

Fifteenth Annual Congress
of
INDIAN SOCIETY FOR VETERINARY SURGERY
and
SYMPOSIUM
on
"Advances in Pain Relief in Animals"

(20-22 DECEMBER, 1991)

TECHNICAL PROGRAMME
AND
ABSTRACTS



West Bengal Chapter
Indian Society for Veterinary Surgery
Yuba Kendra, Moulali, Calcutta

EDITED & COMPILED BY :

Amresh Kumar

G. R. Singh

M. Hoque

PROGRAMME

20.12.91	9.30 A.M.	Registration / Inauguration
	12.00 Noon	Session I Symposium : Advances in pain relief in animals.
	4.30 P.M.	Session II Anaesthesia and Analgesia
21.12.91	10.00 A.M.	Session III Experimental Surgery
	11.45 A.M.	Session IV General Surgery
	2.30 P.M.	Session V Orthopaedic Surgery and Radiology
	4.15 P.M.	Session VI Clinical Surgery (Small Animal)
22.12.91	10.00 A.M.	Session VII Clinical Surgery (Large Animal)
	11.30 A.M.	Session VIII Young Surgeon Award Session
	12.30 P.M.	Session IX Field Veterinarian Award Session
	2.30 P.M.	Business Session

TECHNICAL SESSIONS

SESSION I : ADVANCES IN PAIN RELIEF IN ANIMALS

LEAD PAPERS

Chairman : **Dr R. P. S. Tyagi**

Rapporteur : **V. Ramakumar**

SESSION II : ANAESTHESIA AND ANALGESIA

Chairman : **Dr O. Ramakrishna**

Rapporteur : **Dr A. P. Singh**

- 2.01. Morphine as preanaesthetic in dogs.
Sangita Tiwari, M. K. Bhargava, S. K. Pandey and V. P. Chandrapuria
- 2.02. Clinical, haematological and biochemical effects of different intramuscular dosages of xylazine in Surti goats.
A. K. Prajapati, B. M. Jani and V. M. Mehta
- 2.03. Analgesic and therapeutic effects of presacral blockade in bovine.
R. S. Charak and **Amresh Kumar**
- 2.04. Effects of stellate ganglionic blockade in buffaloes.
N. S. Jadon and **Amresh Kumar**
- 2.05. General Anaesthesia for clinical surgery in equines.
S. S. Rathore
- 2.06. Studies on effect of epidural diazepam and bupivacaine in canines.
R. V. Suresh Kumar and O. Rama Krishna
- 2.07. Non-drug techniques for pain relief in animals.
Sureshwar Nath Sharma
- 2.08. Evaluation of thiopentone for anaesthesia of dromedary.
Rajendra Singh, P. K. Peshin, D. B. Patil, Raju Sharda, D. Sharifi, Jit Singh, A. P. Singh and K. Singh
- 2.09. Sedative and biochemical studies on xylazine anaesthesia in yaks (Bos grunniens).
J. M. Nigam, S. K. Sharma, A. C. Varshney and Mohinder Singh
- 2.10. Intravenous retrograde anaesthesia of limbs in yak (Bos grunniens).
J. M. Nigam, A. C. Varshney, Mohinder Singh and S. K. Sharma

- 2.11. Evaluation of acepromazine and detomidine combination in cow-calves.
S. K. Sharma, J. M. Nigam, Mohinder Singh and A. C. Varshney
- 2.12. Role of neuroleptic analgesia in equines for minor surgical procedure.
S. S. Hussain, D. M. Makhdoomi and M. M. S. Zama
- 2.13. Clinical trials with detomidine in buffaloes and camels.
Prem Singh, A. P. Singh, Jit Singh and P. K. Peshin
- 2.14. Sedative, haemodynamic, acid base and blood biochemical changes following administration of atropine-detomidine in buffalo-calves.]
P. K. Peshin, D. B. Patil, V. P. Pathak, Raju Sharda, A. P. Singh and Jit Singh
- 2.15. Technique of regional auricular analgesia in buffalo calves.
R. P. Pandey and S. S. Mishra
- 2.16. Use of ketamine in canine surgical patients.
S. K. Tiwari
- 2.17. Efficacy and toxicity of analgesics : morphine, analgin and xylazine in rats and mice.
M. Kanniappan

SESSION III : EXPERIMENTAL SURGERY

Chairman : Dr J. Sengupta

Rapporteur : Dr P. K. Bose

- 3.01. Studies on gastroduodenostomy, ileocolostomy and their radiological and histopathological evaluation in dog.
D. S. Reddy and M. S. Dewan Muthu Mohammed
- 3.02. Experimental esophageal onlay patch grafting in canine.
B. Ramesh Kumar K. B. P. Ragavendhar, N. N. Balasubramanian and M. S. Dewan Muthu Mohammed
- 3.03. Studies on experimental neurotmesis and neuroanastomosis in buffalo-calves.
S. Chaudhary, V. S. Dabas, B. N. Suthar and D. M. Tadkod
- 3.04. Studies on physiological, biochemical and radiological parameters in experimentally induced diaphragmatic hernia in canines.
C. Ramani, Dewan Muthu Mohammed, K. Ameerjan and C. Vijayaraghavan

