of Lignocaine, Xylazine and combination of Lignocaine-Xylazine for caudal epidural anaesthesia in male buffalo calves.

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A total of 18 apparently healthy non-descript male buffalo calves aged between 6 month to 1 year, were used for the study. The calves were divided into 3 groups of 6 animals each. In group I, 2% lignocaine hydrochloride (0.05ml/kg) in group II, xylazine (0.05mg/kg, diluted upto 5ml with sterile normal saline) and in group III, combination of xylazine (0.05mg/kg) and 2% lignocaine hydrochloride (0.05ml/kg) were injected epidurally. The onset of analgesia, duration of analgesia, extent of analgesia, relaxation and anaesthesia of penis, degree of sedation in all the groups were compared. Quality of analgesia was judged during minor surgical interventions like amputation of tail, perineal suturing and urethrtomy.

The onset of analgesia was 3.50 ± 0.43 minutes, 12.0 ±1016 minutes, and 4.5±0.43 minutes in groups I, II, and III respectively. The duration of analgesia was 68.83 ±2.00 minutes, 122.33 ±5.77 and 280.50 ±9.10 minutes in group I, II and III respectively. The loss of sensation to needle prick was observed from mid sacral region to the tip of tail, perineum, scrotum and inner aspect of the thigh. Epidural administration of xylazine in group II and III showed signs of head lowering, depression and frequent urination. The epidural administration of combination of xylazine and lignocaine to buffalo calves caused rapid onset and prolonged duration of anaesthesia

3.21 Xylazine and Ketamine anaesthesia with or without Atropine Sulphate in goats.

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PGIVAS, Akola

Intravenous anaesthesia by Xylazine (0.5 mg/kg) and Ketamine (16 mg/kg) with or without prior administration of Atropine Sulphate (0.06 mg/kg) was evaluated in goat. The onset of anaesthesia with Xylazine was within 2 to 4 minute and 1 to 3 minute without prior atropization respectively. The onset of anaesthesia with Ketamine ranged from 1 to 2 minute with or without prior treatment with atropine. The duration of anaesthesia with Xylazine and Ketamine also ranged from 38 to 60 minute and 7 to 22 minute respectively and prior administration in the range of 49 to 67 minute and 13 to 16 minute respectively. The complete recovery of the animal from Xylazine anaesthesia with or without Atropine Sulphate was ranged within 116 to 119 minute and Examine anaesthesia with or without Atropine Sulphate was about 49 minute.

The Xylazine anaesthesia with or without Atropine Sulphate increased heart rate. From the present study, it is suggested that Ketamine alone and Xylazine with or without Atropine Sulphate can be used for shorter and longer duration of general anaesthesia respectively.

3.22 Blood Gas Analysis during Propofol Anaesthesia in Canines.

D.A. Jagtap, L.B. Sarkate, C.L. Badgujar, G.S. khandekar and K.S. Choudhari

Cardiopulmonary effects of Propofol at, pre, during and post anaesthetic stages were studied in canine clinical cases. A total of 24 clinical cases were taken for blood gas analysis. Dogs were divided into 4 groups of 6 each. In Gr I –lipid free Propofol and in Gr. II –lipid free Propofol in pre medicated (Xylazine) was used. In Gr III- lipid base Propofol and in Gr IV- lipid base Propofol in premedicated (Xylazine) was used. Major and minor operations were performed. Parameters like pH, PvO_2, $PvCo_2$, HCo_3 and $\%SO_2$ were recorded. Blood gas analysis during peak period of propofol anaesthesia did not showed any significant change in the blood oxygen and carbondioxide tension as well as blood oxygen and Co_2 saturation level.

Session no. 4
Large Animal Surgery

4.1 Clinical Evaluation of Negasunt in the Healing of Maggot Wounds in Animals.

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The clinical efficacy of Negasunt dusting powder (Bayer India Ltd.) was evaluated in the maggot wounds of different species visiting to Veterinary Clinics, Palampur.
A total of 50 cases, Bovines (15), canines (20), equine (8), caprine and ovine (7) were taken in the present study. The maggocidal, bactericidal and anti-inflammatory effects were evaluated besides healing of the wound was also assessed by observing extent of granulation tissue formation, obliteration of dead space, epithelization, cicatrization and proud flesh if any. Negasunt exerted maggocidal and bactericidal effects on wounds and there was decrease in the inflammation, exudate and necrotic tissue along with elimination of foul odour. An enhanced granulation tissue formation, contraction of wound and an early epithelization were observed. It was concluded that Negasunt can safely be used in management of maggot wounds and especially the maggot wounds of certain sensitive areas like medial canthus of eye where conventional medicaments have a deleterious effects.

4.2 A Rare Case of Shaving Blade as an Esophageal Foreign Body in a Mare.

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Foreign bodies are common in cervical portion of esophagus in horses. Primarily esophageal obstruction in horses is caused by corn cobs, apples, carrot, potatoes, wood fragments or leafy alfalfa hay, coarse grass hay, bedding, fragments of naso-gastric tubes anti microbial boluses, stones, sharp objects such as bone pieces and needles. A mare aged 8 yrs had a history that the animal is unable to swallow feed and water. On radiography of pharangeal and cervical region it was diagnosed that a shaving blade was present in cervical region of esophagus. Lateral esophagotomy was performed and shaving blade was extracted out. Animal died after 10 days due to colic. According to authors' knowledge, shaving blade as esophageal foreign body hasn't been reported in veterinary literature.

4.3 Comparative Studies on Chromic Catgut and Black Braided Silk as Suture Material during Urethroprosthesis in buffalo calves *(Bubalus bubalis).*

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The study was conducted on 16 apparently healthy male buffalo calves weighing between 86 to 115 kg. in which formalin preserved seromuscular urinary bladder and ceacal allografts were used as urethral prossthesis using Ethicon chromic catgut no. 2/0 and Ethicon braided silk no 3/0 as suture materials in 50% of the experimental animals.

Both the suture materials viz. chromic catgut no 2/0, absorbable and black braided silk no 3/0, non absorbable were worthy but there was slight superiority with chromic catgut no 2/0 as compared to non absorbable suture black braided silk no 3/0 and can be used safely in urethral surgery wherever needed.

4.4 Management of Actinomycosis by Cyrotherapy In Cross Breed Cows – A Study of 3 cases.

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Actinomycosis involving soft tissue and horizontal ramus of mandible in 3 cross breed cows was treated by pouring method of cryotherapy. The detail of treatment will be discussed.

4.5 Efficacy of honey, neem leaves and turmeric powder, in wound healing.

N.N. Choudhari, D.B. Pawshe, B.P. Dange, V.P. Pathak, S.G. Mode and S.Z. Ali

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The comparative efficacy of honey, powder of neem leaves and turmeric in healing induced wounds in goats was evaluated. The treatment was commenced from the next day of the wounds. The treatment consisted of routine cleaning of the wound, followed by dusts with powder of neem leaves, turmeric and application of honey with cotton swab. The wounds treated with honey showed edematous swelling and formation of granulation tissue on 3rd or 4th day post application. These changes following dusting with plant powder were seen on 5th to 6th post treatment days. The wound constriction was maximum with honey followed by the powders of turmeric and neem leaves.

The untreated controlled wounds showed inflammatory changes characterized by mixed fibroblastic and angioblastic proliferation on 7th day, where as wound treatment with honey or plant powder induced marked fibroblastic proliferation with newly formed blood capillaries and mild infiltration of neutrophills and hemorrhages at the same time well-organized granulation tissue, fibrous connective tissue and regenerating surface epithelium were observed in all the treatment wounds.

The over all wound healing efficiency was in the order honey, turmeric and neem leaves.

4.6 Squamous cell carcinoma of maxillary sinus in a Kankrej bullock

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A 12-year-old bullock admitted to the college hospital was investigated for the problem of partial feeding coupled with a swelling on the right side of face since three months. Clinically the bullock had profuse salivation and nasal discharge from the right side nostril vis-a vis difficult respiration. The swelling was of small coconut size hard in consistency and adhered with broad base to the upper gum particularly in the root areas of molar teeth. However the exact extent of the growth was confirmed radiographically which was observed to be from the right maxillary sinus to the oral cavity on the lateral aspect and continued further as a big growth in the nasal cavity involving the anterior frontal sinus on its medial aspect.
Surgery of affected body integuments was performed in two phases under Xylazine sedation and local infiltration. The first phase operation consisted expiration of growth from the oral cavity whereas the second phase operation included removal of nasal mass by nasal flap technique. The healing was complete by the time animal discharged from the hospital. However the recurrence was noticed after 45 days of operation. Histopathologically, the growth was confirmed to be a Squamous cell carcinoma of maxillary sinus.

4.7 Third Degree Perineal Laceration and its Surgical Correction in a Mare.

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A 6-year-old mare in her second parity was presented to the college clinic with the history of repeat breeding since two years. Clinically the recto-vaginal walls were damaged approximately 31/2 inches anteriorly from the normal position and resulted in the formation of a cloaca. The vaginitis, cervicitis and metritis were also evidenced along with frequent wind sucking.
Following the evacuation of the G.I.T. with liquid paraffin the defect was repaired by performing surgery under caudal epidural nerve block using 2 % Lignocaine HCl, 12ml solution in standing position. The rectal and vaginal walls were separated and the serosa of both the structures was approximated with interrupted suture pattern using braided silk no.3 without involving the rectal mucosa. The skin was approximated by using the same suture material in order to remodulate the rectal orifice and the upper vulval commisure. The animal was maintained on fluid therapy for 7 days and later on green fodder. Postoperatively antibiotics and anti-inflammatory drugs were given for 5 days. Simultaneously the most sensitive antibiotic was infused in the uterus in order to check genital infection for three days. The sutures were removed on the 17th day and the animal was discharged on the 24th day in good health.

4.8 Surgical Management of an Unusually Distended Abomasum in a Cow.

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A Holstein Friesian cross bred cow of 6 yrs of age was admitted with a history of anorexia, complete ceasation of defeacation with bilateral distension of abdomen. X ray revealed no radio- opaque foreign body in the reticulum. Exploratory lapratomy revealed upward displacement of ventral sac of rumen along with the rumeno-reticular sulcus. Exploration of the right side of the abdomen revealed distended omasum at the level of the 12th rib and a highly impacted abomasum which occupied the entire floor of the abdominal cavity upto the prepubic area. The animal was prepared for abomasotomy and it was approached through the right paramedian incision. The abomasum contained impacted paddy husk and ground gravid substances. Impacted material was removed by manipulation and warm water irrigation. The abomasotomy and celiotomy wound was closed as per the standard technique. The animal recovered and was discharged on the 8th post operative day.

4.9 Burn in a Camel (*Camelus dromedarius*).

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A Bikaneri breed camel aged 7 years was presented with a history of severe burn in the forelimbs involving shoulder to toe region. Clinical examination revealed charred skin in form of necrosed scab attached to the burnt area. Cannon region had involvement on anterior and latero-medial aspect. Animal was administered Ciprofloxacin I/M 60 ml, Phenylbutazone and salicylic acid combination 30 ml, I/M., Chlorphenaramine maleate 20 ml I/M and Multivitamin, 20 ml I/M. Dead scabs of skin were removed and raw surface was dressed with Gentamicin skin ointment every day. While unable to bandage such a big area, cotton cloth sleeves were prepared to cover the wound of entire leg region in order to prevent from flies and sand. Chlorphenaramine maleate and analgesic treatment was stopped after 1 week but antibiotic treatment and multivitamin treatment continued for 2 weeks. Burns were cleaned every day with light P.P. solution. Topical application of Gentamicin ointment was continued. Animal made a significant recovery and complete scar formation occurred in 5-6 weeks.

4.10 Evaluation of Topical Use of Estrogen Hormone on Open Wound Healing in Horses.

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The effects of estrogen hormone on wound healing rate was evaluated in surgically induced full thickness cutaneous wounds of the lower limbs of horses for one month. Full thickness skin wounds (6cm^2) were created on the dorsolateral aspect of both metacarpi

and metatarsi of all four limbs of four horses. The 16 wounds were divided into 4 groups (A, B, C and D) using Latin square design. All wounds were bandaged with a non- adhesive dressing (silicon gas), which was held in place with an elastic wrap. Wounds were treated in different groups as follows: group A with estrogen benzoate for 1 month, group B with estrogen benzoate for first 15 days and then with normal saline, group C or control with normal saline for 1 month. Group D with normal saline for first 15 days and then with estrogen benzoate every three days. Wounds were cleaned, treated as mentioned above and rebandaged. During every clinical evaluation and treatment, wounds were photographed, and all photographs were scanned and wound areas (total wound surface, granulation tissue and reepithelialized areas) were calculated, using a digital software program. All wounds had a similar pattern of wound healing. Healing was completed in all wounds in group A and B during one month. The cosmetic appearance of the healed wounds in group A was better than other group especially in comparison with group C. Mean of daily healing rate in groups A and B was significantly faster than in group C. Wound contraction rate was significantly different in different groups. Percentage of wound contraction was 78.26 percent in group A, 78.03% group B, 55.83% in C and 74.88% group D respectively.

4.11 Reconstruction of Abdominal Wall Defects with Carbon Mesh in Rabbits and Large Animals.

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The study was conducted in 12 experimental rabbits and 5 clinical cases of umbilical hernia in calves and heifer. The rabbits were divided into two groups I (8 animals) and II (4 animals). In group I abdominal wall defect of 2 X 3 cm was created under 2.5% thiopental anaesthesia, whereas, In group II a linear incision on abdominal wall was given. The defect in group I was repaired with carbon mesh using nylon and in group I the incision was closed with same suture material. The healing was evaluated clinically, macroscopically, biochemically, histologically and histochemically. The blood and tissue specimen were collected on day 7, 14, 30 and 60 postoperatively. Clinically animals of both the groups were dull and depressed and partially anorectic for 1-2 postoperative days. Significant increase ($P<0.05$) in rectal temperature for 4-6 days was recorded in group I. Mild to moderate swelling, exudation, warmth and pain was observed in both the groups which subsided after 3 to 5 post -operative days. Macroscopic observation revealed relatively increased vascularity with minimal to moderate adhesions with caecum in group I, whereas, adhesions were absent in group II. Significant rise ($P<0.05$) in plasma glucose level in group I was recorded at 14 and 30 days. Hydroxyproline and collagen contents in healing tissue showed a gradual increase up to day 30 followed by slight decrease at day 60. Hexasomine content gradually decreased upto day 30, whereas, elastin content increased up to 14 days in both the

groups. The value of Zn in healing tissue were found significantly higher ($P<0.05$) at 30 and 60 days. The increase in Cu level was non significant during the length of experiment. Alkaline phoshatase activity in both the groups increased gradually in early stage of healing followed by reduction at day 60. Use of carbon mesh in repair of large umbilical hernia in bovines was found satisfactory.

4.12 Treatment of Old Non-Healing Wounds in Equines with Homeopathic Drugs.

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A total of three animals either with old lacerated wounds with exuberant granulation tissue (2 cases) or horn core avulsion (1 case) were treated with dressing of Calendula glycerine mixture (1:4) and VT-2 (Heal Well) 10-15 globules orally TID. In case of very old wound with granulation tissue, before applying calendula and glycerine mixture proud flesh was aschared with copper sulphate. Continuous local application and oral administration of homeopathic drug resulted in complete healing of the wounds within a fortnight. In case of horn core avulsion the calendula glycerine mixture impregnated gauge was retained in the wound by means of stay sutures and healing in this case was rapid with good cosmetic appearance as the wound healed without any proud flesh or scar.

4.13 Experimental Studies on Preserved Skin Allografts in Bovine.

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The experiment was conducted on eight male cow calves, aged 6-8 months. Calves were divided into two groups. In group I, thirty two full thickness skin allografts collected from cadaver donor calf were treated with 0.5 % glutereldehyde saline solution for 10 min. and preserved at –20 c for 4 weeks in deep feeze. In group II the grafts collected from group I were preserved with 15 % glycerol in liquid nitrogen for 21 days.After preservation these grafts were implanted as four grafts on either side of each animal over dorso lateral aspect of thoracolumbar region and retained with few simple interrupted monofilament nylon sutures and gauze with adhesive tape and bandaged.The grafts were harvested after clinical examination on 10^{th} ,20^{th} ,30^{th} ,and 40^{th} post implantation days craniocaudally in pairs.The harvested tissue was used for biochemical, histomorphological and histochemical examination. The microbiological study was carried out by swabs collected from the graft site on day zero and 3 days intervals till the harvestation of graft or its rejection.Blood samples were also collected at 7 days intervals for immunological study.
Clinically, sloughing of epidermis was observed on 35^{th} to 40^{th} day in group I and 30^{th} to 34^{th} day in group II. Glutereldehyde

treated grafts provided better scaffolding with longer retention life than cryopreserved allografts. Biochemically, highly significant difference ($p<0.01$) was observed in the values of alkaline phosphatase, collagen and tissue total protein whereas hexosamine revealed a non significant difference between the groups. The mean values of collagen and hexosamine increased on 10th day, 121.00 mg/gm and 2.71 mg/gm to maximum values on 40th day 128.43 and 3.41mg/gm in group I and II respectively. The activity of alkaline phosphatase decreased significantly from contol value at various intervals in group I, 49.60+6.28 to 9.07+ to 13.19+0.36 n mol/mg of protein /min. An inverse relationship of total tissue protein with alkaline phosphatase was observed in both the groups at various intervals. Histomorphologically, dermis of glutaraldehyde treated allografts showed degenerative changes from day 20th while it appeared earlier in cryo preserved group. Grafts remained avascular however, angiogenesis was seen in the graft bed in group I and in graft pad and bed in group II Granulation tissue mainly consisted of fibroblast and angioblast developed under the graft. Neoepithelialisation was noticed on 20th day in both the groups. Histological and histochemical findings were suggestive of superiority of gluteraldehyde treated deep frozen allografts over the cryopreserved skin allografts. Gluteraldehyde treatment and cryopreservation suppressed the microbial invasion however, few pathogenic organisms eg. haemolytic staphylococcus sp. isolated from 24 to 33 days intervals in both the groups , might be responsible for grafts rejection. Immunological studies by agar gel immunodiffusion assay did not reveal any antigen antibody reaction.