- 3.05. Experimental study on diaphragmatic hernioplasty in buffalo calves.
S. M. Usturge and A. P. Bhokre
- 3.06. Electrocardiographic studies with particular reference to diaphragmatic hernia in buffalo calves.
D. C. Dhablania, Jagmohan Singh and V. K. Sobti
- 3.07. A method of photographic documentation of fluorescence to study the tissue perfusion.
P. H. Tank
- 3.08. Induction of cataract in bovine.
M. S. Dadke, V. S. Panchbhai and A. P. Bhokre
- 3.09. Experimental autogenous and homogenous lamellar corneal grafting in caprine.
M. Hoque, and I. V. Mogha
- 3.10. Physiotherapy for lameness with ultrasonic muscle stimulator-An experimental study.
M. Hoque, A. K. Bhargava and G. R. Singh
- 3.11. Angiographic evaluation of inter or intracoronary anastomoses following experimental ligation of left anterior descending (LAD) coronary artery in calves.
O. P. Gupta and G. R. Singh
- 3.12. Survival time following experimental ligation of left anterior descending (LAD) coronary artery in calves, pigs and goats.
O. P. Gupta and G. R. Singh
- 3.13. Functional status of urinary bladder following experimental reconstruction in goats using bovine amnion.
C. V. Reddy, O. P. Gupta and G. R. Singh
- 3.14. Histopathological examination of reconstructed urinary bladder using bovine amnion-An experimental study in goats.
C. V. Reddy, Kalicharan, O. P. Gupta and G. R. Singh
- 3.15. Radiographic evaluation of bone grafts and "ALCAP" ceramics used in the treatment of bone defects in goats.
H. P. Aithal, I. V. Mogha and G. R. Singh
- 3.16. Use of bone grafts and 'ALCAP' in the management of fractures in goats-Histopathological studies.
H. P. Aithal, I. V. Mogha, O. P. Paliwal and G. R. Singh

- 3.17. Histopathological evaluation of composite bone grafts in goat-An experimental study.
S. K. Maiti, Kalicharan and G. R. Singh
- 3.18. Histological study of stained (H & E) undecalcified ground section of various bone grafts in goats-An experimental study.
S. K. Maiti and G. R. Singh
- 3.19. Osteomedulographic and angiographic evaluation of different types of bone grafts and ceramic implants in goats-An experimental study.
S. K. Maiti and G. R. Singh
- 3.20. Studies on vascular anastomosis by carrel and eversion technique using polytetrafluoroethylene and polyester sutures in canines.
Lakshmi chandra Sekhar, E and M. S. Dewan Muthu Mohammed
- 3.21. Central (Brain) administration of drugs by stereotaxic technique.
M. Kanniappan
- 3.22. Electrocardiographic changes in cow-calves from birth to 7 weeks of age.
C. S. Celly, P. Kinjavdekar and G.R. Singh

SESSION IV : GENERAL SURGERY

Chairman : Dr B. Prasad

Rapporteur : Dr S. K Pandey

- 4.01. Gross, haematological and histomorphological observations of experimental intra-abdominal adhesions in dogs.
V. S. Dabas, M. C. Desai, J. N. Mistri, B. G. Pandhamukhi and D. M. Tatkod.
- 4.02. Comparative evaluation of metronidazole and cortisone in prevention of experimental intra-abdominal adhesions.
V. S. Dabas, S. Chaudhary, P. H. Tank and D. M. Tatkod
- 4.03. Effect of auto-transfusion and haemodilution on haematology in dog-An experimental study.
Sukhbir Singh K. K. Mirakhur and N. K. Sood
- 4.04. Effect of auto-blood transfusion and haemodilution on blood chemistry during elective surgery in dogs.
Sukhbir Singh, K. K. Mirakhur and R. K. Chaudhary

- 4.05. Blood gases and acid-base study following auto-transfusion and haemo-dilution in dogs undergoing elective surgery.
Sukhbir Singh and K. K. Mirakhur
- 4.06. Clinical and gross observations of teat wounds repaired with skin grafting in goats.
P. B. Patel, J. N. Mistry, R. M. Patel and D. M. Tadkod
- 4.07. Full thickness punch grafts for repair of experimental penetrating teat wounds in goats-Histomorphological and histochemical observations.
P. B. Patel, M. C. Desai, J. N. Mistry, B.G. Panchmukhi and D. M. Tadkod
- 4.08. Use of modified gelatin films as dressing material for traumatic wounds in large animals.
B. Ramesh Kumar, T. N. Ganesh and M. S. Dewan Muthu Mohammed
- 4.09. Wound healing properties of neem oil and neem ointment.
R. L. Bhardwaj and D. N. Sharma
- 4.10. Effect of operation theatre environment on laparotomy wounds in bovines.
N. S. Saini, S. N. Sharma, M. S. Oberoi and K. S. Roy

SESSION V : ORTHOPAEDIC SURGERY AND RADIOLOGY

Chairman : Dr Harpal Singh

Rapporteur : Dr D. M. Tadkod

Lead Papers : Perspectives in advances in large animal orthopaedic surgery.

A. P. Singh

- 5.01. Horn plates versus stainless steel plates in repair of mandibular fracture in buffalo calves.
D. P. Amin, S. C. Ojha, D. R. Barvalia and P. H. Tank
- 5.02. Studies on the effect of pectineus tenotomy and pectineus tendonectomy in hip dysplastic dogs.
L. Nagarajan, God Frey David, N. N. Balasubramanian and Dewan Muthu Mohammed
- 5.03. Bovine fractures-review of 70 cases.
P. S. Bansal and D. C. Dhablania
- 5.04. Synovial fluid study in health and in induced infectious arthritis in buffalo calves.
S. Kumar and H. P. Singh

- 5.05. Ultrasonography of canine abdomen.
K. K. Mirakhur and **S. S. Rathor**
- 5.06. Evaluation of ultrasonic therapy in experimental acute traumatic arthritis in dogs.
R. Bhatia, **V. K. Sobti**, **K. S. Ray** and **A. S. Dhaliwal**
- 5.07. Carotid angiography in bovine.
A. K. Ray and **A. K. Mitra**
- 5.08. Studies on aortography and intravenous pyelography in diagnosis of diseases of kidney in canine.
R. Seshachalam and **N. N. Balasubramaniam**
- 5.09. Study of arthritis in relation to periartthritis in bovines.
S. S. Misra
- 5.10. Experimental studies on effect of electromagnetic stimulation of fracture healing.
S. P. Mehesare, **A. D. Ingle**, **M. G. Thorat**, **M. V. Joshi** and **P. E. Kulkarni**
- 5.11. Radiographic diagnosis of bone tumor in animals-A report of 45 cases.
G. R. Singh, **H. C. Setia** and **I. V. Mogha**
- 5.12. Effect of intra-articular injection of dimethylsulfoxide on normal bovine synovia.
Rishi Tayal, **A. P. Singh**, **B. A. Moulvi** and **E. L. Chandra Shekhar**
- 5.13. Surgical repair of bilateral mandibular fracture in a newly born crossbred cow-calf.
S. K. Tewari

SESSION VI : CLINICAL SURGERY (SMALL ANIMAL)

Chairman : **Dr J. Mohanty**

Rapporteur : **Dr D. C. Dhablania**

- 6.01. Serous cystadenocarcinoma in a bitch.
L. Nagarajan, **C. Ramani** and **Ramanujam**
- 6.02. Acupuncture therapy for posterior paresis in pet animals (dogs and cats).
G. V. Lakshmi pathi

- 6.03. Unusual cause of intestinal obstruction in a dog-A case report.
R. P. Parsania, N. H. Kelawala, P. V. Parikh and B. M. Jani.
- 6.04. Pseudopregnancy with simultaneous occurrence of intestinal obstruction in a bitch.
M. G. Bhargava, V. P. Chandrapuria and S. K. Pandey
- 6.05. Secondary megacolon or pseudomegacolon associated with pica in a bitch-A case report.
Kuldeep Singh, Prem Singh, Jit Singh and Ashok Kumar
- 6.06. A rare case of fibrosarcoma in a dog.
P. V. Parikh, N. H. Kelawala and R. R. Parsania
- 6.07. Stone as a cause for intestinal obstruction in a dog-A case report.
P. V. Parikh, N. H. Kelawala and R. R. Parsania
- 6.08. Paraprostatic cyst in a dog-A clinical report.
N. N. Balasubramaniam, T. N. Ganesh, W. P. Archibald David and Mala S. Purohit
- 6.09. Surgical resection of lateral cartilage for chronic otitis externa in dogs.
T. N. Ganesh, N. N. Balasubramaniam, W. P. Archibald David and M. S. Dewan Muthu Mohammed
- 6.10. Intravenous pyelographic studies in four dogs-A clinical report.
T. N. Ganesh, N. N. Balasubramaniam, W. P. Archibald David and M. S. Dewan Muthu Mohammed
- 6.11. Clinical studies on the effect of vincristin sulphate on venereal granuloma in dogs.
T. N. Ganesh, B. Ramesh Kumar, W. P. Archibald David and M. S. Dewan Muthu Mohammed
- 6.12. Cystic ovary and haemometra in canines-case report.
C. L. Badgujar, C. C. Wakankar, B. V. Jalanapurkar and S. Z. Sharma
- 6.13. Lung abscess in a dog.
N. N. Balasubramanian, Archibald David, Mala S. Prohit, Suresh Kumar and S. Thilagar
- 6.14. A case of pyometra with vaginal tumor (Fibroma) in a bitch
N.N. Balasubramanian, Archibald David, S Thilagar and R. Suresh Kumar
- 6.15. An unusual case of round cell fibrosarcoma associated with nocardia infection in a labrador dog.
Mohinder Singh, J. M. Nigam, S. K. Sharma and A. C. Varshney

- 6.16. Surgical management of bilateral mandibular fracture in a dog.
Naveen Kumar, M. Hoque and I. V. Mogha
- 6.17. Surgical management of infectious oral papillomatosis in canine.
A. K. Srivastava and V. S. Srivastava
- 6.18. A note on surgical management of lacerated cornea and prolapsed iris in a dog.
A. K. Srivastava and V. S. Srivastava
- 6.19. Restraining of a Siberian tiger cub for removal of faecolith-A case report.
G. Chakraborty and Utpal Das

SESSION VII : CLINICAL SURGERY (LARGE ANIMAL)

Chairman : P. B. Kundu

Rapporteur : N. N. Balasubramanian

- 7.01. Surgical management of soft palate tumour in a camel.
D. R. Barvalia, S. R. Chaudhary, Vijander Singh and S. C. Ojha
- 7.02 Foreign body syndrome in goat-Review of 3 cases.
V. D. Aher, A. P. Bhokre and V. S. Panchbhai
- 7.03. Ultimobranchial (Thyroid-C-Cell) Tumour in a bullock-A clinical case report.
R. R. Parsania, N. H. Kelawala, B.M. Jani, K.S. Prajapati and P.V. Parikh
- 7.04. Arterio-venous shunt in metatarsal region of a bullock-A case report
Prem Singh, Rishi Tayal, Ashok Kumar, Kuldip Singh and I. S. Chandna
- 7.05. Acute pseudomonas orchitis in a stallion and its management.
B. M. Jani, R. R. Parsania, N. K. Kelawala, P. V. Parikh, R. G. Jani and K. Sukumaran.
- 7.06. Parapenile urethral penotomy-A new technique in the management of bovine penile urolithiasis.
S. Purnendu Mouli
- 7.07. Ocular ganglioneuroma and its surgical management in buffaloes-A review of 15 cases.
N. S. Saini, K. I. Singh, V. K. Sobti and P. S. Bansal
- 7.08. Surgical management of teat affections in bovines.
Balwinder Singh, K. K. Mirakhur and K. B. Singh

- 7.09. Auto-skin grafting of a granulating wound in a mare-A case report.
J. N. Mistry, D. R. Barvalia, P. H. Tank and D. M. Tadkod.
- 7.10. Ectopic urinary bladder and cryptorchidism in a kid.
R. W. Ashturkar
- 7.11. Indwelling intubation technique for the management of obstructive lesions of teat in buffaloes.
S. S. Misra
- 7.12. Diclofenac sodium (Zobid-SG) injectable in the management of peracute painful clinical conditions in bovines.
S. S. Misra
- 7.13. A clinical survey of bovine teat and udder lesions.
S. Thilagar and M. S. Dewan Muthu Mohammed
- 7.14. Surgical management of megaesophagus in a crossbred heifer : A case report.
Naveen Kumar, I. V. Mogha and M. Hoque
- 7.15. Infectious arthritis caused by lesions in a cow-calf.
K. Pratap, P. N. Kumar and G. R. Singh
- 7.16. An atypical ventral hernia in a goat-A case report.
A. K. Srivastava, P. K. Tripathi and V. S. Srivastava
- 7.17. Oral tumour in large animals-A report of 28 clinical cases.
Prem Singh, D. K. Sharma, S. M. Behl, K. Kumar and I. S. Chandna