4.14 Repair of Diaphragmatic Hernia in Cattle- a report of four clinical cases.

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Four clinical cases, (three in cross breed cows and one in she buffalo) were presented with the history of parturition one month before difficulty in walking, wasting general condition and recurrent tympany since last 15-21 days. Clinical examination revealed decreased ruminal motility, frothy bloat, arching of back and pain on back pinch test. All the animal had tacchycardia, increased rectal temperature, mouth breathing and scanty feces with normal consistency. Lapro-rumenotomy was performed under paravertebral nerve block anaesthesia and metallic piercing foreign bodies were removed. This also confirmed the herniation of reticulum in thoracic cavity. Repair of ruptured diaphragm was undertaken 24 hours following the rumenotomy by transabdominal approach. An oblique incision was taken on the right of the midline of the abdomen just behind the xyphisternum extending parallel to the costal arch following xylazine sedation and local infiltration anaesthesia. The size of hernial ring ranged from 2.5 to 4.0 inches in diameter. Strong adhesions between reticular wall and the ruptured diaphragm wall were seen which were served by blunt dissection with fingers. Adhesion of reticular wall with internal wall of the tho-

racic cavity also were severed with fingers and reticulum was repositioned. A foreign body from the thoracic cavity was removed in one case.

Hernial opening was closed using Vetafil with continuous interlocking sutures and the abdominal wall was closed in three-layer technique. All the animals except one recovered eventfully.

4.15 Development of a Clamping Attachment for Lifting of Injured Large Animals.

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A clamping attachment has been developed which holds the large animals at pin bones and fixing to the tune that the animal can be lifted with the help of a pulling (chain block/ pulley) or lifting (Tirfor) device comfortably. The device developed is quite simple. It has got two rectangles hinged to each other at the top. The length of the arms is 59.5 cm and is 20 cm in width at the days. An arm C is also centrally hinged with these arms at the top. The distance between the arms can be adjusted through a power screw attach to these arms almost at the center. The lifting of injured animal has been successfully achieved through this device/ mechanism.

4.16 Management of Clinical Cases of Urolithiasis.

P. Kinjavdekar, Amarpal, H.P. Aithal, G.R. Singh, A.M. Pawde and K. Pratap.

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The cases of urolithiasis presented at the Polyclinic, IVRI, Izatnagar from Sept. 2001 onwards were treated surgically. Before surgery, complete history of the animal, clinical examination, rectal examination, abdominocentesis, radiography/ ultra sonography were conducted. Venous blood samples for estimation of Hb, PCV, standard HCo_3, Anion Gap, Na, K, Cl, Ca, pH, TLC, DLC and acid base status of the animal using blood gas analyzer (Stat profile M; Nova Medicals, USA). Surgical treatment adopted was based on the condition of the animal and the location of the calculi. The location, number, size and shape of the calculi were recorded in each case.

It was concluded that urolithiasis induces severe distress in the animals and may be fatal if not treated in time. Though surgical treatment is quite effective in relieving the obstruction and retrieval of urethral calculi, it may be associated with complications like fistulation, leakage of urine from operation site and recurrence. A need of combined medical and surgical approach was felt for better results.

4.17 Evaluation of Pancuronium Bromide as Muscle Relaxant in Young Water Buffaloes.

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The study was done on 16 healthy young water buffaloes of 1 to 2 years of age divided into two groups. The dose of pancuronium bromide i.e.25 microgram/kg intravenously was standardized before actual experiment. Group 1 was used for relaxation, hematological and blood biochemical studies. The other group was used to study EEG, ECG, MAP and CVP. The detailed results are discussed. The results of this study showed that the drug pancuronium bromide acts as a typical non depolarising, rapidly acting and short duration of muscle relaxant in the species Bubalus bubalis without any major side effects. However, as a standing caution such agents should not be used in a clinical situation where facilities for artificial ventilation do not exist.

4.18 Use of Carbon Mesh in Surgical Management of Large Umbilical Hernia.

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Two male crossbred calves, aged one and half years, weighing about 100kg had swelling at the umbilical region since birth. Clinical examination revealed umbilical hernia in both the calves. The hernial rings were about 20 cm in length and 8 cm in width. The hernial rings had regular outline and the hernial contents were reducible. Both the animals were operated in dorsal recumbency under xylazine sedation and local infiltration analgesia. The hernial contents consisting of intestinal loops and mesentery were reduced back into the abdomen. An autoclaved carbon mesh was placed as inlay graft over the hernial ring. The rings were reinforced by overlapping vest over pant sutures. The skin incisions were closed by interrupted mattress sutures using vetafil. The surgical wounds were dressed with povidone iodine till removal of sutures and Oxytetracycline (5 mg/kg) for 7 days and Diclofenac sodium (2mg/kg) for 5 days was given intramuscularly. Skin sutures were removed on 12th postoperative day. Both the animals made an uneventful recovery.

4.19 Haematology and Biochemical Profile of Blood, Peritoneal and Rumen Fluids in Intestinal Obstruction in Bovines.

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Pathophysiological changes associated with intestinal obstruction, in 18 clinical cases, were studied. Laboratory examination of blood revealed neutrophilia (6148± 1841 cells/ml) uremia (218.0±66.0mg/dl), hyper phosphatemia (10.1 ± 2.0 mg/dl) with decreased albumin (1.8±0.2g/dl), calcium (7.14 ± 0.84 mg/dl) and chloride (86.7 ± 3.3 mEq/L) levels whereas sodium (132.2 ± 8.4 mEq/L) and potassium(4.58 ± 0.46 mEq/L) concentrations showed no significant variations from normal. In peritoneal fluid majority of the biochemical parameters like inorganic phosphorus (4.77 ± 1.81 mg/dl), BUN (164.2 ± 67.7 mg/dl), albumin(0.38 ±0.15 g/dl) and chloride (47.9± 19.2 mEq/L) levels showed

changes parallel to those of blood whereas calcium (7.75 ± 0.49 mg/dl) was increased Compensated metabolic alkalosis (pH, 7.456±0.046; pCO_2, 40.20± 2.12 mmHg; BE, +5.46± 1.78 mmol/L Bicarbonate, 28.16 ± 1.43 mmol/L) with high chloride level in the rumen fluid(57.0 ± 9.6mEq/L) was observed. When compared with the large intestinal obstruction a low rumen pH and high BUN was found in the small intestinal obstruction. In contrast to the non-survivors higher plasma sodium and inorganic phosphorus levels were found in the survivors.

4.20 Surgical Management of Chronic Otitis Externa In Cattle.

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Department of Veterinary Surgery and Radiology.
Rajiv Gandhi College of Veterinary and Animal Sciences, Pondicherry-9.

One bullock and two cows were presented to the Teaching Hospital, Rajiv Gandhi College of Veterinary and Animal Sciences, Pondicherry with the symptoms of chronic otitis externa which was not responding to routine medical treatment. The aural exudates was purulent in nature and foul smelling. External acoustic meatus was ulcerated and completely obstructed with proliferative granualation tissue. The animals were sedated with Xylazine and resection of the lateral wall of the ear canal was performed under local infiltration analgesia using 2% solution of Lignocaine hydrochloride. Systemic and local antibiotic medication were followed for seven days post operatively after performing cultural and antibiotic sensitivity test of the aural exudates. All the animals recovered uneventfully.

4.21 Efficacy of spleen and urinary bladder powders and Neosporin in wound healing.

S.S. Puri, D.B.Pawshe, B.P. Dandge, R.D. Sadekar, A.G. Bhandarkar, and S.G.Mode

PGIVAS, Akola

Wounds created in buffalo calves and treated with powder of bovine spleen , urinary bladder and Neosporin powder were observed macro/ microscopically for healing on 7th , 14th and 21st day. The wounds treated with bladder powder showed early healing when compared to spleen powder or Neosporin.

4.22 Surgical Management of Reticular Fistula in a Buffalo.

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Department of Animal husbandry,
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An 8 year female buffalo was presented in the polyclinic with the history of development of a hard swelling in the post xiphoid region since last months. The swelling gradually increased in size and eventually ruptured 15 days back. Clinical examination revealed serosanguineous blood mixed discharge oozing from the site of rupture. A

fistulus tract 8"X 1.5" running cranially towards the reticulum and the presence of an unusual foreign body(a stainless steel spoon measuring 8" in length) higher up in the tract was found upon probing. The reticulum was approached through the left para lumbar costal transabdominal incision under sedation and local infiltration analgesia. The successful surgical removal of the foreign body from the reticulum and the repair of reticular fistula is described.

4.23 Comparative Evaluation of Himax and Calendula officianalis (Mother Tincture) with Glycerine in Wound Healing in Cattle.

G.R. Singh, A.M. Pawde, Amarpal and P. Kinjavdekar.

Division of Surgery
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Healing properties of calendula-glycerine and himax ointment in wounds of dairy animals (clinical cases) were evaluated and compared. Appreciable anodyne and astringent effects were noticed within few hours in wounds treated with calendula-glycerine lotion. It caused rapid dry contracture of wounds, discouraged exuberant granulation tissue growth and resulted in early wound healing with minimal or no scar formation. Study established the superiority of calendula-glycerine lotion over himax in the treatment of cutaneous wounds in cattle.

4.24 Rib Necrosis in a Horse and its Management – A Case Report.

Harnam Singh

Department of Veterinary Clinics
College of Veterinary Sciences And Animal Husbandry
N.D.U.A. & T, Kumarganj (U.P.)

A one and half year old colt was admitted to the college clinic for the treatment wound at the lower third of thoracic wall. On clinical examination of the wound, few pieces (1.5-2 cm size) of the ninth rib were observed and these pieces were removed and the wound was dressed daily with povidone iodine solution. A gradual increase in the swelling on the course of the rib without any sign of healing was however observed even after 15 days of treatment. On 16th day, a 12 cm long incision was made covering the entire swollen part and a 6 cm deep mass over the rib was removed. Then again 6 cm long necrosed piece of rib was surgically taken off leaving periosteum intact. This wound was sprayed daily with Topicure for 20 days and Dicrysticine 2.5 gm was administered parentarally for 7 days. Marked improvement was noticed and complete healing took about 35 days.

4.25 Ventral Abdominal Hernia of Reticulum in a Buffalo Heifer-An Unusual Case Report.

Kuldip Singh, Ashok Kumar and Subhash Chander.

Department of Veterinary Surgery & Radiology College of Veterinary Sciences
CCSHAU, Hisar.

A two year old buffalo heifer was brought to Teaching Veterinary Clinical Service Complex, CCS HAU Hisar with history of large round denuded swelling seen at post-xiphoid region following an injury at this site. The swelling was examined physically and was diagnosed as case of ventral abdominal reticular hernia. An attempt was made to treat the case surgically.

4.26 Epidural Buprenorphine for Post-Traumatic Pain Relief in Goats: A Comparative study with Intra Muscular Diclofenac Sodium.

N.K. Singh, P. Kinjavdekar, Amarpal, and G. R. Singh.

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Indian Veterinary Research Institute, Izatnagar-242 122.

The relatively new technique of epidural Buprenorphine was compared with one of the well established method of pain relief in goats. Acute pain and inflammation was introduced by the injection of turpentine (0.15ml) in left hock joint under thiopental anaesthesia in twelve, non descript goats of either sex, divided into 3 groups of 4 animals each.

Post traumatically, epidural normal saline 4ml and Buprenorphine @ 5mg/kg were administered post traumatically at lumbo-sacral space in groups 1 & 2 respectively, whereas, Diclofenac Sodium @ 1mg/kg was given I/M post traumatically. All drugs were administered 2, 24, 48 and 72 hours after induction of arthritis.

Analysis of clinical data indicated that the animals of placebo group showed severe post traumatic changes and stress response evidenced by increased heart rate, respiration rate, and rectal temperature. It was concluded that epidural Buprenorphine @ 5mg/kg could be one of the better option for post traumatic pain relief compared to I/M Diclofenac sodium in goats.

4.27 Nasal Obstruction in Bovines – Report of 8 Clinical Cases.

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Department of Veterinary Surgery & Radiology, College of Veterinary sciences CCS, Haryana Agricultural University, Hisar –125001.

Eight clinical cases of cattle and buffaloes with the history of nasal obstruction were brought to the clinic. The cases were showing signs of anorexia, dyspnoea, ocular discharge, respiration through mouth, nasal discharge and snoring. There was facial protuberance at the site of lesion in some cases. In advance cases, the lesions were visible through nostril. The location of lesion was ascertained on the basis of radiography.

After sedation with Xylazine @ 0.1 mg / kg body weight, the nasal obstructions were diagnosed as neoplasms, cysts and abscesses. The neoplasms were removed either by pulling through nostril by whelping forceps or by performing rhinotomy under local infiltration analgesia. The neoplasms removed were diagnosed as osteoma, papiloma, osteomyxoma and fibrosarcoma on the basis of histopathological examination. The

nasal obstruction due to cysts and abscesses were cleared through rhinotomy. The cases showed restoration of respiration through nostril, however, the cases of osteomyxoma and fibrosarcoma could not recover and were euthanised. The postoperative management of 10 days with antibiotics, anti-inflammatory and anti-papilomatous drugs along with inhalation was effective enough to treat the cases.

4.28 Studies on Hematological and Biochemical Profile of Buffalo Suffering from TRP.

Rajender Singh

Dept of Surgery and Radiology
College of Veterinary Sciences
CCSHAU , Hissar

The study was conducted in 32 adult buffaloes examined to be suffering from traumatic reticuloperitonitis. Foreign bodies were recovered from the reticulum by doing laparoruminotomy. In 6 cases extra reticular abcesses were also drained. In first 12 animals (group A) no fluid was administered but in remaining 20 animals (group B) hypertonic saline solution 2.7 % with 5 gms of potassium chloride was administered 24 hrs after surgery. In group A animals preoperatively, heart rate and respiration rate were higher with reduced ruminal movements was noted. There were no significant variations in hematological parameters except that Hb was lower than normal. Plasma total proteins, sodium and potassium were lower but BUN and Creatinine were higher. Plasma chloride remained within the normal range. Rumen fluid parameters were lower than normal. In group B the ruminal movements were significantly reduced. hematological parameters were elevated with lower lymphocytes. Plasma sodium and potassium were lower than normal. The pH of rumen fluid was in the normal range and the buffering capacity was lower than normal.

4.29 Pericardiotomy/Pericardectomy for suppurative pericarditis in bovines.

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Four clinical cases of suppurative pericarditis were subjected to 5th rib resection and thoracotomy under local anaesthesia. Pericardiotomies were performed in all the animals. One centimeter diameter polyethylene catheter was used for draining pericardial pus. The pericardial sac was irrigated using medicated saline solution. Pericardectomy was done in two cases and in two cases foreign bodies were recovered from pericardial sac. The surgical wound of thorax was closed as per standard procedure. Two animals survived upto one month duration.

4.30 Surgical Correction of Cleft Palate in Calf.

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A 20 day old female calf was presented to the hospital with history of regurgitation of milk through nostrils during suckling. On examination of the oral cavity, 1/2 inch wide and about 8 inch long cleft palate was noticed extending from cranial part of the hard palate to the caudal end of soft palate.
The calf was fasted for 24 hours, sedated with 0.1 mg/kg Triflupromazine Hcl and anaesthised using Thiopentone sodium. The edges of the cleft palate was mildly scraped and sutured using no.1 polyamide. However a small gap persisted on hard palate after suturing. One month after surgery owner reported that the calf had significantly improved.

4.31 Surgical Correction of Mandibular Fracture in Crossbred Calf.

G.U. Yadav, N.M. Markandeya, A.U. Bhikane and S.B. Kale

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Dist Latur

A Holstein Friesian crossbred cow ageing 4 yrs presented to the clinics of veterinary college, Udgir with complaint of non-expulsion of foetus. On per rectal and per vaginal examination it was reveled that the foetus was oversized and neck was turned to the right. To correct the position of calf, snare was placed to the lower mandible and forced traction was applied. The dystocia was relieved but the forced traction led to bilateral fracture of lower mandible. Due to this calf was unable to suckle to mother and there was profuse bleeding.
The site of fracture was cleaned with Salvon and calf was given diazepam sedation @ 0.5 mg/kg with local infiltration anaesthesia. The fracture fragments of both the sides were sutured. Mandible was immobilized with cotton bandage for seven days. Daily dressing with Salvon for 12 days and Amoxicillin 500 mg IM and Diclofenac sodium 2ml IM was given for 5 days. The calf recovered uneventfully on 13 post operative day.

4.32 Survival Versus Non-Survival Report and Use of Vitamin A as Antioxidant in Buffaloes with Diaphragmatic Hernia.

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A total of 62 animals with diaphragmatic hernia (DH) were subjected to two stage surgery i.e. ruminal evacuationl followed by herniorrhaphy throughl linea-alba incision. Out of 62 animals 19 died and 43 (70%) were discharged successfully following herniorrhaphy. The various reasons suspected for non-survivors were discussed.
The packed cell volume and reduced glutathione (GSH) concentration of the blood were significantly higher in diseased buffaloes as compared to healthy ones. The diseased animals had nearly 1.5 to 2.0 times higher oxidative stress factor than healthy animals. Neither surgery alone nor surgery plus antioxidant therapy caused any improvement in any of the parameters including oxidative stress.

4.33 Ventral Ruminal Fistula in a she buffalow- A case report

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The she buffalow suffering from Ruminal fistula posterior to umbilicus was operated under xylaxine and local infilteration anaesthesia in a left lateral recumbency. The size of fistula ring was 3-inch diameter. The ring of fistula of rumen sutured with cushing and lembert sutures and fistulous tract was freshened and then was closed with non-absorbable 0.6 mm monofilament nylon. Buffalo recovered without complication in 14 days, however the cause of fistula could not be ascertained.

4.34 Compound Longitudinal Fracture of Mandible in Camel- A Rare Case Report.

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A nine-year-old dromedary camel had a compound longitudinal fracture of mandible which is not common. This camel was successfully treated - steel wire with swage needle was used to reduce the fractured mandible. Simple interrupted sutures were deeply applied in buccal muscles to immobilize the fractured fragment. The animal had an uneventful fast recovery within two weeks. The fracture healed completely in three months time.

Session No. 5
Orthopaedic Surgery

5.1 In-vitro biomechanical evaluation of linear and circular external skeletal fixators developed for use in large animals.

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S.K.Maiti, P.Kinjavdekar, Amarpal,
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A simple model of 4-ring circular external skeletal fixator was designed in accordance with Ilizarov principle. It consisted of 4 full rings (8-half rings), 8 olive wires (SS) of 3.3 mm diameter (2 wires in each ring) and 4 connecting rods (8 mm in diameter) between each ring blocks (total 12). The circular ring measured an inner diameter – 17 cm, width – 2 cm and thickness – 4 mm. Each full ring consisted of 22 holes (diameter 10 mm), which were placed equidistant from each other (about 10 mm), for the fixation of connecting rods and slotted bolts (8 mm in diameter). The rings, nuts, bolts and connecting rods were developed locally using mild steel and then nickel-plated. The bilateral linear fixator developed using stainless steel consisted of two sidebars, each having a central cylindrical rod (7 cm long, 20 mm outer diameter and 12 mm inner diameter) with threaded connecting rods attached on both ends. The rods were of 8.5 cm long, with 3.3 cm threaded part and 5 cm long non-threaded part consisting of at least 2 holes (7 mm diameter). The threads in 2 rods were carved in opposite direction so that the length of the sidebar assembly could be changed to produce tension or compression at the site by rotating the central rod. The two sidebars were connected by 4 transosseous threaded pins (6 mm diameter), two on either side of the osteotomy site.

One set (n=6) of 4-ring circular fixator and another set (n=6) of bilateral linear fixator were assembled on cadaver bones (tibia). A transverse cut was made at the mid shaft of tibia to simulate the fracture condition. The assembled fixators were then subjected to axial compression at 300 kg load, i.e., 9000 N using Mechanical Testing System (MTS-810, USA) and different biomechanical parameters like average stiffness (N/mm), buckling load (N), load at elastic limit (N), deflection at elastic limit (mm), strain energy up to yield limit (J), weight (N) and resilience (strain energy per unit weight) (J/N) were studied.

The average stiffness of both the fixators was very good at 300 kg compression loading, indicating that both the fixators were very rigid. However, when compared between the linear and circular fixators, linear fixators exhibited better rigidity than that of circular fixators. Buckling load of linear fixator was relatively more indicating that load bearing capacity of linear fixator was relatively lesser than that of circular fixator. Deflection at elastic limit also indicated that both the fixators could withstand a load of 300 kg. But deflection at elastic limit was relatively more with the circular fixators, indicating that circular fixators were not as rigid as linear fixators. However, strain energy up to yield point, a measure of energy absorption be-

fore failure, was more with circular fixator. Similarly the resilience (strength) was also more in circular fixators as compared with that of linear fixators. The results have indicated that 300 kg loading of EF devices has no adverse effect on biomechanical properties of the system, indicating that the devices can withstand the load of 300 kg.

5.2 Bone Concentration of Ampicillin after Intramedullary Pinning and Bone Plating in Dogs.

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The study was conducted on 16 dogs divided into four equal groups. The bone concenteration of ampicillin were studied in normal bone (group I), after femur fracture (group II), after fracture fixation with intramedullary pinning (group III) and bone plating (group IV). Ampicillin was administered @ 10 mg./kg. body weight intravenously and was repeated 8 hourly. The bone concentration of ampicillin after 2 hours of first injection were 5.27±0.28, 5.57±0.14, 4.83±0.06 and 5.06±0.20 mg/g in group I,II,III and IV respectively and at 72 hours of ampicillin therapy these were 5.70±0.28, 5.69±0.21, 4.94±0.19 and 5.14±0.12 mg/g respectively. There was significant decrease in the bone concenteration of ampicillin in group III and IV where fracture was repaired with IM pinning and bone plating respectively, when compared to normal (group I) and fractured bone (group II). The concenterations were, however, well above the minimum effective concenteration (MEC) in all the groups.

5.3 Surgical Management of Lacerated Tendo Achilles in Cows - A Review Of Three Cases.

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Lacerations and rupture of gastrocnemious muscle and achilles tendon are seen with greater frequency in cattle due to automobile accident or trauma. Three cases of tendo achilles rupture were managed surgically within a year, two in the department and one at Gadarwara surgical camp. In case I, a cow heifer aged 1½ year, weighing approximately 100 kg was presented with the damaged tendo achilles due to burn and approximately 1½ inch stump of tendon was left on the lower end. After anterior epidural anaesthesia, Bunnel mayer sutures were applied on tendon with 1/2 inch wide sterilized satin tape followed by immobilization with plaster cast. The cow recovered uneventfully in 8 weeks. In second case, cow aged 6 years, weighing approximately 450 kg with 6 months pregnancy was presented after an automobile accident . Both the tendon and muscle were severed with a gap of 2½ inches formed between the severed ends. After tranquilization and anterior epidural anaesthesia the tendon was anastomosed with S.S. 20 G wire and satin tape in Bunnel pattern and immobilized by plaster cast. The skin sutures along with the S.S. Bunnel mayer sutures were torn on the third day. Again the operation was performed on the next day and a transverse hole was drilled through os calsis and healthy part of tendon was dou-

bly anchored by S.S. K wire 15 G and 1 inch wide sterilized satin tape through this hole. The limb was immobilized by moulded iron limb cast having two halves tightened by screws . Recovery took place slowly by second intention healing in 3 weeks and animal started using the affected limb after a week. Third case was presented in the department with the laceration of the tendon due to fight . The age of the cow was 3 years, weighing approximately 150 kg with 5½ months pregnancy. In this case a gap of 3" was formed with total loss of stump of the tendon over os calsis. In this case a horizontal hole was drilled on os calsis and similarly one on distal end of tibia. S.S. 15 G K wire was passed through these holes in the figure of eight to immobilize the limb in extended position. Anastomosis of tendon was made with Bunnel mayer sutures in two layers by using 1½ inch wide satin tape in first and silk no. 4 in second layer. The limb was immobilized in extension by an aluminum strips limb cast. Animal is showing satisfactory recovery after two weeks. On the basis of the results of these three cases it could be concluded that prognosis of the tendo achilles laceration mostly depends upon the time of treatment from the injury and the weight of the animals. Early comencement of treatment and lighter weight of animal have better prognosis. Satin tape with plaster cast may be better for lighter animals while bone to bone K - wiring with satin tape and aluminum strip limb cast may be useful procedure in heavier animals.

5.4 Mandibular Fracture a Cow and its Surgical Management.

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An adult Jersey cow was presented with the history of fracture of the left mandible at the mid-shaft. Radiography revealed a straight oblique fracture with distraction. Examination of oral cavity revealed intact mucous membrane. Dynamic compression plating (6 hole plate) was performed after the reduction. Post operative radiograph revealed adequate stabilization. The animal was fed with soft diet on the third post operative day and after 7th day onwards with normal diet and the animal was discharged.

5.5 A Retrospective Study of Fractures in Canines - A Report of 109 Cases.

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A retrospective study was made on 109 cases of canine fractures presented in Veterinary College Hospital for treatment during the last 3 years period (1999-2001).
Majority of fractures were seen in young dogs of 0 to 6 months of age (44.95%), while the incidence of fractures was lowest (11%), in dogs above 5 years of age. Small breeds of dogs such as Pomeranian, Lhasa and Cocker spaniel had a higher incidence of fracture (58.71%) than the larger breeds (41.28%). Males were more commonly affected than females. Automobile accidents, jumps from height were prime causes of fractures in dogs. Among the long bones the incidence of fractures was higher in femur (45.87%),

followed by radius ulna (18.34%), tibia fibula (12.44%), humerus (7.33%), metacarpal (4.56%), mandible and pelvis (3.66%). In relation to different types of fractures, the occurrence of oblique fractures was maximum (41.28%), followed by transverse fractures (25.46%), incomplete fracture (22.93%) and comminuted fracture (10.9%).

The majority of fractures of humerus, femur, tibia, mandible and pelvis were treated successfully by different treatments such as open reduction with the use of intramedullary pin, bone plates and screw, and rest simple type of fractures were treated conventionally by plaster cast and splint application.

5.6 Surgical Management of Supra Condylar Fracture of Femur in A Dog.

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A cocker spaniel pup of three and half months age was presented with the history of not bearing weight on its left hind limb following a fall from the first floor. Radiography revealed complete overriding fracture of the distal metaphysis of the left femur and warranted surgical intervention. Through a craniolateral approach, stifle joint arthrotomy was performed, the fragments of bone were exposed and stabilized by passing a 1 mm K - wire obliquely across the fracture line from the lateral condyle and one from the medial condyle (Cross pinning). The stability was reinforced by employing intramedullary pinning using a 1.8mm K - wire. The dog started bearing weight partially on the limb from the 8th post operative day. Lameness was evident while progression at the end of two weeks and the lameness subsided over the next two weeks. By the end of one month, the dog was moving around with minimum lameness and on radiography, there was good callus formation bridging the fracture gap and the implants were in situ.

5.7 Surgical Management of Ipsilateral Femur Fracture and Elbow Luxation in a Dog.

Ganesh, T.N, Ramani, C., Syam, K.V., Kumaresan, A, Gokulakrishnan. M, Shivasankar. R. and Ameerjan, K.

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A non descript male dog of 7 years age was reported with the history of train accident and the animal was presented immediately in a recumbent condition. On examination the dog was having oedema on both its right thigh and elbow joint with stable vital signs. Radiographically, the nature of injury was confirmed as transverse mid shaft fracture of right femur and dislocation of right elbow. Under sevofluorane anaesthesia, the fracture was reduced and immobilised by plate osteosynthesis using an eight hole, 3.5 mm DCP with three screws on the proximal and four screws on the distal fragments. The luxated elbow joint was opened through medial approach and a screw was fixed on to the radial head and one on the humoral condyle. The luxation was reduced and stability was achieved by passing an orthopaedic wire in a figure of eight fashion con-

necting two screws. Postoperative complications and their management will be discussed in detail.

5.8 Management of Fracture of Calcaneus using Tension Band Wiring in a Dog.

Ganesh, T.N., Ramani. C, Jayaprakash . R., Syam, K.V., Arun, P and K. Ameerjan

Department of Veterinary Surgery and Radiology, Madras Veterinary College, Chennai - 600 007.

An eight month old male spitz pup was presented with the history of lameness of the left hind limb following a fall from the staircase ten days back. Clinical and radiographic examination of the limb revealed fracture of calcaneal bone at its middle with marked displacement. The fragments were apposed and immobilized by employing tension band wiring using two 1mm K- wires and 22G orthopaedic wire. Weight bearing on the operated leg was noticed from third postoperative day and the dog started walking with slight limp by the end of first week. On 10th postoperative day the sutures were removed. The animal was ambulant without any discernable lameness, after three weeks

5.9 Coxo-Femoral Luxation in Canine and its Surgical Management.

S.K. Guha, S.K. Ghosh, S. Haldar, A. Konar and C. Lodh.

Veterinary College
West Bengal

The present study is a reporting of craniodorsal luxation of the acetabulum in a golden retriever dog and its successful surgical correction by transacetabular pinning technique.

5.10 Bilateral Ulnectomy for correction of Valgus Deformity in Labrador Pup.

Y. Kaspa Reddy and T. Srinivasa Rao

Veterinary Polyclinic, Guntur – 522 001. Andhra Pradesh.

A six months old Labrador pup was presented to the clinics with a complaint of bending of both fore limbs. On radiography, the condition was diagnosed as valgus deformity. Both radius and ulna were bent and the growth plates were not fused.
Under Xylazine-Examine anaesthesia, the ulna was approached through caudolateral angle, and a piece of ulna was removed leaving the radius untouched for both the limbs. External coaptatioin support was given by applying plaster of paris for 4 weeks. The dog was observed for 12 months of its age. It made uneventful recovery and the deformity was rectified.

5.11 Repair of Bone Defects using Fresh and Preserved Foetal Cortical Allografts.

Rajesh, K.U., Sharma, V.K. and Amit Sharma.

Department of Surgery and Radiology, College of Veterinary Sciences, G.B. Pant Univ. of Agri. & Tech., Pantnagar, Uttaranchal, India.

Osteoinductive property of fresh and preserved foetal cortical allografts was studied

in 27 dogs divided randomly in 3 equal groups A, B and C. Dogs were having an osseous defect of approximately 1cm x 1cm diameter in the cortex of mid radial diaphyses. In group A, defects were left unrepaired (control) while the defects in group B and C, were filled with fresh and preserved foetal cortical allografts respectively. Foetal allografts were collected from dead foetuses obtained by hysterectomy performed on dead pregnant bitches within 30 minutes after death who met with automobile accident or fall from height. The fetal long bones diaphysis were collected and sectioned to the desired dimensions to fit in the radial defects. A part of the foetal bony pieces were preserved in dextrose normal saline (5%) for 25 days under refrigeration at +4□C temperature and used as preserved graft in group C animals and remaining part of bony pieces were used as fresh graft in group B animals to repair radial defect. The osteoinducing potential of the grafts was evaluated on the basis of clinical, radiographic, angiographic, micro angiographic, histological, histochemical and tetracycline labelling studies at 15th, 45th and 60th post transplantation day.

Radiographic studies revealed extensive periosteal reaction at 45th day followed by alignment of the periosteum of host bone with the graft at 60th day in group B while in group C only mild degree of periosteal reaction restricted to margins of host bone defect was observed during the same periods. Angiographic study at 60th day depicted irregular orientation of fine vasculature in control group (A) while in group B less dense longitudinally arranged vascular network was seen. In group C, hypervascularization at host graft junction margins was evidenced with regression of periosseous vessels during the corresponding duration of observation. Microangiographic study revealed moderate vascularity of graft bed in group C, and extensive neovascularization in group B at terminal stage of observation. Histopathological and histochemical studies showed mild deposition of cartilaginous tissue close to the defect in control group which also showed moderate activity for mucopolysaccharide while in group B extensive deposition of collagen and mucopolysaccharide and in group C moderately localized deposition of collagen and mucopolysaccharide was observed at the host graft interface at 60th day. On the basis of study it was concluded that both fresh and preserved cortical bone allografts possessed osteogenic & osteoinductive properties. However, the fresh grafts proved to be superior to the preserved grafts.

5.12 Bilateral Premature Closure of Distal Ulnar Epiphysis in a Great Dane Pup and its Surgical Management.

Ramani, C., Ganesh, T.N., Md.ShafiUzama., Syam, K.V., Reji Varghese., Velavan. A and Ameerjan, K.

Department of Veterinary Surgery and Radiology, Madras Veterinary College, Chennai - 600 007.

A four month old male Great Dane pup was presented with the history of outward curvature of both the carpi since six weeks. Radiographically the distal end of radius was found growing outward resulting in carpus valgus. Though the distal radial physeal plate was still growing, the ulnar epiphysis was found partially fused on both the forelimbs. Hence, to release the radius from there straining effect of ulna, segmental ulnectomy

was performed in both limbs, one after other. Significant correction in valgus deformity was noticed at the end of six weeks after surgery.

5.13 Bilateral Radius and Ulna Fracture and its Surgical Management in a Dog.

Ramani, C., Ganesh, T.N., Md ShafiUzama, Syam K.V. Coumarane V. and Ameerjan K.

Department of Veterinary Surgery and Radiology, Madras Veterinary College Chennai - 600 007.

A six month old female boxer pup was presented to the Madras Veterinary College Hospital, Chennai with the history of fall from a height and the animal was unable to bear weight on both forelimbs thereafter. Clinical and radiographic examinations revealed fracture of distal third of right radius and ulna, mid shaft fracture of the left ulna and fracture of proximal extremity of the left radius. Under sevoflurane anesthesia the fracture of right radius was immobilised by using a 10 hole, 2.7mm mini DCP with three screws on the distal fragment and six screws on the proximal fragment. This brought about the apposition and stabilization of the ulnar fragments also. Since the fracture of left radius was close to the joint, the fractured fragments of the ulna were apposed and stabilized by intramedullary pinning using a 1.6mm K-wire. This brought the fragments of radius also in alignment. Both the limbs were supported with polyvinyl chloride (PVC) splints and soft bandages. The sutures were removed on the 10th postoperative day. The postoperative care and management will be discussed

5.14 Management of Plantar Ligament Rupture and Peroneal Nerve Paralysis using Modified Thomas Splint.

Ramani C., T.N. Ganesh., Md. ShafiUzama., Syam K.V., Raj R., Ramya and Ameerjan K.

Department of Veterinary Surgery and Radiology, Madras Veterinary College, Chennai - 600 007.