SESSION VIII : YOUNG SURGEON AWARD

Chairman : Dr J. M. Nigam

Rapporteur : Dr S. C. Pathak

SESSION IX : FIELD VETERINARIAN AWARD

Chairman : Dr P. E. Kulkarni

Rapporteur : S. C. Ojha

SESSION X : BUSINESS SESSION

Session I

ADVANCES IN PAIN RELIEF IN ANIMALS

Chairman : Dr R. P. S. Tyagi

Rapporteur : Dr V. Ramakumar

LEAD PAPERS

- 1.01. Pain Relief — An Overview.
Dr R. P. S. Tyagi
- 1.02. Anatomical considerations in mechanism of pain.
Dr Jit Singh
- 1.03. Physiological and neuropharmacological basis of pain perception.
Dr J. P. Kundu
- 1.04. Assessment of pain in small animals.
Dr P. K. Peshin
- 1.05. Alleviation of pain in small animals.
Dr S. K. Pandey
- 1.06. Alleviation of pain in large animals.
Dr K. K. Mirakhur
- 1.07. Autonomic nervous system and relief of pain in animals.
Dr Amresh Kumar
- 1.08. Alleviation of pain in exotic/wild animals.
Dr S. C. Pathak
- 1.09. Local anaesthetic/Block in pain relief in animals.
Dr A. K. Mitra

2] Advances in pain relief in animals

1.10. Management of chronic pain in animals.

Dr J. M. Nigam

1.11. Management of pain in musculoskeletal disorders in animals.

Dr Gaj Raj Singh

1.12. Non-drug therapy in pain control in animals.

Dr O. Ramakrishna

1.13. Chemical control of wild animals.

V. Rishi

Session II

ANALGESIA AND ANAESTHESIA

Chairman : Dr O. Rama Krishna

Rapporteur : Dr A. P. Singh

2.01. MORPHINE AS PREANAESTHETIC IN DOGS

Sangita Tiwari, M. K. Bhargava, S. K. Pandey and V. P. Chandrapuria
College of Veterinary Science and A. H.

J. N. K. V. V. (M. P.)

The preanaesthetic effects of morphine (treatment I) alone and in combination with thiopentone (treatment II), pentobarbitone (treatment III) and ketamine (treatment IV) was studied in 6 mongrel dogs. Increase in duration of anaesthesia in treatments II, III and IV and significant reduction in the dose of thiopentone and pentobarbitone was observed. Morphine alone caused significant increase in rectal temperature initially followed by significant decrease upto 6 hours, while significant drop was observed in animals of treatments II, III and IV. The heart rate remained significantly high from 5 to 15 minutes in all the four treatments followed by non-significant decrease in treatments I and II. The heart rate showed significant decrease from 90 minutes to 2 hours in treatment III and 2 to 5 hours in treatment IV. Respiration rate increased significantly in treatment I, whereas in treatments II, III and IV significant decrease was observed initially. It was thereafter followed by significant increase at various time intervals.

2.02. CLINICAL, HAEMATOLOGICAL AND BIOCHEMICAL EFFECTS OF DIFFERENT INTRAMUSCULAR DOSAGES OF XYLAZINE IN SURTI GOATS

A. K. Prajapati, B. M. Jani and V. M. Mehta

College of Veterinary Science & A. H.

Gujarat Agricultural University, Anand Campus.

Xylazine (Rompun) was evaluated in eight Surti goats (four males and females each) using three different intramuscular dosages i. e. 0.15 mg/kg (Group I), 0.20 mg/kg (Group II) and 0.25 mg/kg body wt. (Group III). Same animals were again used after one month interval between the groups. Mean down time, duration of sedation and recovery period differed significantly with each dosage. Duration of sedation and recovery period were significantly longer in female animals in all the groups, whereas no sex difference was observed in down time. Palpebral, corneal and pinprick reflexes were present in all the groups

during peak of sedation. Significant reduction in heart rate, respiration rate and rectal temperature was observed at various stages. Haematological parameters like TEC, TLC, PCV and Hb showed significant decrease while blood glucose values increased significantly in all the groups during peak sedation and at recovery period. No significant difference was observed in BUN level and AKP, ACP, GOT and GPT enzymes activity in any of the groups. All the clinical, haematological and biochemical parameters approached base line values 24 hrs. after xylazine administration.

2.03 ANALGESIC AND THERAPEUTIC EFFECTS OF PRESACRAL BLOCKADE IN BOVINE.

R. S. Charak and Amresh Kumar

College of Vety. Sciences,

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

Presacral nerve blockade was achieved after inserting a 10-15 cm long 18 gauge needle at a mid points between the anus and root of the tail to a depth of 10-15 cm depending upon size of the animal in 12 bovine calves and 18 clinical cases. The point of the needle was directed somewhat to the right about 10° from the sagittal plane and half of the calculated dose of procaine hydrochloride 0.25 or 0.50% (total dose 1 ml/kg body weight) was injected. The needle was withdrawn upto the skin and was inserted into the left side at the same angle to inject remaining half of the dose. This blockade achieved the block of pudendal, hemorrhoidal nerves and sacral and hyprogastric plexus. In experimental bovine calves, it did not have any significant effect on cardiopulmonary parameters (Heart rate, respiration rate, mean arterial blood pressure, central venous pressure), haemocytological and biochemical parameters (TEC, TLC, PCV, Hb, DLC); blood glucose, total proteins, albumin, globulin, serum electrolytes; Na⁺, K⁺, and Cl⁻, BUN and creatinine. In clinical cases of delayed detachment of placenta, puerperal infections and purulent endometritis, Presacral blockade completely eliminated straining and animals appeared more comfortable. The foetal membranes were dropped earlier and animals took significantly ($P < 0.05$) less time for complete involution of uterus and first sign of oestrus also appeared early in treated animals.