A four month old male Great Dane pup was presented with the history of trauma to the left hock joint six weeks back and the animal was unable to bear weight on that limb. On clinical examination there was hyperextension of the hock joint, knuckling, moderate outward rotation of the distal limb, swelling of the tarsal and metatarsal regions and the area was painful on palpation. Radiographically, plantar subluxation of the proximal inter tarsal joint due to rupture of plantar ligament was diagnosed. In addition there were symptoms suggestive of peroneal nerve paralysis. The dog was treated with antibiotics, cortico steroids and neurotropic drugs with supporting bandage to the hock joint. Physiotherapy was given in the form of surge faradic stimulation. Even after restoration of the reflexes, the dog was unable to bear weight on the limb due to hyperextension of the hock joint. Hence, the joint was stabilised in a semiflexed position using a modified Thomas splint. Significant improvement was noticed at the end of two weeks and by the end of four weeks the dog started bearing weight on the limb without any tendency for hyperextension or knuckling. At the end of six weeks, the dog was normally ambulant.

5.15 Evaluation of Osteogenic Properties of

Bone Marrow and Autogenous Bone Graft in Dog.

D. Sharifi; Kasebganeh, H. H; Marjanmehr, H Veshkini; A and Bakhtiari J

Department of Clinical Sciences, Surgery and Radiololgy Section, Department of Pathalogy Faculty of Veterinary Medicine, University of Tehran.
Iran. post . Box. 14155-6453 .

This study was conducted on 10 adult mongrel dogs of either sex weighing 25.4±3.54 kg bw and having 36.4±3.2 months of age which were divided into two groups (I & II) of 5 animals each. The piece of 0.5 cm full thickness fragment was removed from midshaft of right radial bone in all the animals. The gap was filled-up with autogenous bone marrow in group I animals whereas in group II animals spongeous rib bone, was used to cover the gap. The fractured site was fixed with bone plate and screws. Clinical observations included , clinical signs, weight bearing, radiography on 0, 15, 30 and 45 days. The callus sample was collected on 45 days and stained with H & E stain as to evaluate histomorphological changes. The results obtained showed the group I animals had better weightbearing with more compactness of callus formation at the site and radiographical interpertation as compared to animals group II. Histomorphological changes indicated much more compact and matured callus formation with the least periosteal reaction, less fibrocartilage and collagen in the callus tissues in group I animals. There was primary and immature but with different thickness and diameter bony trabeculae with active osteoblastic cells, basophilic cytoplasm indicated for continuation of osteogenesis in the group II animals.

5.16 Management of Radio Ulna fracture using DCP in two goats.

S.Thilagar, T.N.Ganesh, R.S.George & A.Kumaresan

Department of clinics,
Madras veterinary college,
Chennai-600007

Two female adult goats weighing 10 kgs and 20 kgs were treated for Radio- ulnar fractures using dynamic compression plate.
Case 1. Telicherry goat weighing10kgs was brought with the history of automobile accident and was diagnosed as transverse fracture of distal left radio-ulna. The fracture bone was immobilized by open reduction and internal fixation using a six hole, 2.7mm dynamic compression plate 16-18 mm screws.
Case 2. Barbari goat weighing 20 kgs was diagnosed as oblique midshaft fracture of left radio-ulna. Open reduction and internal fixation using an 8 hole, 3.5 mm dynamic compression plate and 14-16 mm screws immobilized the fractured bone. The clinical radiographic evaluation and implant size are discussed in detail.

5.17 Management of Spinal Compression due to Lipoma in Dog.

S. Thilagar, T.N Ganesh, and R.Jayaprakash

Dept of clinics,
Madras Veterinary College,
Chennai, 600007

Three and half year old male Crocker Span-

iel weighing 11 kg was referreds to the madras veterinary college hospital with the history of growth on the left dorso-lateral aspect of chest since 6 month and unsteady gait. Clinical examination laboratory investigation and radiographic investigation revealed the spinal compression left side. Myelographic evaluation revealed spinal compression between 9th to 13th thoracic vertebra where the growth present. Under general anaesthesia the growth (lipoma) weighing 200 gms was removed and found the route of growth originating from the 11-12 thoracic intervertebral space. Animal made an uneventful recovery after two months of surgical and medical treatment, however later develop pancreatitis and treated. The laboratory, radiographic investigation, treatment, management and diet prescription are discussed in detail.

5.19 Therapeutic Evaluation of ART-400* in Induced Aseptic Traumatic Arthritis in Calves: Biochemical Alterations in Synovial Fluid.

A.C. Varshney and Mohinder Singh

Department of Surgery & Radiology
College of Veterinary & Animal Sciences
CSK HPKV-Palampur 176062 (H.P.)

Eleven apparently healthy male calves, divided into three groups were used to induce aseptic traumatic arthritis of radio-carpal joint by administration of 1ml of turpentine oil intra-articularly. The animals of group I served as untreated control, while the animals of group II and III were treated with 2ml (50mg) of diclofenac sodium intra-articularly and ART-400 powder @ 20gm orally mixed in treacle daily on 5th post-induction day respectively. The biochemical analysis of synovia was carried out before and on 5th and 24th post-induction day.

Significantly reduced glucose concentration of synovia on 5th post-induction day registered rise following treatment in the group II and III and were comparable to near base values by 24th post-induction day. Synovial total protein and albumin concentration declined sharply in treated groups on 24th day as compared to 5th post-induction day values. The increased concentration of synovial alkaline Phosphatase in group I and III and its decreased concentration in group II, on 5th post-induction day showed further increase in group I and II and decline in group III on 24thday as compared to 5th post-induction day. The lactate dehydrogenase concentration of synovia increased in group I and III and declined significantly in group II on 5th post-induction day. Following treatment on 24th day, the values of lactate dehydrogenase significantly increased in group II, whereas it decreased in group III when compared to 5th day values.

Session No. 6
Wild Life Session

6.1 Surgical Management of Tumor in Wild Animal – A study of two cases.

V.S.C. Bose, I. Nath, S. Kumar & S.C. Mishra.

Department of Surgery, Orissa veterinary College, Bhubaneswar (Orissa)

Two growths, one in white tiger involving eyelids and in a lion having a growth on the right hind limb was excised. Both revealed to be epidermal carcinoma in the tiger and Fibroma in the lion respectively. The details of anesthesia management and surgical procedure will be discussed.

6.2 Anesthesia in Wild Fauna.

Dr.A.V. Belsare

Veterinary Officer, Rajiv Gandhi Zoological Park & Wildlife Research Center, Katraj, Pune.

Various aspects related to anesthesia in wild animals (including birds) are discussed casewise.
The need for anesthesia (ranging from sedation, immobilization, tranquilization to complete anesthesia) was as follows:
Surgery: Leopard (1), Chital (1), Blackbuck (1), Rhesus macaque (2), Kite (5), and Horned owl (1).
Capture of escaped animals: Rhesus macaque (2), Nilgai (1)
Management of wild animals caught in traps: Leopard (1), Jungle cat (1), and striped hyena (1)
Treatment: Sambar (2), Eagle (1), and Rhesus macaque (1)
Diagnostic tests: Leopard (1), Orangutan (1), and Blackbuck (6)
Transportation/relocation/release: Chital (3), Blackbuck (5)
Control/restraining of stray/feral animals: Bull (1)
The anaesthetic used in all the cases was mixture of Xylaxine and Ketamine with the exception of primates where only Ketamine was used. In most of the cases, the dose was given by the use of blowpipe/pneumatic blowpipe (Remote Drug Delivery System).
The above mentioned case are discussed with special emphasis on the dosage for the species (recommended in various literature and actually used), limitations, reactions and adverse reactions observed, induction time and recovery time.

6.3 Surgical Removal of Bullets (Gun Shots – Lead Pellets) from a Mountain Squirrel.

Dharmaceelan S., A. Arun Prasad, Ravisunder George and B. Justin William.

Dept. of Veterinary Surgery & Radiology, Veterinary College and Research Institute, Namakkal, Tamilnadu-637001

A wild mountain squirrel weighing one kilogram was presented with the history of gun shot injury having been shot by gypsies. The

animal was restrained with ketamine anaesthesia. On examination it was found that the animal had gunshot at the base of tail, left digit region and on the dorsal aspect of the lumbar region. On radiographic examination it was found that the Lead pellets were lodged at varying depths from the point of entry. Under Ketamine anesthesia with halothane maintenance, the pellets were recovered. Wound was cleaned and dressed with povidone, iodine and post operative antibiotic therapy with Ampicillin and Cloxacillin.

6.4 Vasectomy in Lions.

P.O. George, Jacob V. Cheeran and E.K. Easwaran

College of Veterinary & Animal Sciences Mannuthy, Kerala

Four lions belonging to the lion sanctuary Neyyar dam kerala were vasectomised on the 28th & 29th of June 2002. The operations were performed in the only in-built squeeze cage available. The disturbance from the lions near by hindered the induction of anaesthesia.

Administration of Xylazine 300mg, Ketamine 300 mg after 10 minutes, atropine 1.3 mg IM and local infiltration of lignocaine 8 ml around the neck of scrotum was regimen of anaesthesia. In two lions, 100 mg Xylazine had to be given during the operation to reinforce anaesthesia.

Vasectomy was performed adopting the routine procedure. Penidure LA 24 and tetanus toxoid 2 ml I/M were administered. Neem oil mixed with himax lotion was used for wound dressing post operatively. In all the animals, except lion I, the wounds healed up by the tenth day. In lion I, the right vas deferens was cut while incising the tunica vaginalis. By the second day, it developed postoperative edema. Streptokinase (10 mg five tablets, twice daily) was advised for five days. On day 6 after the operation, it rubbed the scrotum with disruption of sutures. Sutures were reapplied and Penidure was repeated. The swelling gradually subsided and the wound was healing. On day 12, severe edema of the right hind limb, from the thigh to hock was seen. A course of Streptopenicillin, Pheneramine, frusemide and Streptokinase for five days was administered. By day 18, the edema had disappeared, but slight dragging of that limb persisted. On day 30, it died. It had consumed its beef ration in full, on the previous day.

On autopsy, no pathognomic lesions could be noticed in the vital organs. Infiltration of pus was seen in the interspace of the muscles of the right thigh region.

6.5 Management of certain Clinical Conditions of Cryotherapy in Wild Animals.

Nath, V.S.C. Bose. T.K. Pattanaik, S.K. Panda and S. Kumar.

Department of Surgery, Orissa Veterinary College, Bhubaneswar (Orissa)

Successful cryotherapy for management of perianal fistula in tiger, parasitic granuloma of eye in a Mithun, Squamous cell carcinoma in a Manipur deer, chronic ulcer at tail tip of reticulated python and five Civet cats and multiple wounds in hippopotamus was done.

All the animals recovered uneventfully. The hippopotamus died to respiratory incontinence.

6.6 Surgical Management of Femur Fracture in a Bonnet Monkey (*Macaca Radiata*).

L. Ranganath, B.N. Ranganath and S.M. Jayadevappa

Dept. of Veterinary Surgery and Radiology, Veterinary College, Hebbal, Bangalore, Karnataka.

An eight year old monkey belonging to Primate research laboratory, Indian Institute of Science, Bangalore was presented to Department of Surgery and Radiology, Veterinary College hospital, Bangalore with a history of lameness in right hind limb. The history Revealed that the animal had escaped from the cage and had a fall leading to lameness.
Physical examination and radiography confirmed mid shaft fracture of right femur. Under Ketamine anesthesia, fracture was repaired with intramedullary pinning. The animal had uneventful recovery.

6.7 Propofol Anaesthesia in Monkey-Report of Four Clinical Cases.

Salunke, V.M., Panchbhai, V.S., Bhokre, A.P. and Jadhao, P.T.

Department of Surgery & Radiology
Veterinary College, Parbhani.

Four cases of monkey of either sexes (2 M, 2F) of different age group having body weight 10- 30 kg. were presented at Veterinary Polyclinic, College of Veterinary & Animal Sciences, Parbhani were operated under intravenous Propofol anaesthesia with a bolus dose @3mg/kg and later on stage of surgical anaesthesia was maintained by injecting Propofol @ 0.4 mg/kg/minute along with saline infusion was found satisfactory.

6.8 Caesarian Section in a White Tigress.

Dr. Shadakshara Murthy B.N,
Dr. Valandikar and Dr. Khadri S.H.M

Mysore, Karnataka

Tigress Preetha, aged about 9yrs, weighing 100 kgs, Praimy, full term pregnant was subjected to caesarian section. Animal was anaesthetized with Ketamine Hcl and Xylazine at the dose rate of 5 mg and 1 mg per kg body wt respectively.
Caesarian section was conducted with ventral mid line incision. A male mature dead fetus was removed from the gravid uterus. Antibiotics were given for 7 days. The animal recovered uneventfully.

6.9 Amputation of Fore Limb in a Wild Tiger.

Dr. Shadakshara Murthy.B.N,
Dr. Valandikar and Dr. Khadri.S.H.M

Mysore, Karnataka

A wild tiger aged about 8-9 yrs, weighing around 130 kg, trapped by poachers was presented with the history of severely injured left paw. The Tiger was anesthetized with ketamine Hcl, Xylazine Hcl (5mg, 1mg/kg

body weight respectively).
On examination only 5th digit was intact, the wound was infected and infested with maggots. The wound was cleaned, debrided and dressed. Antibiotics were administered. Radiograph on 5th day indicated the loss of 1 to 4th digit. Amputation was performed at level of middle 1/3rd of radius and ulna using rotary osteotome and muscle bundles were sutured on the bone stump using vicryl. Subsequent day the wound was totally exposed due to auto mutilation.
Second surgery was performed removing further 1 ½ inches length of radius and ulna. Wound was debrided and sutured on to the bone stump. Antibiotics were continued for 7 days. Animal recovered uneventfully.

6.10 Gonadectomy of an Unusually Vicious Drug Addict Monkey.

A.K. Singh.
Veterinary Asst. Surgeon,
In-charge, Government Veterinary Hospital,
Khedi, Betul,
Madhya Pradesh

A German national lady presented a 7.5 kg pet male monkey of approx. 4years age at the pets clinic, Mapusa, Goa with a history of uncontrolled aggression, unusual vicious behaviour & vices like teasing, performing false mounting, showing in public, etc. thereby causing embaressment. As a possible humane solution bilateral gonadectomy was performed under general anaesthesia. Altogether a combination of Ketamine hydrochloride 3.5 ml (50 mg/ml)& Xylazine hydrochloride 0.2 ml (20mg/ml) intramuscularly was required to attain complete general anaesthesia ,which appeared in 18 minutes. Usually higher dose requirement was probably due to the nature of the monkey being a drug addict as discovered later. The surgical process involved retracting the testicles and severing the cords post ligation from the same lateral incision on the scrotum .Thereafter scrotal sac was packed with neomycin –Bacitracin –Sulphacetamide (nebasulf) powder and sutured with absorbable catgut .Ampicillin & Nimesulide was given orally for five days with great difficulty ,along with local application of antibiotic powder for about to weeks. The incision healed and unwanted vices subsided to a great extent by about five weeks post-operation.

6.11 Humerus Fracture Repair by Bone Plating in a Panther Cub.

Dr. R.V. Suresh Kumar and Dr M Sreenu

College Of Veterinary Science.
Tirupati 517502 (A.P)

A six months panther cub was presented to the clinic with a complaint of hit by villages and rescued by zoo authorities. Radiographic examination revealed mid shaft fracture of Humerus. Under Xylazine and Ketamine anaesthesia Bone plating was done to the same. The animal made uneventful recovery however died after a week.

6.12 Use of Yohimbine hydrochloride to reverse Xylazine- Ketamine Anaesthesia in Lions.

S.K. Tripathi, Kamal Kumar, M.V. Wani, M.S. Karwale.

Veer Mata Jijabai Bhosle Udyan, Byculla, Mumbai.

A clinical study was conducted in Lions us-

ing Xylazine hydrochloride (1 mg/kg) and Ketamine hydrochloride (3 mg/kg) combination for various surgical manipulations at Veer Mata Jijabai Bhosle Udyan, Mumbai. After the completion of surgical procedure, the anaesthesia was reversed by using Yohimbine hydrochloride (0.08 mg/kg) administered intravenously. During anaesthesia, the animals were observed for induction of anaesthesia, duration of anaesthesia and recovery times. During the anaesthesia, the respiratory rate, heart rate and rectal temperature were recorded. Blood sample of each animal was collected at peak level of anaesthesia and analyzed for hematology and blood biochemistry. Yohimbine hydrochloride was found useful for rapid reversing the state of anaesthesia in all these clinical cases of lions.

6.13 Comparison of Single and Double Incision Techniques of Vasectomy in Tigers (*panthera tigris*).

Vasanth M.S.

Department of Surgery, Veterinary College, Bangalore

Four adult male tigers of Bannerghatta National park, Bangalore were subjected to vasectomy. Body weight of the tigers was approximately assessed and were anesthetized using Xylazine hcl at 1.5 mg/kg and ketamine hcl 5 mg/kg. Onset of anaesthesia was seen in 8 –12 minutes.

Two tigers each were subjected to either single midline incision or double incision on each spermatic cord at the pre-scrotal site to perform vasectomy. The skin wound was closed using no 2 chromic catgut. The animals were administered yohimbine hcl (Antagozil) at 0.25 mg/kg to hasten recovery. Terramycin LA 10 ml was given deep I/M as one time antibiotic.

Depth of anaesthesia was adequate for the surgical procedure lasting for about 20 minutes, however, one animal showed convulsions during the post operative period. Approaching the spermatic cord was much easier using double incision technique.

6.14 Treatment of Ruptured Cornea of Eye in Elephant.

K.S. Chaudhari, L.B. Sarkate, G.S. Khandekar, P.A. Pansare, D.A. Jagtap, A.R. Chauhan.

Department of Surgery and Radiology, Bombay Veterinary College.

An elephant of 14 years old was brought for the treatment with having history of excessive tears from the right eye with the swelling of upper eyelid and well above that eyelid. Careful examination of eye revealed a small incised wound on the cornea with a small white opacity spot. The eye was cleaned daily with sterile 2% Boric acid solution and Pyrimon (Dexamethasone and Choramphenicol) eye drop instilled in the eye 3-4 times daily. Affected eye was protected by applying a clean cotton bag over the area of half face. A hot fomentation with MgSO4 was given twice daily. Strepto-penicillin injection (7.5gm) I/M daily for 5 days, injection Lasix (20ml) I/M daily for 3 days with injection Placentrex (2ml) subconjunctival every alternate days for 20 days were administered. The affected eye dressed with Pendistrine-SH ointment. The swelling of eyelid and epiphora disappeared gradually within 10-15 days, however the animal lost the vision with the affected eye.

Session No. 8
Award Session

8.1 Ilizarov Technique in the Management of Compound Tibial Fracture in Dogs.

Manish Chaudhari

Pune, Maharashtra

Transverse, mid-shaft, tibial osteotomies in twelve dogs were treated in this study. Group 1:Application of plaster of paris cast (six dogs), Group 2:Transfixation using Ilizarov apparatus (six dogs).The parameters studied during the post-operative period were clinical evaluation, radiological and biochemical studies. All the dogs were sacrificed on the 60th post-operative day for pathological examination. The Ilizarov's circular external skeletal fixator consisting of two full and a half aluminium ring, six k-wires and six connecting rods proved to be superior in this study as compared to the plaster cast. Transfixation using Ilizarov's circular external skeletal fixator provided good anatomic reduction, axial stiffness of the fractured fragments, joint mobility ,functional weight bearing status and prevented muscle atrophy thereby showing the superiority over the plaster cast application for the treatment of compound mid-diaphyseal tibial fracture in dogs.

8.2 Clinical Experiences During Capturing & Translocating Wild Leopards in Junnar Division

S.R. Deshmukh, S.B. Vidhate, D.D. Parkale & R.H. Sayad

Veterinary Dispensary Belhe
Tal – Junnar
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Heavy deforestation in western part of Sahyadri on one side and simultaneously mass cultivation of sugarcane crop in eastern part of Junnar taluka in Maharashtra resulted in transmigration and favorable creation of atmosphere which resulted significant increase in Leopard (135 in numbers) population in the eastern part of Junnar area of Maharashtra state.

Eighteen human deaths especially small children & working women were reported due to leopards' attack and also caused many domestic animal deaths. This problem was solved by trapping leopards, treating them in rescue center and their translocation in safe area. 22 injured leopards were treated for different types of wounds, apart from these twenty two cases, one case of tail gangrene, two cases of abscess, one case of spirochetosis, one case of Trypanosomiasis were also treated. Fecal and blood samples were also collected and analyzed.

8.3 Patellar Desmotomy in Standing Position.

V. K. Honalikar

Veterinary Polyclinic, Kohlapur

The Patellar Desmotomy operation is performed in field under cast position by most of the veterinarians. The hazards of casting in lateral recumbancy are dislocation of shoulder, hip and fracture of hind legs. In advance pregnant animal, casting is risky

and securing of animal is problem. To over come the hazard of casting and to perform the operation in most convenient position for patient, as well as surgeon, This method of patellar desmotomy in standing position is developed and practiced on 526 clinical cases since last 12 years.

8.4 Polypropylene Artificial Limb for a Cow.

T.V. Jayamohan,

Veterinary Surgeon,
Veterinary Polyclinic,
Taliparamba, Kerala.

A seven year old cross bred cow in eight month of gestation with compound comminuted fracture at the mid metatarsal region of the right hind limb was presented to the polyclinic. As a salvage operation, amputation in level with the midshaft region of right metatarsal was performed under epidural anaesthesia and local infiltration using 2 % Lignocaine Hcl solution. To aid the animal to stand up and help in ambulation, an artificial limb was prepared 5 weeks after amputation using polypropylene casts padded with sponge on the inner side. A combination of Amoxycillin Sodium 2gm and Cloxacillin Sodium 2gms was administered intramuscularly daily for 5 days. To reduce postoperative pain Diclofenac Sodium 300mgs was administered intramuscularly daily for 3 days.
The animal adapted itself to use the limb without any major complication

8.5 Intestinal Obstruction in Bovine –A Review of 14 clinical cases

Kolla Krishna Murty

Veterinary Assistant Surgeon,
Veterinary Dispensary
P. Gannavaram, East Godavari (Dt) –533 240 (A P)

A total of fourteen clinical cases of intestinal obstruction aged between one to eight years old formed the material for this study from 1995 to march 2002. All the animals had the history of severe abdominal pain on the first day followed by anorexia, cessation of rumination and defecation. Incidence of intestinal obstruction to species, age, sex and site was recorded. Intestinal Obstruction caused by volvulus and intussusception was identified. Surgery performed only in 11 cases and the remaining 3 cases died before attempting surgery. Observations were recorded on autopsy.
Among 14 cases reported 9 (64.28%) male and 5 (37.72%) female were affected. The obstruction was proximal in 10 (71.42%) and distal in 4 (25.58%). Among 14 animals 2 (14.29%); 3 (21.42%); 7(50.0%) and 2 (14.29%) cases of intestinal obstruction were noticed in 1-2; 3-4; 5-6 and 7-8 years of age. Intestinal obstruction due to intussusceptions was reported to be most frequent form of Intestinal obstruction (64.28%) followed by volvulus (35.72%). Intestinal obstruction was reported in 3 she buffalo and 11 in cattle. Volvulus was noticed in 5 cases and intussusception was the most frequent form of intestinal obstruction in Ongole bullocks due to hyper peristalsis. Among 11 cases operated 9 animals recorved successfully. Success rate depends on early diagnosis of the case and the extent of damage to intestine and dehydration.

8.6 Anorexia Associated with Feeding Habits in 7 Dogs.

Shadakshara Murthy B.N.

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Karanataka.

Seven cases of Anorexia in dogs were presented with one or more following associated symptoms such as, vomiting, constipation, arched back, rectal prolapse, weakness and with dehydration.
All the 7 cases were radiographed and found to have foreign body like cartilage, table tennis balls, seeds of jack fruits, shaving blades, stones, pins and cloths.
All the animals failed to respond medicinal treatment and were surgically intervened. Foreign bodies were removed from cervical esophagus, stomach, intestines and rectum. Antibiotics were administered. All the animals recovered uneventfully.

8.7 Evaluation of Diazepam and Triflupromazine hydrochloride as pre-anesthetics prior to lignocaine local anaesthesia in equine castration – A Field study

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Department of Animal Husbandry, Himachal Pradesh.

A total of 20 apparently healthy mules of 2 to 6year of age and weighing between 150 to 200 kg brought for castration at the polyclinic were the subjects of the present study. The mules were randomly divided into two groups of 10 animals each. Diazepam @ 0.2 mg/kg body weight intravenously in Group II, prior to local infiltration of 2 % lignocaine hydrochloride on the testicles. Clinical parameters such as rectal temperature, heart rate and respiration rate were recorded at 0, 15,30,45 and 60 minutes interval. The onset of sedation was observed with in 1.3 ± 0.6 min in Group I and with in 10 ± 1.35 min in Group II. Palpebral and corneal reflexes were present in both the groups. Other signs were also recorded. The duration of sedation was 42.38 ± 1.41 and 30.14 ± 0.16 min in Group I and II respectively. Quality of muscle relaxation was excellent in Group I and good in Group II. No significant effect on temperature was noticed in Group I but significant decrease was observed in group II. There was a significant effect on the cardiopulmonary system in the animals of Group II. Both the drugs were found to be effective, cheaper and easily available in field conditions.

8.8 Torsion with Rupture of Uterus in a She Buffalo.

R.J. Talele, J.S. Narkhede

District Artificial Insemination Centre, Jalgaon.

A case of unusual dystocia due to torsion and rupture of uterus in a surti buffalo was presented at the veterinary dispensary Paldhi with a foetal parts per vaginum. On per vaginal & per rectal examination, it was diagnosed as torsion with rupture of uterus.
The animal was operated under Xylazine as paravertebral nerve block. Verticles left flank incision was taken and the foetus along with placenta was removed. The involuted uterus was sutured blindly. The laprotomy wound was dressed daily for 10 days postoperatively and Oxytetracycline was administered for 7 days.

Session No. 9
Poster Session

9.1 Incidence of Urolithiasis in and around Bareilly District of Uttar Pradesh.

Amarpal, P. Kinjavdekar, H.P. Aithal, G.R. Singh, A.M. Pawde, K. Pratap and I.V. Mogha

Division of Surgery
Indian Veterinary Research Institute
Izatnagar-243 122

The study was conducted in the Division of Surgery, IVRI, Izatnagar. The records of clinical cases of urolithiasis reported at the polyclinic, IVRI, Izatnagar from May 1997 to April 2002 were screened. The information regarding history species breed, age, sex, duration of illness. Feeding habit of animal, clinical symptoms, treatment given and out came of the treatment (if available) were recorded. The data was utilized to calculate the overall percentage of cases suffering from urolithiasis, age, sex, breed, season-wise distribution of cases and complications associated with the treatment or urolithiasis.
It is concluded from the study that very young male goats, cattle and buffaloes, and older dogs are more prone to obstructive urolithiasis. There is some seasonal variation in the occurrence of urolithiasis in different species. Since the incidence of urinary calculi is on rise in this area, further studies should be undertaken to identify the factors responsible for high incidence of urolithiasis in animals.

9.2 An Unusual Case of Melanoma in a Peacock – A Case Report.

R.M.D. Alphonse, T.P. Balagopalan, B. Ramesh Kumar, R. Kumar and K.C. Varshney.

Department of Veterinary Surgery and Radiology, Rajiv Gandhi College of Veterinary and Animal Sciences, Pondicherry-9

A three-year-old female peacock was presented to the Teaching Hospital, Rajiv Gandhi College of Veterinary and Animal Sciences, Pondicherry with a history of progressively growing mass on the right side of the head since one month. The growth was dry in nature and hard in consistency, extending over the eye and the beak partially. The bird was sedated by administering Ketamine hydrochloride @ 3mg/kg. bodyweight intramuscularly and the growth was excised. The eye was removed surgically and Amoxycillin-Cloxacillin @ 10mg.kg. bodyweight was administered by intramuscular route postoperatively. The bird showed encouraging signs of recovery but found dead on third day. Histological study of the harvested tissue suggested melanoma.

9.3 Bilateral Fibroadenoma in ear canal of a Dog : A Case Report.

A.Anad, S.S.Singh, S.K.Mahajan, H.S.Banga, and Kuljit Singh

Department of Surgery & Radiology, PAU, Ludhiana.

Tumors are more likely to arise in the external ear canal and auditory meatus of old age dogs. Majority of ear canal tumors are be-

nign which include inflammatory polyps, papillomas, basal cell tumors and ceruminous gland adenomas. Fibroadenoma is most important benign tumor of mammary glands of female dogs. According to author's knowledge fibroadenoma is the first case to be reported in ear canal. A pointer male dog aged 10 years was presented in clinics having progressive nodular growth since last 2 months in both ear canals which was more comparatively larger in left ear. Bilateral total ear canal ablation was performed under general anaesthesia. External ear canal was highly fibrosed and calcified. Post operatively recovery was uneventful. On the basis of histopathological examination it was diagnosed to be a case of fibroadenoma.

9.4 Biochemical Changes following Urethroplasty using Formalin preserved Seromuscular Urinary Bladder and Caecal Allografts in Buffalo Calves (*Bubalus bubalis*).

Md. Moin Ansari, Naveen Kumar and S.P. Sharma.

Department of Surgery & Radiology, Bihar Veterinary College, Patna-800 014.

Experimental urethroplasty was conducted to study biological changes on 16 apperently healthy male buffalo calves weighing between 86 to 115 kg. in which formalin preserved seromuscular urinary bladder and caecal allografts were used as urethral prosthesis. Chromic catgut (No.2-0) and black braided silk (No.3-0) were used as suture material in half of the experimental animals. The success of urethroplasty was evaluated on the basis of observation and results in respect of determination of blood urea nitrogen (BUN) on day 0,1,2,3,7,14,21,28 post operatively. The analysis of variance revealed significance ($P<0.01$) difference in mean blood urea nitrogen values between pre and postoperative days. It could also be observed that mean BUN values started increasing from 21st days onwards, but remained within the normal physiological range, which might be due to inflammatory reaction in the process of healing. The analysis of variance always revealed the significant effect of grafting material on blood urea nitrogen during postoperative days. The mean BUN values in cystourethroplasty group were estimated to be significantly ($P<0.01$) higher in general than caecourethroplasty group.

9.5 Studies of Histomorphological changes after Urethroprosthesis using Formalin preserved Seromuscular Urinary Bladder Caecal Allografts in Buffalo Calves (*Bubalus bubalis*).

Md. Moin Ansari, Naveen Kumar and S.P. Sharma.

Department of Surgery & Radiology, Bihar Veterinary College, Patna-800 014.

The study was conducted on 8 apparently healthy male buffalo calves weighing between 86to 115 kg. in which Formalin preserved Seromuscular urinary bladder allografts were used as urethral prosthesis. Chromic catgut (No. 2-0) and braided silk (No. 3-0) were used as suture materials in half of the experimental animals. Histomorphological changes were studied on days 15, 30, 45, 60 post operatively. Histological section made from junctional area showed gradual development of transitional epithelium. On 15th post-operative day there was lack of distinct epithelium lining at the

zone of Urethroplasty. Regeneration uroepithelium was evident on day 30 after cystoprosthesis. On day 45, epithelial linings consisting of transitional cells were clearly discernible. The results were much satisfactory and there was complete regeneration of uroepithelium and it was evident that Formalin preserved Seromuscular urinary bladder grafts acted as scaffold around which there was regeneration of the uroepithelium and all other structures of the urethra on 60th post operative day.

9.6 An Unusual Case of Cystic Calculus In A Bitch – A Case Report.

T.P. Balagopalan, R.M.D. Alphonse and B. Ramesh Kumar.

Department of Veterinary Surgery and Radiology, Rajiv Gandhi College of Veterinary and Animal Sciences, Pondicherry-9

A five year old German shepherd bitch was presented to the Teaching Hospital, Rajiv Gandhi College of Veterinary and Animal Sciences, Pondicherry with the history of frequent incontinence of urine with symptoms of stranguria since 3 months. On clinical examination a palpable mass in the mid ventral aspect of the abdomen was evinced. Radiological examination of the abdomen reveled the presence of an oval shaped cystolith. Cystotomy was performed through midventral approach under general anaesthesia using Triflupromazine hydrochloride premedication and Thiopental sodium combination. An oval shaped calculus measuring approximately of 6 cm in length, 4.5 cm in width and weighing 100 gms was removed and the surgical wound was closed by routine manner. Ampicillin trihydrate 500 mg. was administered daily intramuscularly for seven days postoperatively and the animal recovered uneventfully.

9.7 An Unusual Foreign Body (Sewing Needle) in the Rectum of a Dog.

M.K. Bhargava and S.K. Pandey.

Department of Surgery & Radiology, College of Veterinary Science and AH, Jabalpur.

A male Pomeranian had a history of diarrhoea and off feeding for the last 3 days and not responding to any treatment. The examination of the animal revealed two ends of the thread of about 1"in length outside the anal sphincter. The plain radiograph revealed the presence of needle into the rectum. Attempts to take out the needle by pulling the thread under 2%, 3ml of Xylocaine induced epidural analgesia failed. Therefore, it was decided to perform laparotomy. Ampicilline hydrochloride 500mg twice daily was administered I/V, prior to day of operation along with 200 ml of dextrose with normal saline I/V.

The animal was sedated using Calmpose @ 1mg/kg I/V followed by Atropine Sulphate 20.01mg/kg I/M and then 10 minutes later by Ketamine Hydrochloride @10mg/kg I/V. left paramedian laparotomy was performed by giving incision starting from pubis and extending towards umbilicus. Intra-abdominal manipulation at region of pelvic inlet indicated the presence of needle. The needle was found embedded into the muscularis of the rectum. The needle was taken out along with 4" long thread with the help of needle holder. The examination revealed that it was sewing needle. The laparotomy incision was closed after placing Neosporin powder onto the abdominal cavity. Post operatively 500mg

of Ampicillin hydrochloride was administered I/M twice daily for 5 days along with I/M administration of Novalgin 2ml for 2 days. Daily dressing of wound was done by using Petbacin ointment and Neosporin powder 200 ml of Dextrose with normal saline was also administered for 2 days after the operation.

9.8 Oro- pharyngeal obstruction in a buffalo – A case report.

A.U. Bhikane G.U. Yadav, L.G. Anantwar and N.M. Markandeya

Veterinary college Udgir Dist. Latur

A 9 year old buffalo was brought to the college clinic with the history of ingestion of a leather piece followed by inability to take and swallow roughages however the animal was taking water normally and concentrates with difficulty. All the physiological parameters were in the normal range. A mouth gag was applied and a stomach tube was passed which easily entered the rumen indicating the absence of oesophageal obstruction. Subsequent examination of the oral cavity revealed the presence of a leather piece in the oro-pharyngeal region on the left side. The foreign body was completely removed by foreign body removal forceps. The animal started taking roughages and concentrates normally.

9.9 Avulsion of Hoof in a Horse- A Case Report.

P Bishnoi, T.K. Gehlot, S.K.Jhirwal and S.M.Kureshi.

College of Veterinary Animal Sciences, RAU, Bikaner.