2.04. EFFECTS OF STELLATE GANGLIONIC BLOCKADE IN BUFFALOES

N. S. Jadon and Amresh Kumar

College of Veterinary Sciences,

G. B. Pant University of Agri. & Tech., Pantnagar.

The stellate ganglion was bilaterally blocked medial to the first rib, 2-3 cm ventral to costovertebral joint using 20 ml 0.5% solution of procaine hydrochloride in 12 experimentally produced pneumonic buffalo calves. In one of the groups of these calves, streptopenicillin and hostacortin were given alongwith stellate ganglionic blockade and compared with untreated controls. All the animals of control group died in 9 days. There was a marked increase ($P < 0.05$) in total leucocyte and neutrophil counts after experimental production of pneumonia. A significant and marked reduction in TLC and neutrophil was observed in treated groups. A significant decrease ($P < 0.05$) in glucose and plasma protein was seen after stellate ganglionic blockade. Blood lactic acid, electrolytes (Na^+ , K^+ , and Cl^-) showed a marked effect after experimental production of pneumonia and subsequent treatment with stellate ganglionic blockade. The blockade alongwith streptopenicillin and hostacortin resulted in a significant and early complete recovery in pneumonic animals as compared to control and streptopenicillin and hostacortin alone treated animals.

2.05. GENERAL ANAESTHESIA FOR CLINICAL SURGERY IN EQUINES

S. S. Rathore

College of Veterinary Sciences,

Punjab Agricultural University, Ludhiana.

The combination of various anaesthetics viz. (a) Chloral hydrate—thiopental sodium; (b) Diazepam—chloral hydrate—thiopental sodium; (c) Xylazine-ketamine; and (d) Xylazine-ketamine-thiopental sodium, have been used for repair of umbilical and ventral hernia, rectovaginal fistula, and perineal lacerations; Castration and Ovariectomy in mares (cystic ovary).

In above two combinations i.e. (a) and (b) the duration of surgical anaesthesia was longer (35-45 min) than (c) and (d) (25-40 min). In all

cases, the animal came on the ground smoothly. Muscle relaxation was maximum in group (b) though the recovery was delayed as compared to other combinations. More than 200 operations for repair of hernia in foals and adults have been performed without any complications. Three cases of ovariectomy in mares, 15 castrations, 5 rectovaginal fistula and 10 perineal lacerations repair were performed.

During recovery phase in group (a) there was some struggling, which was less in (b) and practically none in (c) and (d) combinations.

2.06. STUDIES ON EFFECT OF EPIDURAL DIAZEPAM AND BUPIVACAINE IN CANINES

R. V. Suresh Kumar, and O. Rama Krishna
College of Veterinary Science,
Andhra Pradesh Agricultural University, Tirupathi.

Effects of diazepam (5mg/ml) and bupivacaine (0.5%) as epidural analgesics was studied in 36 dogs. A dose rate of 2mg/Kg body wt. of both diazepam and bupivacaine was found to produce satisfactory epidural analgesia. The disappearance and reappearance of body reflexes, clinical symptoms, haemodynamic, haematological and biochemical alterations following epidural injections of the drugs were studied. No significant changes were noticed except significant fall in mean arterial blood pressure with bupivacaine. When compared to diazepam, bupivacaine produced good analgesia following epidural injection at the same dose level.

2.07. NON-DRUG TECHNIQUES FOR PAIN RELIEF IN ANIMALS

Sureshwar Nath Sharma
College of Veterinary Science,
Punjab Agricultural University, Ludhiana.

In spite of tremendous advancements in the pain killer drugs-'pain' still remains unconquered while the side effects are of concern. There

are some non-drug techniques, such as physiotherapy, acupuncture, naturopathy, magnetotherapy, electronarcosis, hypnotism etc; for alleviation of 'pain'. Such techniques alone or in combination may be of much clinical significance to achieve the ultimate objective of relieving pain and suffering in animals as well and should be used in pain relief.

2.08. EVALUATION OF THIOPENTONE FOR ANAESTHESIA OF DROMEDARY.

**Rajender Singh, P. K. Peshin, D. B. Patil, Raju Sharda,
D. Sharifi, Jit Singh, A. P. Singh and K. Singh.**
College of Veterinary Science,
Haryana Agricultural University, Hisar.

In 6 camels 5% thiopentone sodium was administered 'to effect' into the jugular vein and observed for clinical sign, haematological and blood biochemical changes and plasma thiopentone levels. Other 6 animals were studied for haemodynamics, acid-base status and blood gases after administration of 5% thiopentone sodium 'to effect'. The major cardiovascular changes were marked tachycardia, primary T-wave changes in ECG, significant arterial hypoxaemia, decrease in arterial pH and reduction in arteriovenous oxygen tension. Hyperglycaemia, slight rise in blood urea and non-significant decrease in the sodium were seen. It was concluded that thiopentone sodium can be safely used for general anaesthesia in camels for short surgical procedures, if cardiac abnormalities do not pre-exist.

2.09. SEDATIVE AND BIOCHEMICAL STUDIES ON XYLAZINE ANAESTHESIA IN YAKS (BOS GRUNNIENS).

J. M. Nigam, S. K. Sharma, A. C. Varshney and Mohinder Singh.
College of Veterinary and Animal Sciences,
HPKV, Palampur-176 062 (H.P.).

Xylazine was used at a dose rate of 0.22 mg/Kg i.m. in adult yaks (n=5) of either sex, aged 1-3 years and weighing 90-125 kg. The

average weak time, down time and recovery time were 2.00 ± 2.92 min, 4.8 ± 1.07 min (sitting) and 49.0 ± 2.92 min (standing ataxia) and 64.0 ± 4.85 min (normal gait), respectively. Grunting and profuse salivation were observed after xylazine administration. Muscle relaxation was seen 13.0 ± 1.22 min following xylazine administration but without analgesia. Significant ($P < 0.05$) oligopnoea was seen at 60 minute interval. Hyperglycemia was highly significant ($P < 0.01$) at 45 minute interval and significant ($P < 0.05$) at 30 and 60 minutes interval. Although bradycardia was seen but it was non-significant. Temperature, SGOT, SGPT, BUN, creatinine and inorganic phosphorus did not alter significantly.