A 7 year old horse was presented in the surgery clinic with a history of avulsion of hoof of its left fore foot after an accident with an army truck. The tyre of the truck rode over the foot of the horse and as the horse pulled its foot due to reflex action to the severe pain, the hoof got separated leaving behind the raw surface of the second and third phalanx and the structure covering them. The animal had severe pain and was not landing its affected limb on the ground. The foot was thoroughly washed with light potassium permanganate solution and antiseptic dressing was done with povidine lotion. A pressure bandage with adequate padding was applied and parenteral antibiotics for 15 days and analgesic for 5 days were administered. The follow up was done for about 6 months and it was observed that the wound got healed and gradually the horse started landing its affected limb. To alleviate pain a shoe was fabricated with adequate padding in it and the horse started bearing weight on the affected foot after putting it in the shoe. After 4 months the hoof started regrowing from the coronet, but it was deformed.

9.10 Sensitivity of Operation Theatre Microflora to Routinely used Anitibiotics.

K. Dahiya, Kuldip Singh and Jit Singh.

Dept. of Veterinary Surgery & Radiology CCS, Haryana Agricultural University Hisar-125001

The study was conducted in two operation theatres, one of large animals and other of small animals. Bacteriological samples were taken from air, inanimate objects: floor, instrument trolley and operation table, operation theatre personnel's nasopharyngeal and

fingertip swabs, skin before and after scrubbing and surgical incision immediately after closure and 24 hours after surgery. All the cultures isolated were subjected to antibiotic sensitivity test against 11 antibiotics routinely used after surgery and the resistance pattern was studied.

The results of antibiotic sensitivity test in large animal operation theatre showed a higher resistance of microorganisms against oxytetracycline whereas in small animal operation theatre, a higher percentage of resistance was observed against oxytetracycline, penicillin-G, ampicillin + cloxacillin, ampicillin and cloxacillin. When the results of antibiotic sensitivity test were studied species wise, highest percentage of resistance was encountered in Staphylococcus spp. (Staphylococcus aureus and coagulase negative staphylococci combined) against ampicillin + cloxacillin, oxytetracycline and penicillin-G. Bacillus spp. followed Staphylococcus spp. in resistance. This species was observed to be resistant against oxytetracycline, ampicillin and penicillin-G in decreasing order of resistance.

Therefore, the antibiotic sensitivity pattern revealed that enrofloxacin might be used as postoperative antibiotics routinely after surgery as very rare resistance was encountered against this antibiotic in various species of microorganisms isolated from operation theatre environment.

9.11 Disinfection of Inanimate Objects with Combatan-Ds and Glutaril in Operation Theatres.

S.K.Dahiya, Kuldip Singh and Jit Singh

Dept. of Veterinary Surgery & Radiology
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The study was conducted to evaluate the use of two operation theatre disinfectants, Combatan-DS and Glutaril on inanimate objects of two operation theatres, one of large animals and other of small animals. Bacteriological samples were taken from three inanimate objects – floor, instrument trolley and operation table and total bacterial count was done. The samples were taken before and after disinfection of the inanimate objects.

Before disinfection total bacterial count of the order of 10^6 CFU/ swab sample was observed. Although the microbial counts of the objects after preparation were of the order of 10^2 CFU/ swab sample, a percent decrease of about 99% was obtained on all the objects in both of the operation theatres, indicating the effectiveness of the above disinfectants to reduce the microbial load on inanimate objects.

Therefore the present study suggests that the use of above disinfectants should be incorporated in routine disnfection programme of operation theatres.

9.12 Effect of Formaldehyde Fumigation on Operation Theatre Air.

S.K. Dahiya, Kuldip Singh, Anshu Sharma, Jit Singh and Subhash Chander.

Department Of Veterinary Surgery & Radiology
CCS, Haryana Agricultural University
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The present study was conducted in two operation theatres, one of large animals and other of small animals. The samples were taken in duplicate under three conditions i.e. unprepared, prepared and prepared and fumigated operation theatres.

Fumigation with formaldehyde (1:1, diluted with water) was done in each operation theatre for 30 minutes and then the samples were taken from both of the operation theatres at two locations viz. on the operation table and instrument trolley.

With the above method of fumigation, there was significant reduction in bacterial count of the operation theatres. In large animal operation theatre the reduction in bacterial count was 37.4-43.4%, whereas this reduction in small animal operation theatre was 66.6-66.9%.

The result of the present study highlights the need for thorough cleanliness in operation theatres and suggests that formaldehyde fumigation should be included in routine preparation of operation theatres.

9.13 Surgical correction of Mandibular Fracture using Miniplate in a Boxer dog.

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A one and half year old Boxer dog was brought to Dept. of Veterinary Surgery & Radiology with injury to right lip consequent to a hit from the owner. Plain radiograph of right lower jaw revealed oblique fracture of horizontal ramus of mandible between second and third premolar teeth. The main fragment was exposed through the gingival mucosa. The fracture was reduced using stainless steel four holed miniplate under premedication with atropine sulphate @ 0.04 mg/ kg body weight and xylazine hydrochloride @ 0.5 mg/kg body weight and thiopentone sodium (5%) to effect surgical anaesthesia. Post operatively Amoxycillin and Cloxacillin syrup was administered orally. The dog was kept on liquid diet for one week followed by normal food. The miniplate was removed under anaesthesia after one and half month when there was a rigid and firm union of fragments. The animal showed uneventful recovery without apparent asymmetry of the lower jaw.

9.14 Acute Intestinal Obstruction in a Heifer - A Case Report.

Dinesh P.T., Vinu David & C. Salahudheen

Veterinary Surgeon, Veterinary Dispensary, Kizhakoth

A two year old, crossbred heifer was referred with a history of anorexia, absence of defecation and normal urination since one week, abdominal distension and frequent lying down and getting up. Clinical examination revealed bilaterally distended abdomen. The conjunctival mucous membrane was pale. Respiration was shallow and rapid and the pulse rate was normal. On per rectal examination the rectum was found empty except for pasty mucus. Distended intestinal loops with a sausage shaped structure could be identified at about the level of pelvic inlet. The condition was tentatively diagnosed as acute intestinal obstruction. Laparotomy was performed through a vertical posterior right flank incision under sedation with Xylazine @ 0.2 mg/Kg body weight and paravertebral nerve block using 2% Lignocaine hydrochloride solution. A portion of ileum was found intussuscepted into the posterior segment close to the ileo-caecocolic junction and the region was found gangrenous. Enterotomy of the region revealed presence of tounge of another bovine ob-

structing the lumen at ileo- caeco-colioc junction and was removed. The gangrenous portion of the intestine was resected out and enteroanastomosis was carried out with inversion sutures starting with Mounsel's mesenteric sutures using choromic catgut size 1/0. Laparotomy wound was closed in routine manner using chromic catgut size 1. Skin wound was apposed in vertical mattress alternating with simple interrupted sutures using coarse nylon. Postoperatively laxatives, parenteral antbiotics and fluids were administered for 10 consecutive days. Skin sutures were removed on 8th post-operative day. The animal started defecating normally from the third day onwards and became apparently normal by two week.

9.15 Surgical Excision of a Tumour in an Adult Male Dog.

Kevin D'Mello and Astrid Almeida .

International Animal Rescue, Animal Tracks, Murdungo Vaddo, Assagao, Goa-403507

An apparently healthy adult stray male dog was presented with a large tumour like growth on the right side in the neck region. The site was prepared for surgery. The dog was anaesthetized with Chlorpromazine and thiopentone combination and the growth excised. Bleeding was controlled with thermoquatery and by artery forceps. Skin was sutured with black braided Silk 1-0 in horizontal mattress pattern. The growth was subjected to histopathological examination which revealed it to be a Pappilary cyst adenocarcinoma and granulation tissues with Squamous Cell metaplasia. Post operatively the wound showed some oozing but healed with a course of antibiotics (ampicillin) and local dressing. All sutures were removed on the 12th day post operation and the dog discharged three days later.

9.16 Haematological and Biochemical Effects of Neuroleptanalgesia with Xylazine and Pentazocine in Bovine-A Clinical Study.

Doiphode P.V. and Aher V.D.

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The study was conducted on 18 clinical cases presented for different surgical interventions at veterinary polyclinic, College of Veterinary and Animal Sciences, Parbhani. They were divided into three groups I, II and III consisting of six animals in each group. In group I, Xylazine alone @ 0.1 mg/ kg was administered intravenously, in group II, Pentazocine @ 0.5 mg / kg and in group III, Xylazine- Pentazocine @ 0.1 mg/ kg and 0.5 mg/ kg, respectively was administered intravenously in combination.
Blood samples were collected before drug administration and at 20 min after injection of drug and after 24 hours. Parameters investigated were total erythrocyte count (TEC), total leucocyte count (TLC), haemoglobin concentration (Hb), packed cell volume (PCV), blood glucose, blood urea nitrogen (BUN), serum glutamic oxaloacetate transaminase (SGOT), serum glutamic pyruvate transaminase (SGPT) using standard techniques. The statistical data was done by using paired 't' test at 1% and 5 % level of significance.

9.17 Contrast Arthography of the Stifle Joint in Calves.

Sanjay Droliya, S.M. Behl. Rishi Tayal,

S.K.Chawla and A.P. Singh.

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CCSHAU, Hisar.

Positive, negative and double contrast arthrography of the stifle joint was done in calves using Sodium Iothalmate (Sunray - 420) and room air as positive and negative contrast media respectively. The concentration of the positive contrast medium used were 23 %, 35% and 70% w/v. for evaluation of radiographic details of the cartilaginous surface of the joint, 6-7 ml of 35 % Sodium Iothalmate was considered optimum. A higher volume of 30-40 ml of contrast medium was required for delineation of different joint sacs. For pneumoarthrography 60-70cc of air found to be adequate. Mediolateral, flexed medilateral and caudocranial views provided adequate details of different parts of the joints. Better visualizasion of the articular surfaces was obtained with 35 % concentration of Sodium Iothalmate. Good quality of arthrograms could be obtained within 3 minutes of injection of contrast medium. Double contrast arthrography did not offer any advantage except for the delineation of the thickness of the joint capsule.

9.18 Oesophageal obstruction in a cow.

T.K. Gahlot, S.M. Qureshi & Suresh Jhirwal

Dept. of Veterinary Surgery and Radiology.
College of Veterinary and Animal Science,
Bikaner

A cross bred cow aged 8 years was presented to the Surgery clinic with a history of inability to ingest food and water. Animal showed discomfort and regurgitated profuse saliva from mouth, many times together with a cough reflex. Introduction of probang confirmed oesophageal obstruction at mid cervical region. Animal was in last month of gestation and developed severe tympany leading to a state of choke. Animal was given an intraruminal antibloat treatment.
Animal was secured in lateral recumbency and oesophagotomy was done under local anaesthesia. A trichobezoar of approximately tennis ball size was recovered from the oesophagus. Oesophagotomy incision was closed in routine manner. Animal was kept on fluid therapy for 7 days and thereafter a water rich gruel was administered. Soft chopped green feed was offered to the animal after three weeks. Antibiotic and anti-inflammatory injection were given upto one week. Animal□made uneventful recovery.

9.19 Successful Therapeutic management of Osteomyelitis in a clinical case of she goat.

C.N. Galdhar, S.K. Tiwari and S. Roy

Department of Epidemiology and preventive medicine
College of Veterinary and A.H.
Anjora, Durg (C.G.)

A Jamunapari she goat aged 2 years was presented to college clinics with the complaint of dysorexia, painful soft tissue swelling below the shoulder joint of fore limb and lameness from last 10 days. Radiograph revealed osteomyelitis. The case was treated with IM injection of Gentamicin @ 4 mg/ kg body weight alone with Diclofenac Sodium @ 1 mg/ kg body weight and injection Hivit @ 3 ml/day for 21 days. Regular dressing by povidine iodine and wisprec cream along

with immobilization by plaster cast were also being carried out for 21 days. There was uneventful recovery in a span of five weeks.

9.20 Antibioma- Surgical Management.

Rajesh Garg.

Veterinary officer, Govt. hospital, Kuchor, athuni, Bikaner

A 7-year-old camel (*Camalus dromedarious*) affected by antibioma of the chest pad was treated successfully by surgical intervention and supportive medicine.

9.21 Evaluation of Therapeutic Efficacy of Seabuckthorn (*Hippophae rhamnoides*) in Cutaneous Wounds in Canines- Clinical and Haematological Observations.

Munish Gupta, Mohinder Singh, A.C.Varshney, S.P. Tyagi, Adarsh Kumar and S.K. Sharma.

Department of Surgery & Radiology
College of Veterinary & Animal Sciences
CSK HPKV-Palampur 176062 (H.P.)

The study was conducted in nine adult healthy mongrel dogs of either sex weighing between 10kg-18kg, which were divided into three groups of three animals each. The excisional cutaneous wounds were created surgically under general anaesthesia. The animals of group-I were treated by topical application of seabuckthorn ointment (Test), group-II by topical application of 5% betadine ointment and the animals constituting group-III served as negative control i.e. treated by topical application of liquid paraffin up to 28 days. Clinical and haematological observations were recorded at 0, 3rd, 7th, 14th, 21st and 28th day post treatment. The rectal temperature and heart rate in all the animals in all the groups remained with in the normal range and did not show any significant change during the entire course of study however, respiration rate showed a significant difference in between the groups as well as between the days. Grossly the signs of acute inflammatory reactions were less pronounced in seabuckthorn and betadine treated groups as compared to control group and these signs in the later group remained up to 7th day post treatment (DPT) whereas these subsided by day 3 post treatment in seabuckthorn and betadine treated groups. The exudation in the first two groups was subsided by day 7 as compared to control group where it remained up to 7th DPT with mild to moderate intensity. The granulation tissue formation was noticed on 3rd DPT in seabuckthorn and betadine treated animals as compared to control group where the granulation tissue appeared on 7th DPT. The animals of group-I and group-II showed complete and extensive epithelialization and scar formation between 14th-18th DPT but in control group the complete scar formation was observed on 21st DPT. The seabuckthorn and betadine treated wounds showed uniform wound contraction up to 36% and 32% respectively on 7th DPT as compared to control group which showed only 17% but on14th DPT, the wound contraction was 75% and 77% respectively in seabuckthorn and betadine treated animals whereas it was 69% in control group. No change in the haematological parameters was observed in all the animals of all the groups during entire course of study.

9.22 Arthrogryposis Congenita in a Calf and its Surgical Management.

S. Hazra, S. Guha, S. Halder. S.K. Nandi, D.

Ghosh, D.K. De, T.B. Sen and A. Konar.

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West Bengal University Of Animal And Fishery Sciences Kolkata

Arthrogryposis Congenita, a condition characterised by contraction of the extensor tendon of hock joint, was dignosed in a ten day old calf.
The involved tendons i.e. m. extensor digiti pedis longis and medial extensor digiti IV were identified and sectioned maintaining strict aseptic conditions. Animal was put on plaster cast postoperatively for one month. Deformity was corrected to a considerable extent. Animal could bear weight on affected limbs.
Contracted flexor tendons have been reported extensively but this was a successful surgical management of contracted extensor tendon.

9.23 Evaluation of Osteogenic Activity of Bamboo (*Bambusa arundinacea*) buds on Fracture Healing in Rabbit.

M. Haque, S.K. Maiti, N.Haque, G.R. Singh, H.P. Aithal and N, Kumar.

Division of Surgery
IVRI, Izatnagar.

The effect of osteogenic activity of bamboo (*Bambusa arundinacea*) buds on fracture healing was studied. An absolute alcohol extract of tender bamboo shoot was prepared. 8 adult spayed female New Zealand White Rabbits were divided into 2 equal groups. In all the animals midshaft simple transverse fractures were created in both the ulnae under thiopental anaesthesia. In test group 1 ml of the bamboo extract was injected subcutaneous for alternate days up to day 40 post fracture. Clinically the animals of test group exhibited early weight bearing when compared to that of control group. Radiographs taken on 0, 10, 20, 30and 40 post operative revealed acceleration of fracture healing in test group when compared to that of control group. The animals of the test group did not show any adverse effect of the extract.

9.24 Significance of Radiographic Study in Suspect Cases of Foreign Body Syndrome in Bovines.

P. T. Jadhav, G.U. Jadhav, S.D. moregaonkar and A.P. Bhokre

Veterinary college Udgir, dist. Latur (M.S.)

Radiographs were found to be useful for detection of foreign bodies in reticulum in 91.42 % cases, where metallic objects were recovered by surgery. In the remaining cases, though radiographs did not indicate foreign bodies, clinical signs and examination was suggestive of foreign body syndrome. Non-metallic objects were recovered in these cases.

9.25 Experimental Evalutaion of fresh Turmeric Rhizome (*Curcuma longa*) Juice as Topical Medicament on Wound Healing in Buffalo-Calves.

S.K. Jhirwal and N.R. Purohit.

Department of Veterinary Surgery and Radiology, College of Veterinary and Animal Science, Bikaner.

An experimental study was conducted to evaluate the effect of Fresh Turmeric Rhi-

zome (Curcuma longa) Juice as topical medicament on wound healing in 6 buffalo-calves.

Under anterior epidural anaesthesia, forty full-thickness cutaneous excisional open wounds of the size 2.5 x 2.5 cm, eight in each animal (four on either side of the dorsal median plane) were created surgically at the thoraco-lumbar region. The wounds over the right thoraco-lumbar region were treated with Fresh Turmeric Rhizome Juice. The wounds over the left thoraco-lumbar region were treated with sterile normal saline solution (control).

The wound dressing was done daily for 12 days then on alternate days. The clinical observations of the wounds were made daily. The healing process was evaluated at 5 days interval upto day 20 by per cent healing, and biochemical analysis of biopsy specimens for hydroxyproline and hexosamine estimation. On the basis of overall observations it was concluded that the dressing material was well tolerated and enhance the wound healing process.

9.26 Fibrosarcoma of Upper Jaw in a Civet Cat –A case report.

Kamal Kumar, S.K. Tripathi, C.S. Lele, K.S. Chaudhari and D.A. Jagtap.

Veer Mata Jijabai Bhosle Udyan, Byculla, Mumbai.