2.10. INTRAVENOUS RETROGRADE ANAESTHESIA OF LIMBS IN YAKS (*Bos grunniens*).

J. M. Nigam, A. C. Varshney, Mohinder Singh and S. K. Sharma
Himachal Pradesh Krishi Vishvavidyalaya, Palampur (H.P.)

Intravenous retrograde anaesthesia on 12 limbs, 6 each in fore and hind limbs was conducted in adult yaks using 2% lignocaine hydrochloride into cephalic and saphenous veins after application of rubber tourniquet 12-15 cm above the carpal/tarsal joint. Three trials each in fore and hind limbs with 20 ml of lignocaine hydrochloride and three trials each in fore and hind limbs with 30 ml lignocaine hydrochloride were conducted and formed I, II, III and IV groups respectively. The animals were premedicated with intravenous injection of acepromazine maleate @ 0.1 to 0.15 mg/kg body weight and restrained in lateral recumbency. A comparatively less induction and prolonged duration of analgesia was observed with 30 ml lignocaine. The duration of analgesia ranged from 55-87 minutes in III and IV groups and 20-87 minutes in I and II groups. The anaesthesia progressed and reversed smoothly and uniformly. No gross complications were recorded.

2.11. EVALUATION OF ACEPROMAZINE AND DETOMIDINE COMBINATION IN COW-CALVES.

S. K. Sharma, J. M. Nigam, Mohinder Singh and A. C. Varshney
College of Veterinary and Animal Sciences,
HPKV, Palampur-176 062 (H.P.).

Acepromazine maleate (0.1 mg/kg, i/m) and detomidine HCL (0.02 mg/kg, i/v) combination was evaluated in five male cow calves, aged $\frac{1}{2}$ -1 year and weighing 50-78 kg. Sedation was complete for 90 minutes but without analgesia. Oligopnoea was observed but it was statistically non-significant. Tachycardia was seen following acepromazine but immediately after detomidine, heart rate remained within normal range, T-wave amplitude increased in all the animals following detomidine. No significant changes were seen in temperature, haemoglobin, electrolytes, total proteins, blood urea nitrogen and creatinine. It was concluded that this combination is safer instead of using detomidine alone as pre-anaesthetic.

2.12. ROLE OF NEUROLAPTIC ANALGESIA IN EQUINES FOR MINOR SURGICAL PROCEDURE.

S. S. Hussain, D. M. Makhdoomi & M. M. S. Zama
Faculty of Veterinary Science & Animal Husbandry,
S. K. Univ. of Agril Sciences and Tech. Srinagar (J. & K)

The different combinations of Neurolaptic Analgesia were tried in 8 horses in Military Farm at Srinagar. A combination of chlorpromazine hydrochloride @ 0.4 mg/kg, Xylazine @ 0.4 mg/kg and buprenorphine @ 0.006 mg/kg each administered intravenously at an interval of 5 minutes was found effective for minor surgical procedures viz; neurectomy and tenotomy in equines.

2.13. CLINICAL TRIALS WITH DETOMIDINE IN BUFFALOES AND CAMELS.

Prem Singh, A. P. Sing, Jit Singh and P. K. Peshin

We have previously reported the efficacy of detomidine in experimental buffalo calves. The present report deals with the clinical trial of the agent in buffaloes and camels.

The drug was used in 46 buffaloes and 6 camels admitted to the Veterinary clinic for treatment. Both I. M. and I. V. routes were used. In both species, the dose varied from 15 $\mu\text{g}/\text{kg}$ to 60 $\mu\text{g}/\text{kg}$ depending upon the nature of the clinical examination or procedure to be done. The induction time following I. V. routes in both species was 2.5 minutes while it was 10-15 minutes following I. M. route. Maximum duration of the effect was 90 minutes in buffaloes and 40 minutes in camels. Ataxia and salivation were recorded in both the species during the effect of the drug. Drooping of lower jaw was recorded in camels. The drug proved highly effective in making the animals cooperative and easy to handle during various procedures. Most common procedures carried out after administration of detomidine were oral examinations, tooth rasping etc., opening of abscesses, control of animals for various radiographic procedures, removal of teat obstruction, tail docking, application of limb casts, dressing of wound etc. Detomidine was also used in combination with local infiltration analgesia for major surgical procedures like caesarean section, repair of abdominal hernia, repair of salivary fistula, rumenotomy and exploratory laparotomy etc.

2.14. SEDATIVE, HAEMODYNAMIC, ACID BASE AND BLOOD BIOCHEMICAL CHANGES FOLLOWING ADMINISTRATION OF ATROPINE—DETO-MIDINE IN BUFFALO CALVES.

**P. K. Peshin, D. B. Patil, V. P. Pathak, Raju Sharda,
A. P. Singh and Jit Singh.**
Deptt of Surgery and Radiology,
Haryana Agricultural University, Hisar-125 004

Studies on the effects of administration of atropine (0.04 mg/kg, i.m) and ten minutes later detomidine (40 mg/kg, i.v.) on the haemodynamics,

acid base and biochemical constituents and electrolytes were done in five buffalo calves of 6-8 months of age. Significant hyperglycaemia, hypoxaemia, and abolishment of A-V block to some extent were the notable findings. Earlier these animals were studied for sedative effects of this combination and blood was collected for biochemical analysis.

2.15. TECHNIQUE OF REGIONAL AURICULAR ANALGESIA IN BUFFALO CALVES.

R. P. Pandey and S. S. Misra

College of Veterinary Science and Animal Husbandry,

C. S. Azad Univ. of Agri. and Tech., Mathura-Campus, Mathura (U.P.)

The technique essentially consisted of depositing 5 ml solution of 2% lignocaine hydrochloride (Xylocaine Astra IDL) near the postero-dorsal angle of the parotid gland at the probable place of emergence of internal and posterior auricular branches from the facial nerve. Development of analgesia was characterized by drooping (hanging) of the pinna and external ear canal accompanied with satisfactory analgesia of the canal and a reasonable area around the canal.

The block could be of great clinical utility in the management of otitis externa or in any other condition warranting drainage, medication and aeration of the external canal. This technique of analgesia facilitates painless surgical intervention in the radical aural surgery in bovines.

2.16. USE OF KETAMINE IN CANINE SURGICAL PATIENTS.

S. K. Tiwari,

College of Veterinary Science & A. H., Anjora, Durg (MP).

Ketamine (@ 8, 10, 12 mg/kg b wt.) intravenously in clinical cases alone and in combination with diazepam (@ 3 mg/kg b wt.) and triflupromazine (@ 2 mg/kg b. wt.) has given excellent sedation, analgesia and muscle relaxation lasting for about 15 min., 30 min. and 25 min.

respectively. Operations like castration, mammary tumour, removal of tumour from hock region, abdominal hernia, removal of wart from mouth, repair of mandibular fracture etc. were performed under this anaesthesia. The recovery was smooth and without excitement. In all the cases atropine sulphate was given @ 0.65 mg/animal i.m. to minimize the salivation. However, there was a significant depression in the respiration rate but the temperature and pulse rate did not vary significantly in any of the groups.

2.17. EFFICACY AND TOXICITY OF ANALGESICS-MORPHINE, ANALGIN AND XYLAZINE IN RATS AND MICE.

M. Kanniappan

Madras Veterinary College, Tamilnadu Veterinary University, Madras.

Three drugs were taken, namely, morphine, analgin and xylazine and the effective doses and toxic doses of analgin and xylazine were compared with those of morphine, being the standard analgesic drug. Normal healthy albino rats and mice were used in which heat stimulus method (nichrome wire technique) and pressure method were employed respectively. The analgesic drugs were administered subcutaneously.

The onset of analgesic action, duration of action, various effective doses (ED_{50}) and various toxic doses (LD_{50}) were found out and compared.

In another study, analgin being an analgesic drug, was combined with other drugs like cyproheptadine and phenobarbitone sodium and their analgesic efficacy was assessed. It was found that the analgesic efficacy of analgin was reduced when combined with cyproheptadine.

Session III

EXPERIMENTAL SURGERY

Chairman : Dr J. Sengupta

Rapporteur : Dr P. K. Bose

3.01. STUDIES ON GASTRODUODENOSTOMY, ILEOCOLOSTOMY AND THEIR RADIOLOGICAL AND HISTOPATHOLOGICAL EVALUATION IN DOGS.

D. S. Reddy and M. S. Dewan Muthu Mohammed
Veterinary College and Research Institute,
Salem Dist , Namakkal -637 002, (Tamil Nadu)

Gastroduodenostomy, end to end and side to side, ileocolostomy, end to end and end to side, operations were performed applying simple continuous approximating sutures using silk and their post-operative, radiological and histopathological evaluations were undertaken in 24 experimental dogs.

This study revealed that gastroduodenostomy is not harmful to the animal at the same time it does not have the disadvantage of marginal stoma ulceration which follows widely performed gastrojejunostomy. Comparative studies on end to end and side to side gastroduodenostomy revealed that end to end gastroduodenostomy is easier to perform with less difficulties. Double contrast radiography was not of much use to evaluate this operation.

Studies on end to end and end to side ileocolostomy showed that the ileocaecal valve should not be removed as far as possible. Comparative anatomical alignment studies showed that end to end ileocolostomy was better than the end to side method.

3.02. EXPERIMENTAL ESOPHAGEAL ONLAY PATCH GRAFTING IN CANINES.

B. Ramesh Kumar, K. B. P. Ragavendhar, N. N. Balasubramanian and M. S. Diwan Muthu Mohammed,
Madras Veterinary College, Madras-7 (Tamil Nadu)

Esophageal onlay patch grafting was done in six experimental dogs under general anaesthesia with thiopentone sodium. A defect was created in the cervical part of the esophagus and the wall was reconstructed with sternohyoideus muscle running on the ventrolateral aspect of the neck. The animals were kept under observation for 30 days. Haematological

examination done on 7th, 14th and 21st post operative days showed only mild leucocytosis on 7th day which subsided later. Plain and barium swallow skiagrams taken on the site of repair on 15th and 30th post-operative days did not reveal any stricture on the esophageal lumen. The animals showed uneventful recovery. The tissues collected at the site of grafting on 30th day were subjected to gross and histopathological examination.

3.03. STUDIES ON EXPERIMENTAL NEUROTOMESIS AND NEUROANASTOMOSIS IN BUFFALO-CALVES.

S. Chaudhary, V. S. Dabas, B. N. Suthar and D. M. Tatkod
College of Veterinary Science and Animal Husbandry,
Gujarat Agricultural University, Sardar Krushinagar-385 506 (Gujarat)

Study was conducted in six experimental male buffalo calves. Neurotmesis of radial nerve was performed under linear infiltration analgesia and radial nerve block. A 4" straight incision over the lateral aspect of humerus was taken and lateral head of triceps was incised to expose the nerve. Two stay sutures were placed including only the epineurium & nerve was transected with the help of B. P. blade. The 6-0 silk and 22 mm eye 5/8 circle needle were used for neuroanastomosis. Neuroorrhaphy was performed with great care to avoid any injury to the nerve fibres and only epineurium was included in needle bite. The number of interrupted epineurial sutures necessary for approximation of nerve ends ranged between 8-10. Wound was closed routinely.

Immediately after surgery, all the animals showed all signs of radial nerve paralysis. The operated limb was immobilized with the help of bamboo splints. All the animals were examined weekly for 30 days.

3.04. STUDIES ON PHYSIOLOGICAL, BIOCHEMICAL AND RADIOLOGICAL PARAMETERS IN EXPERIMENTALLY INDUCED DIAPHRAGMATIC HERNIA IN CANINES.

C. Ramani, Dewan Muthu Mohammed, K. Ameerjan & C. Vijayaraghavano
Veterinary College and Research Institute, Namakkal, Tamil Nadu.