A civet cat aged about five years was brought in the Veterinary Zoo Hospital of Veer Mata Jijabai Bhosle Udyan, Mumbai with swelling in the upper jaw on the left side. The examination revealed a growth on all the premolar and molar teeth involving the gums and the upper jaw. Palliative treatment with analgesics, anti-inflammatory drugs and antibiotics was given for two weeks, but there was no improvement. The growth was completely excised under a combination of Triflupromazine hydrochloride (1mg/kg) and Ketamine hydrochloride (15mg/kg) anaesthesia. however the cat died after one week. Histopathology of growth revealed Fibro sarcoma.

9.27 Tracheal Grafting in Buffalo Calves.

S.R. Khichar, V.S. Panchbhai, V.M. Salunke and S.D. Deshpande.

College of Veterinary and Animal Sciences, M.A.F.S.U., Parbhani-431 402

Repair of tracheal defect by tracheoplasty was under taken in 10 experimental buffalo calves. A 2cm x 3cm vent was created . five animals of group I were treated with homologous tracheal graft, while five animals in group II were treated with allogenous conchal cartilage.

There was no significant change in rectal temperature, but significant change in respiratory rate and heart rate was observed. Haemotological studies revealed no significant change in haemoglobin and TEC, however ther was leucocytosis and neutrophilia. Radiological observation of trachea revealed inflammatory lesion on union line upto 30 days, therafter little stenosis and kink upto 60 days.

Histopathological studies of union line of animals from both group revealed organised epithelium with dense fibers of connective tissue in implanted graft. There was infilteration on mononuclear fibroblast, plenty of collagen fibre invasion in between the host and graft tissue.

9.28 Efficacy of Seabuckthorn (*Hippophae*

***rhamnoides*) in the Healing of the Infected Cutaneous Wounds in Calves-** A Clinical and haematological Study.

Amit Mahajan, S.K Sharma, S.P Tyagi and A.C Varshney.

Department of Surgery & Radiology, COVAS, CSK HPKV, Palampur (HP) 176062.

The present study was conducted on 9 male calves, 6-12 months old by creating six equidimentional (3cmx3cm) full thickness wounds at thoracolumbar region in each animal. The animals were divided into 3 Groups of 3 animals each viz. Group I (liquid paraffin, negative control), Group II (positive control, betadine ointment), Group III (test, SBT ointment). The wounds were infected with Staphylococcus aureus infection having $2.1x10^9$ organisms/ml. The treatment was started two days post infection. In all the animals, 48 hrs following infection, there was moderate to extensive inflammation and exudation, significant increase in the respiration and heart rate along with a significant decrease in the haematocrit value and neutrophilia. Following treatments the inflammation subsided earlier in Groups II and III. The wounds were filled with the granulation tissue upto the extent of 90 per cent by day 14 in all the groups. The contraction of the wounds was comparable in all the groups. No significant changes were recorded in various clinical and haematological parameters, irrespective of the treatment adopted except that there was a significant neutrophilia before the treatment and significant lymphocytosis after the treatment. It was concluded that seabuckthorn has a positive role in wound healing of the infected cutaneous wounds in cow calves.

9.29 Studies on Clinical Cases of Foetal Dystocia with Reference to Involvement of Human Factor.

N.M. Markandeya V.M. Salunkhe, G.U. Yadav, A.U. Bhikane

Veterinary College,Udgir

Dystocia is critical condition which needs an emergency intervention and prognosis of such cases is un –predictable for both dam and foetus. Bovines are most commonly affected species with dystocia. The present study was conducted on the cases of dystocia attended in 93 cows 136 buffaloes and 67 goats. It is observed that 62.04.63.97 and 73.13 % cows, buffaloes and goats respectively were presented to the clinics only after human handling and efforts to relieve dystocia. Foetal dystocia cases were relived by obstetrical mutations in 62.36, 36.09 and 26.80 % cows, buffaloes and goats respectively and other cases required caesarean operation. Postpartum recovery was recorded in 76.96, 69.36 and 68.73 % respectively. It was concluded that interference of unwanted human factor in parturient animal leads to complications of foetal dystocia, poor survival rate of fetuses and low percentage of dam recovery.

9.30 Surgical Management of Rectal Adenocarcinoma in a Dog-A Case Report.

L. Nagarajan, R. Sureshkumar and K. Ameerjan

Department of Veterinary Surgery and Radiology. Madras Veterinary College Chennai.7

An eight year old non descript dog was re-

ported with a history of straining during defecation for the past one year. On clinical examination the dog was found to have a tense abdomen and faecal material could be palpated in the colon. Survey radiograph outlined a faeces filled colon and rectum. A thickened and rough area of rectal mucous membrane of 1 cm length from the anal opening could be palpated on rectal examination. A circular incision was made around the anal opening and blunt dissection was carried out until the proximal extremity of the thickening was reached. The rectum was pulled out through the circular incision and was transected proximal to the thickened area. The healthy portion of the rectum was sutured to the skin.

The resected rectal piece was subjected to histopathological examination and it was diagnosed as adenocarcinoma of the rectum. Faecal incontinence which was observed during the early post operative period normalized after 3 weeks and the animal made uneventful recovery.

9.31 Effect of Ultrasound Therapy on Peritendinous Adhesions -Clinical, Radiological, Histopathological And Histochemical Observations.

N. Kumar, Naveen Kumar, S. K. Maiti, A. K. Sharma and A. K. Gangwar.

Division of Surgery
Indian Veterinary Research Institute
Izatnagar (U.P.) – 243122.

Sixteen adult New Zealand white rabbits of either sex divided equally into two groups (A and B) of 8 animals each. A tendon model for peritendinous adhesions was created by crushing an area of 2 cm in Achilles tendon of left hind limb under thiopental (2.5%) anaesthesia. IngroupA, ultrasonic therapy at the rate of pulsed (1:1) 0.5w/cm2 was given daily, starting from day 3 postoperatively for 10 days. Group B, where no anti-adhesive treatment was given, served as control Efficacy of ultrasound therapy was evaluated clinically (inflammatory swelling, post-operative pain, rectal temperature, weight bearing of the test limb, gliding activity and general behavior) and grossly on days 7, 14, 30 and 60 post-operatively. Fasciagraphy was performed at the injury site on days 20, 40 and 60 post-operatively. Histopathological examination of the test tendon was done on days 7, 14, 30 and 60 post-trauma. In addition to H & E staining, special staining viz. Masson's trichrome, Silver, Verhoeff's, and Periodic Acid Schiff-Alcian blue (PAS-AB) staining was also done. Surgical wounds in all the animals were healed by first intention.

Significant increase ($P<0.05$) in rectal temperature was observed up to 3 days in both the groups. Non-significant ($P>0.05$) increase in exudation was observed up to day 3 in all the animals. Animals of control group (B) showed higher warmth scores at different time intervals Significant ($P<0.05$) reduction in weight bearing was observed in both the groups for 2-3 days, thereafter, animals started bearing weight, however, occasional jerking of the limb was observed. Minimum tendon gliding movement was observed up to day 14 in both the groups, however, normal gliding was resumed earlier in test group than control. Air-tendonograms at different intervals revealed progressive decrease in thickening, density and adhesions in test group, whereas, in control group adhesions were strong. Histopathological observations on day 30 of test group revealed loosening of sheath and rarification of adhesions. It was marked on day 60 as very little peritendinous

adhesions were observed as compare to control group. Histochemical study on day 7 showed intense activity in control group, whereas it was moderate in test group, which further diminished on subsequent intervals, and no activity was seen on day 60.

9.32 The Incidence of Animal Neoplasms in the Teaching Hospital, Anand – 1996 to 2001.

Parikh P. V., Patil D. B.; Kelawala, N. H., Barvalia, D. R., Tank P. H., Kognole, S. M., Patel S. M. and Patel J. R.

Department of Surgery and Radiology
College of Veterinary Science and Animal Husbandry, Gujarat Agricultural University, Anand Campus, Anand – 388 001

A study on the incidence of animal neoplasms was conducted from 1996- 2001, at Veterinary College, Hospital Anand. Those clinical cases wherein histopathology was carried out were included. In total 125 cases of neoplasms were recorded in bovine (44), equine (09), dromedary (04), Canine (66) and Caprine (02) species. Among canine neoplasms mammary tumors (39) and veneral granuloma (16) dominated. In bovines squamous cell carcinoma of horn (13) was maximum.

9.33 Bone Stapling for Bilateral Carpal Valgus in a Great Dane Puppy.

A.M. Pawde

Division of Surgery
IVRI, Izatnagar

A five-month-old black Great Dane puppy was presented to the college clinics with a complaint of lateral angulation of both the fore feet. Clinically the animal was alert and active but the weight was borne on medial side of foot, adopted a plantigrade posture with lateromedial curvature of forearm. Palpation and flexion of the limb revealed no pain and discomfort. Apparent limb shortening was discernible when compared with both the hind limbs. Radiographic examination favoured lateromedial curvature of radius and ulna, increased width of ulna, shortening of bones, narrowed apex of 'V' shaped distal ulnar growth plate. The distance between distal radial & ulnar plates was more indicating the disparity. It was treated by conservative approach. The operative area was prepared for aseptic surgery for placing bone staple. A longitudinal incision was made directly over the growth plate i.e. antero medial aspect of carpus without incising the periosteum. Two holes were made by staples starter on making sure that the bars of the staple will be on either side of the growth plate. The staple was driven with the help of staple driver into the bone with hammer and X-ray was taken to ensure the correct position of staple (Fig. 4). The skin was closed with cruciate mattress sutures and a support bandage was applied for 1 week. Antibiotics and analgesics were administered for 7 and 4 days respectively. Exercise was restricted to short walks while the staple was in situ. After six week the limb almost become completely straight and the case was followed upto 120 days post operatively.

9.34 Package for Caesarean Section in Large Animal Surgery.

O.S. Prakash

Veterinary Officer, Veterinary Hospital,

Shimoga, Karnataka.

Cost of Caesarean section in buffalo, indigenous and crossbred was estimated based on practical experience in 18 cases referred to the Veterinary Hospital.

9.35 Allografting of fresh and preserved foetal cortical bones for treatment of fracture.

Rajesh, K.U., Sharma, V.K. and Amit Sharma

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G.B. Pant Univ. of Agri. & Tech., Pantnagar, Uttaranchal, India

Bones of growing animals and fetuses have been used as graft which usually remain in a rapidly developing stage, possess more number of viable osteoprogenitor stem cells along with growth promoting substances like bone morphogenic protein and do not initiate immunological reaction.

Osteoinductive property of fresh and preserved foetal cortical allografts was studied in 27 dogs having an osseous defect of approximately 1cm x 1cm diameter in the cortex of mid radial diaphyses. Dogs were divided randomly in 3 equal groups A, B and C. In group A defects were not repaired (control) while the defects in group B and C, defects were filled with fresh and preserved foetal cortical allografts respectively. The osteoinducing potential of the grafts was evaluated based on clinical, radiographic, angiographic, microangiographic, histological, histochemical and tetracycline labelling studies at the 15th, 45th and 60th post transplantation day.

Based on study it was concluded that both fresh and preserved cortical bone allografts possessed osteogenic & osteoinductive properties. However, the fresh grafts proved to be superior to the preserved grafts.

9.36 Extensive Utero-Ovarian Adeno carcinoma in a Pomeranian bitch and its surgical and Chemotherapeutic Management.

Raju sharda, R. Pal, R.K. Gupta and Neelu Gupta.

Department of Surgery & Radiology, College of Veterinary Sciences and AH.
Anjora, Durg. (CG).

A Pomeranian bitch aged 6.5 years weighing 6.7 kg on clinical examination revealed a large round mass occupying most of the abdominal space. After obtaining proper anaesthesia exploratory laprotomy was performed. A large neoplasm weighing 3.2 kg involving uterus and ovaries of left side was surgically removed. Histopathologically the tumorous growth was diagnosed as adenocarcinoma and characterized by presence of neoplastic epithelial cell arranged in multiple layers forming a nest. Surgical management along with antineoplastic drug treatment twice at weekly interval was sufficient to cure the disease completely.

9.37 Normograde Pinning using Steinmann Pin for Mandibular Fracture Treatment in a Dog.

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Department of Veterinary Surgery and Radiology, Madras Veterinary College, Chennai - 600 007.

A one and half year old non descript dog was brought to the MVC following a RTA. Clinical examination of the animal revealed a lacerated wound in the right hind leg and lateral deviation of the lower jaw with profuse bleeding. The lacerated wound was sutured after controlling the bleeding and the animal was stabilized with intravenous fluids and antibiotics. A detailed examination of the lower jaw revealed short oblique fracture of the left proximal mandible. radiographs were taken to confirm and for preoperative plan. Under general anaesthesia with Xylazine and Ketamine hvdrochloride the fracture fragments were brought in to apposition and a normograde intramedullary pinning was performed using a 1.8 mm steinmann pin. Mucosal lacerations were approximated using 2-0 catgut. The animal could lap the milk on the first post-operative day and moves the jaws freely due to the rigid fixation. The dog was discharged after a week.

9.38 Retrospective Evaluation of Survivor and Non-Survivor Cases of Reticular Abscess in Bovines.

N.S. Saini, S.S. Singh, Ashwani Kumar,
A. Anand, J. Mohindroo and S.K. Mahajan

Department of Veterinary Surgery and Radiology,
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Ludhiana, Punjab.

Retrospective analysis of survivor and non-survivor cases of reticular abscess in buffaloes (n=95) and cows (n=5) was done on cases operated during January 1980-July 2002. Majority of the buffaloes (93.0%) were more than 4 years of age. A good number of cases of buffaloes (n=78) and cows (n=4) recovered completely after surgical treatment. Most of the non-surviving buffaloes (72.7%) had recurrent tympany for more than three weeks, whereas, surviving buffaloes (55.6%) had it for less than three weeks. Constipation was recorded in 67.7% of survivors and 75.0% of non-survivors. Rumen motility had increased in 43.0 % (n=26) of survivor cases. Majority of the animals had normal rectal temperature but a gradual falls in milk yield. Hemoglobin content less than 10 g/dL was seen in 34.4% survivors and 75.0% in non-survivors. Total leukocyte count more than 10,000 per mm3 was observed in 75.0% of non-survivors and 41.9% of survivors. Majority of non-survivors (76.0%) and survivors (87.5%) had neutrophilic count more than 50%. Most of the surviving buffaloes (n=17) were either recently parturated or were in early lactation, whereas, non-surviving buffaloes were either in advance pregnancy or in late stages of lactation. Radiography was done in 28 surviving and eight non-surviving buffaloes. Only, 32.1% survivors and 25.0% of non-survivors were confirmed for reticular abscess, radiographically. Metallic foreign bodies were recovered from reticulum in 79.5% (n=62) and 88.3% (n=15) in surviving and non-surviving buffaloes, respectively. On rumenotomy, of the total 95 operated buffaloes 82 had single, 12 had double and one had triple reticular abscess. Majority of the buffaloes had abscess located on antero-ventral aspect of the reticulumin survivors (71.8%) and non-survivors (80.0%). Rumen pH more than seven were recorded in 39.0% cases of survivors and in all the buffaloes of non-survivors group.The23.1%survivor buffaloes had peritoneal adhesions Uneventful recovery was observed in 92.3% cases of survivors, whereas, 7.7% buffaloes showed recurrence

Some surviving buffaloes had associated diseases like diaphragmatic hernia (n=2), localized peritonitis (n=4) and pedunculated leomyoma (n=1), whereas, non-surviving buffaloes had diaphragmatic hernia (n=4), pericarditis (n=1) and fibrous tract (n=1). Out of five cows positive for reticular abscess, majority had recurrent tympany (n=3), completely off fed (n=3), constipation (n=3), showed gradual fall in milk yield (n=4), single abscess (n=5) located on the antero-ventral (n=2) side of the reticulum and uneventful recovery (n=4). Associated diseases in cows included abomasal impaction (n=1) and pericarditis (n=1).

9.39 Ectopic Pregnancy in a Bitch.

Shadakshara Murthy.B.N.

City Veterinary Hospital
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A Golden Retriever Bitch aged 5 ½ years, body weight 24kgs with the history of whelping a year back, and not mated in the last estrus cycle (4 ½ months back) was presented with the complaint of anorexia since 20 days. On palpation of abdomen a hard firm mass about the size of a tennis ball was felt in the post umbilical area, confirmed as fetus on radiography.
The animal was anesthetized and a mid ventral incision was done. Uterus was pulled out of the abdomen, found to be non gravid. On exploring the abdomen the fetus covered with thick lathery membrane with overall adhesion to the mesentery was exteriorized. The mesenteric attachments were severed and the fetus was separated. The abdomen was closed as usual. The fetus was single, dead male and matured. Course of antibiotics was administered. The animal recovered uneventfully.

9.40 Assessment of the Maximum Permissible Duration For The Collection of Homogenous Tendon Transplants in Bovine.

Sharma Aditi, Sharma V.K. and Singh, S.V.

Department of Surgery and Radiology
College of Veterinary Sciences, G.B. Pant Univ. of Agri. & Tech., Pantnagar.

To assess the maximum permissible duration for the collection of homogenous tendon transplant from the cadavers, a study was conducted at the College Veterinary Teaching Clinics. Superficial and deep digital flexor tendons were collected from bovine cadavers immediately and at 2, 4, 8, 10, 12, 14, 16 and 18 hours after death of animals. Tendon pieces were subjected to morphological, mechanical, bacteriological and histopathological examinations to ascertain the tendon viability.
The morphological examination revealed no change in the colour of the tendons upto 16 hours however, the tendons collected at 18th hour revealed a slight change in its colour from light pink to pale. The consistency of the tendon also exhibited slight change when they were collected after 14 hours. Bacteriological examination revealed that tendon collected up to 18 hours remained sterile. The mechanical properties of the tendon viz. tensile strength, breaking strength, extensibility and energy absorption exhibited a decrease in its value in comparison to 0 hour value. Histo-pathological studies revealed degeneration of tenoblasts after 8th hours of death. On the basis of the findings, it is concluded that tendons collected from cadavers upto 8 hours following death retained cell

morphology and biomechanical properties and can be used for transplantation.

9.41 Lipoma removed Surgically from the Teat and Mammary Gland in Bovine- Clinical Case Report.

S.P. Sharma, Archana Kumari and Naveen Kumar.

Department of Surgery & Radiology,
Bihar Veterinary College, Patna.

Lipoma weighing 65.4 gm from the teat of a 6 month old she calf and 280.7 gm from the mammary gland of a lactating cow was removed surgically. Both of them were cross breed. Gross and histopathological examination was done. The shape and consistency of both the growths was alike hen's egg without the calcarious covering on which a small elongated hard mass was attached posteriorly to the large oval mass. Histopathological examination revealed lipoma. It was seen that growth developed gradually on the teat and udder in a she calf and a cow respectively. Both of them recovered completely. And there was no recurrence of growth after the surgery.

9.42 Treatment and Management of Teat Canal Fibrosis in Bovine- Clinical Case Report.

S.P. Sharma, Naveen Kumar and Md.Moin Ansari.

Department of Surgery & Radiology,
Bihar Veterinary College, Patna.

In a period of last 15 years, 2170 clinical cases (1988 cows and 182 she buffaloes) were treated at the Department of Surgery & Radiology, Bihar Veterinary, Patna for teat canal obstruction viz. membranous obstruction (111), imperforated teat (107), fibrosis at the base (214), middle of the teat (668) and tip of the teat (1070). The operations were performed with closed surgery using the teat instruments and infants feeding tube no.10 was used and fixed in teat canal with the help of adhesive tape. It was kept intramammary for 20-30 days after the surgery. The patients were medicated intramammary and parenterally with antibiotics for 3-5 postoperative days. It was observed clinically that fibrosis at the base or lower part of the quarter required permanent catheterization for which infants feeding tube was left for whole of the lactation.

9.43 Evaluation of Therapeutic Efficacy of ART-400 in Induce Traumatic Arthritis in Bovine- Clinical and Synovial Physicocytological Observations.

Mohinder Singh and A.C. Varshney.

Department of Surgery & Radiology
College of Veterinary & Animal Sciences
CSK HPKV-Palampur 176062 (H.P.)

Aseptic traumatic arthritis of radio-carpal joint was induced intra-articularly by injecting 1ml of turpentine oil under local analgesia in 11 apparently healthy male calves and divided into 3 groups. The animals of group III were treated with ART-400 powder @ 20gm orally mixed in treacle daily, group II were treated with 2ml (50mg) diclofenac sodium intra-articularly alone into the affected joint on 5th post-induction day, whereas the animals of group I served as untreated control. Clinical and synovial observations were recorded before and on

5th and 24th post-induction day.
On 5th post-induction day, lameness, pain on palpation, increase in joint circumference, no weight bearing and joint flexion response were evident in all the animals, but these observations were restored to normal in the animals of group II and III on 24th post-induction day. The elevated respiration and heart rate on 5th post-induction day, started declining and by 24th post-induction day, these parameters reached to near normal base values, however the rectal temperature remained within normal range in all the animals of different groups. Following treatment maximum improvement in mucin clot quality and total leucocytic count of synovia was seen in the animals of group III followed by group II on 24th post-induction day. The relative viscosity of synovia also improved significantly and the effect of treatment were equal in group II and III.

9.44 Repair of Barbed Wire Injury in a Spotted Deer.

M.M.S Zama and N.K. Singh

Division of Surgery & Radiology
Faculty of Veterinary Sciences & AH
SKUAST-J.R.S. Pura, Jammu-181102

One Captive spotted deer with lacerated wounds on cheeks, lips and forelimbs was presented for the treatment at Manda Deer Park, Jammu. The deer was captured and was given tetanus toxoid I/M and sedated with Triflupromazine @0.25mg/kg I/M. The lacerations were flushed and cleaned with Chlorhexidine 0.25%. Wound edges were debrided and sutured using catgut 1-0 under 2% Lignocaine HCL infiltration. Postoperative antibiotic and antiseptic dressing was done in a routine manner. Animal recovered uneventfully.

9.45 Electrocardiographic Examination in Different Cases.

Singh S.V., Sharma V.K., Singh H.P. and Sharma A.

Department of Veterinary Surgery & Radiology College of Veterinary Sciences G B Pant University of Agriculture & Technology Pantnagar, Uttaranchal- 263 145.

In the Veterinary Clinics, Pantnagar three cases (one each of ascites severe hemorrhage, and Urinary retention) were subjected for ECG examination using bipolar leads and augmented unipolar limb leads. The findings of the ECG tracings were analyzed and found, cardiac hypertrophy, anemia and hyperkalemia, respectively. which helped in determining the prognosis of these cases.

9.46 Ultrasonographic Diagnosis of Pyometra.

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Department of Veterinary Surgery & Radiology College of Veterinary Sciences G B Pant University of Agriculture & Technology Pantnagar, Uttaranchal- 263 145.

Four cases of pyometra in bitches, (Boxers-2, Spitz-1 and Mongrel-1) aged between 3 and 7 years, were scanned on ultrasonography using 3.5 MHz Annular Array Sector (AAS) transducer. Amongst those two were bearing bilateral pyometra, one was having unilateral, and one having cystic hyperplasia-pyometra complex. All

were treated medicinally first, then subjected for ovariohysterectomy.

9.47 An Unusual Case of Haemangioma in a Daschund Dog.

Dr. R.V. Suresh Kumar, Dr. M. Sreenu,
Dr C. H Srilatha and Dr. V Ramadevi.

College Of Veterinary Science
Tirupati-517507 (A.P).

A 5 year old Daschund male dog was presented to clinic with symptoms of constipation anorexia dullness and abdominal pain .It was treated with antibiotics, antispasmodics, and analgesics without result. Palpation revealed hard mass in the abdomen correlating ultrasonic examination. Exploratory surgery revealed haemangioma of mesenteric blood vessels, which was excised and confirmed by histopathology. The animal died after six months.

9.48 Persian Veterinary Books of India.

Hassan Tadjbakhsh.

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This work is a part of the 14 years research done by the author to compile the English book of History of Medicine and Veterinary medicine in Iran. Indian veterinary medicine, like its medicine, has been influenced by the Persian language in between the 14 th to 19 th century. Shahab al-Din lived in India and learnt medicine from Hessam Ali . He composed Shafa al-Maraz (Recovery from Disease) in 164 chapters. This book briefly introduces and analyzes many diseases in man, based on the Iranian and Indian medical sources. For instance, on tuberculosis and rabies he write: "Tuberculosis means a cough in the lungs: physicans have said much about tuberculosis and have solved some problems. This disease injures the lungs and there are constant coughs. On the poison of a rabid dog, if a mad dog bites a man, make sure he will die". The concluding three chapters of the book are allocated to treating horses. The handwritten copy of the book dated 17 th century is available in the Central Library of the Tehran University. Some old Sanskrit books of hippology, known as Salihutra, were translated into Persian by the Iranians living in India with the help of the Persian – speaking Indians.

A poet of Bahador pen name composed a book of falconry in the time of Orang Zib in 42 chapters, a copy of which is available in the British Museum Library. Los Angels State University Library is keeping a book of falconry titled Dastur al – Said (Rule of Hunting) written by Muhammad Ali Khan a contemporary of Orang Zib (d. 1706) in Delhi in 100 chapters . Saadat Yarkhan ranging Dehlavi (d. 1835) wrote a Faras – Nameh in three chapters, the manuscript of which is available in National Library of Karachi. Phillott published Rangin Faras- Nameh in early 20th century in Indian. Karachi National Library is also keeping two different manuscripts titled Fil- Named (Elephant Book). The manuscript No. 955, belonging to 18 the century, is by an unknown author making use of experiences of two elephant specialists. The Fil – Nameh manuscript No. 1053, the handwritten copy of which was prepared in 1827, includes information in properties of elephant, luckiness and unluckiness of elephants. Various diseases of elephants and their treatment, and it is

replete which Indian terms.

9.49 Ocular Squamous Cell Carcinoma in a Jersey Cow and its Surgical management.

S.K. Tiwari, D.S. Shinkar, D.Bhosale, Sanjay Dubey and P.G. Gawande.

Department of Surgery & Radiology, College of Veterinary Science &AH, Anjora, Durg. (CG).

A cross breed jersey cow aged 8 years was presented to the Department of Surgery & Radiology, with the complaint of cauliflower like growth over the left eye. There was blood mixed fetid discharge from the affected eye. Clinical examination revealed presence of a fragile tumorous growth covering left orbit completely which had a horacious look with mucopurulent blood mixed fetid discharge. The cow was premedicated with Xylazine (20mg) I/M. The area was prepared for aseptic surgery. Retrobulbar and auriculopalpebral blocks were performed using 2 % Lignocaine hydrchloride. The growth was recovered and hemostasis was achieved by ligation and cauterization. Post operatively routine antibiotics, analgesics and dressing was done for 10 days. The animal recovered completely in 10 days. Histopathological examination of the growth confirmed it be a squamous cell carcinoma.

9.50 Suturing of a Non-healing wound under Xylazine- Ketamine anaesthesia in a Leopard (*Panther pardus*) – A case report.

S.K. Tripathi, Kamal Kumar, M.V. Wani and M.S. Karwale.

Veer Mata Jijabai Bhosle Udyan, Byculla, Mumbai.

A male leopard about 8 years age in Veer Mata Jijabai Bhosle Udyan, Mumbai had a non-healing wound in the groin area since three months. After failure of conservative treatment, the wound was freshened, cleaned and sutured under Xylazine hydrochloride (1 mg/kg) and Ketamine hydrochloride (3 mg/kg) combination administered intramuscularly. The healing was uneventful and skin sutures were removed on 18th postoperative day. The details of anesthesia management and surgical procedure will be discussed.

9.51 Successful Surgical Management of some of the Unusual/Rare Conditions in Animals.

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Veterinary surgeons often encounter some unusual or difficult conditions in animals whose diagnosis and subsequent management require adoption of some unusual methods or techniques, which are some times not even described in textbooks. Retrospective study of the cases of different animal species presented in the department of Surgery and Radiology in the last four years revealed many such cases, which were successfully managed. In the present paper a few of such cases and the surgical techniques adopted have been described. The conditions described in the paper include congenital grade IV medial patellar luxation in a dog, congenital grade II medial patellar luxation in calf, acquired grade IV contracture deformities of tendon in mules, os-penis angulation due to malunion as a

result of fracture in a dog, traumatic rotation of canine tooth in a dog, concurrent hypospadia and urethral diverticulum in a kid, absence of prepucial orifice in a kid, sewing needle in the parenchyma of tongue in a dog, obstructive sialolithiasis in a buffalo etc.

9.52 Urethrostomy for treatment of Traumatic Urethral Stricture in a male Dobermann Dog.

S.M. Usturge, D. Dilip Kumar and B.V.Shivprakash.

Department of Surgery & Radiology, Veterinary College, Bidar.

One year old male Doberman was presented to veterinary college, Hospital, Bidar with the history of anuria. The animal had cystorrhexis and animal was treated by cystorrhaphy. The same animal was presented 1 1/2 year later with history of anuria due to repeated pricking of urethra with spoke of an umbrella locally. The os penile urethra was totally strictured. Urethrostomy was performed posterior to the ospenis. Animal started micturating from urethrostomy wound and 1 year follow up showed no complications.

9.53 Third eyelid gland prolapse (cherry-eye) and its surgical correction in a Neopolitan mastiff pup.

Vasanth M S and Ravi Raidurg

Dept of Surgery, Veterinary College, Bangalore.

A 70 day old, male Neopolitan mastiff pup was presented with a third eyelid gland prolapse of right eye. It was surgically excised under general anaesthesia. Oral antibiotics and topical antibiotics with corticosteroids was used post operatively for five days. 10 days later, the same pup was presented with third eyelid prolapse of the left eye.

This time the third eyelid gland was reduced to its normal position and anchored to equatorial sclera using 3/0 chronic catgut. However, the technique failed as there was recurrence of the prolapse by 3rd day. The prolapse was surgically excised as per the right eye. The animal recovered uneventfully.

9.54 Cystic Melanoma in a Goat – A case report.

Vasanth M S, Srinivasa Murthy, and S M Jayadevappa.

Dept of Surgery, Veterinary College, Bangalore

A male, 5 year old, pet goat was presented to the hospital with a pedunculated swelling hanging loosely in the left cervical region. History revealed that the swelling gradually increased in size over period of three months. The swelling was enucleated under sedation and local infiltration anaesthesia. The swelling was found to contain multiple lobules containing serous fluid. Histopathology of the growth revealed it to be a melanoma. 3 months later, there was no recurrence of the growth.

9.55 Unilateral Torsion of Uterine Horn Compounded by Pyometra in a Golden Retriver Bitch – A Case Report.

Vasanth M S, Srinivasa Murthy, S M Jayadevappa and S Yathiraj.

Dept of Surgery, Veterinary college, Bangalore.

A 12 year old female golden retriever was presented with history of persistent vomition and anorexia since 3 days. Haematological values suggested a chronic infection.
Radiography showed a football size swelling in the abdominal cavity.
The animal was sedated using 1 mg/kg Triflupromazine HCL and anaesthesia was induced and maintained halothane. Mid ventral laprotomy showed greatly distended uterus filled with purulent material with unilateral torsion of uterine horn. Pan hysterectomy and routine post operative care ensured complete recovery of patient in about 10 days.

9.56 Bilateral Alopecia due to Sertoli Cell Tumour in a Dog – A Case Report.

Vasanth M.S. and B.N. Ranganath

Department of Surgery
Veterinary College, Bangalore

An eight-year-old male, Pomeranian dog was presented to the hospital with a history of bilateral alopecia refractory to routine treatment. On physical examination left testicle was found to have enlarged about five times when compared to the right testicle.
Castration was performed under general anaesthesia. Histopathology confirmed the sertoli cell tumour of the left testicle. Three months later dog showed normal coat with no evidence of alopecia.

9.57 Techniques of Vasectomy in Lions (*panthera leo*).

Vasanth M.S., Dilip Kumar Das, S M Jayadevappa

Department of Surgery, Veterinary College, Bangalore

Twenty six adult male lions (*panthera leo*) at Bannerghatta National Park, Bangalore were divided in to three groups and subjected to vasectomy. All the 26 lions were anesthetized using Xylazine hcl at 1.5 mg/kg and Ketamine hcl at5 mg/kg.
Three techniques of vasectomy viz., prescrotal single incision (18 animals) prescrotal double incision (6 animals) and inguinal incision (2 animals) were used. Anesthesia was satisfactory for the surgical procedure and prescrotal single incision technique was considered as most suitable for vasectomy in lions.

9.58 A Comparative Evaluation of Sterilization Techniques In Bitches.

Pallavi Verma and T.K.Gahlot

Department of Veterinary Surgery and Radiology, College of Veterinary and Animal Science, Rajasthan Agricultural University, Bikaner – 334 001

Present study was conducted in 36 apparently healthy mongrel bitches which underwent ovariohysterectomy (OH) by minilaparotomy (MLT) technique through right flank and linea alba and by laparotomy using conventional approaches through right flank and linea alba. The results were drawn on the basis of time taken for surgeries, cost effectiveness of the techniques and associated complications. The minimum time taken in surgery (18.33 ± 0.988 minutes) was recorded in animals which underwent OH by MLT through right flank without skin

sutures. However, maximum time taken was recorded in conventional midventral laparotomy (39.5 ± 0.619 minutes). The cost of surgery was also found minimum in animals which underwent OH by MLT through right flank without skin sutures (Rs. 104.98 ± 3.455), whereas animals which underwent OH by a conventional linea alba approach had maximum cost of surgery (Rs.230.22 ± 17.208). Postoperative complications were suture biting, wound dehiscence, discharge, evisceration and death. Minimum postoperative complications were observed in the animals subjected to OH by MLT through right flank with only subcuticular sutures and was limited up to gaping of skin wound edges in one animal. Contrarily maximum postoperative complications were observed in animals which underwent OH by conventional linea alba technique and these were suture bites, wound dehiscence, evisceration and death. It was concluded that smaller the length of incision for OH, lesser are the associated complications as observed in MLT techniques of present study. However, in techniques where external skin sutures were not applied, instead the skin wound was apposed by subcuticular sutures only, biting of suture was not observed. Out of all techniques used the MLT technique through right flank without external skin sutures was found to be superior to all as it consumed less time, was economical and had minimum associated postoperative complications.

9.59 Evaluation of cefazolin impregnated polymethylmethacrylate (PMMA) beads for treatment of bovine bone infection.

Kumar Vikas, A. K. Das and Harpal Singh

College of Veterinary Sciences, G. B. Pant University of Agriculture and Technology Pantnagar-263145 (Uttaranchal).

Cefazolin impregnated polymethyl-methacrylate (PMMA) beads were evaluated as local drug delivery system in combating bovine bone infection. These beads underwent in vitro and in vivo studies. For in vitro study elution of cefazolin impregnated PMMA beads in phosphate buffer were collected and estimated for its mode of release (concentration, rate and duration). In vivo part of the study was conducted by implanting cefazolin impregnated PMMA beads, in intramedullary space at the site of lesions of induced osteomyelitis, in buffalo calves. Treatment was evaluated on the basis of clinical signs and radiological examination.

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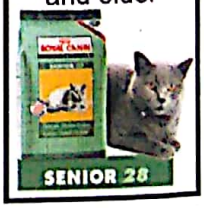

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