Twenty four apparently healthy mongrel dogs were divided into four groups following experimental induction of diaphragmatic hernia of visceral organs like liver, small intestine and stomach. Rise in temperature, pulse rate and a decrease in the respiratory rate was seen after induction of hernia. Moderate to marked reduction in haemoglobin level, packed cell volume and total erythrocyte count, with a significant rise in erythrocyte sedimentation rate, were observed in all the groups. Biochemical evaluation showed a significant rise in SGOT and SGPT levels in liver herniation (Group I). Blood gas analysis showed a reduction in the hydrogen ion concentration, partial pressure of arterial oxygen and a rise in the partial pressure of carbon dioxide tension following induction of hernia in all the groups. Electrocardiographic studies revealed an elevation of ST segment in small intestine herniation (Group II). Mean arterial blood pressure was found elevated with herniation in all the groups.

Gross appearance of the herniated liver revealed congestion and necrosis at the site of hernial ring. The herniated part of the intestine did not show severe damage except a mild degree of adhesion. The serous surface of the stomach was adherent to the lungs and showed mild haemorrhage. Centrilobular necrosis and hydropic changes in liver, diffuse catarrhal changes with fibrin exudation in small intestine and collapse of the alveoli with granulomatous reaction near the bronchi of the lungs, were observed on histopathological examination.

3.05. EXPERIMENTAL STUDY ON DIAPHRAGMATIC HERNIOPLASTY IN BUFFALO CALVES.

S. M. Usturge and A. P. Bhokre.
College of Vety. & Ani. Science, Udgir-413 517 Dist. Latur, (Maharastra)

The 1-2 years old calves were randomly divided in three groups (I, II & III) of 6 animals each. The diaphragmatic vent was induced removing a

circular piece from the musculo-tendinous portion of diaphragm through a thoracotomy wound, by 7th rib resection technique under local analgesia. Preserved homogenous urinary bladder, preserved homogenous diaphragm and ordinary nylon mesh was employed as hernioplasty material in group I, II & III respectively. The vent was repaired by using a suitable size hernioplasty graft by simple interrupted sutures, using either 1-0 chromic catgut or 2-0 braided silk. Out of six animals in each group, three were observed upto 40 and rest upto 90 post-operative days, and later on these animals were sacrificed for necropsy studies. On the basis of Macroscopic and Microscopic examination of the graft & host tissues it can be concluded that the preserved homogenous diaphragm allograft is an excellent graft for hernioplasty of the diaphragm, followed by urinary bladder and nylon mesh.

3.06. ELECTROCARDIOGRAPHIC STUDIES WITH PARTICULAR REFERENCE TO DIAPHRAGMATIC HERNIA IN BUFFALO CALVES.

D. C. Dhablania, Jagmohan Singh & V. K. Sobti

College of Vety. Sciences, Punjab Agril. University, Ludhiana (Punjab)

The study was conducted on nine clinically healthy male buffalo calves randomly divided into three groups of three animals each. Subcutaneous needle electrodes were placed at point of scapula, behind elbow joint and point of ilium. Base apex electrocardiogram was recorded while manipulating diaphragm, completion of surgery, and dorsal & lateral recumbency.

Local infiltration alone was given in group I whereas in group II pentazocine lactate and in group III chloral hydrate and diazepam in addition to local infiltration was administered.

Pentazocine increased depression of ST segment indicative of myocardial hypoxia and stress.

3.07. METHOD OF PHOTOGRAPHIC DOCUMENTATION OF FLUORESCENCE TO STUDY THE TISSUE PERFUSION.

P. H. Tank

College of Veterinary Science & Animal Husbandry,
Gujarat Agri. University, Sardar Krushinagar, (Gujarat).

Experimental intestinal occlusions were created for specific periods to study the efficacy of fluorescein dye technique (FLT) for evaluation of intestinal viability in buffalo calves. In view of needs, and in the interest of providing a simple, inexpensive and accurate documentation of fluorescein dye perfusion, a modified method of photography has been adopted. On account of nonavailability of glass camera filters, the yellow and blue gelatine papers were used on lens and flash unit, respectively. The desired fluorescence record was obtained by altering the density of this gelatine papers by folding the same several times to increase the density.

3.08. INDUCTION OF CATARACT IN BOVINE.

R. S. Dadke, V. S. Panchbhai and A. P. Bhokre,

College of Vety. and Animal Sci., M.A.U., Parbhani (Maharashtra).

Experimental induction of cataract was done by injecting calcium borogluconate (group A), hypertonic glucose solution (Group B) into anterior chamber of eyeball and trauma to the lens capsule (Group C) in 4 buffalo calves each.

Diffused cataract was developed in two (Group A), three (Group B) and two animals (Group C) on an average of 18.5, 21.3 and 20.5 days respectively. Nuclear cataract was seen in one (Group A) and two animals (Group C). In group A one animal showed capsular cataract whereas one animal under group B died during the experimental period.

3.09. EXPERIMENTAL AUTOGENOUS AND HOMOGENOUS LAMELLAR CORNEAL GRAFTING IN CAPRINE.

M. Hoque and I. V. Mogha

Indian Veterinary Research Institute, Izatnagar-243 122 (U. P.).

A total of twelve transplantations, six of them with autografts and the remainder with homografts, were performed. Analgesia was achieved by retrobulbar nerve block and Castroviejo Trephine (5 mm) set at '4' was used for both harvesting donor's graft and preparation of recipient's bed. The autografts were harvested and transplanted back on the same beds while the homografts were harvested from cadaver eyes and transplanted to recipient beds. The grafts buttons were sutured by employing eight edge-to-edge sutures with 5-0 ethicon silk.

Blepharospasm and moderate degree of corneal opacity was seen in all the animals during the first two weeks after operation which, however, started disappearing thereafter. Corneal staining test indicated intact corneal epithelium after 15 days of operation. All the animals showed comparable results and took an average of 24 days to clear corneas. None of the animals had any graft failure or compromised vision.

3.10. PHYSIOTHERAPY FOR LAMENESS WITH ULTRASONIC MUSCLE STIMULATOR-AN EXPERIMENTAL STUDY.

M. Hoque, A. K. Bhargava* and G. R. Singh

Indian Veterinary Research Institute, Izatnagar-243 122 (U. P.).

Twelve adult goats were subjected to unilateral arthrotomy of the stifle joint. These were divided into two groups of six animals each and were given antibiotic and analgesic parenterally for 4 days after the operation.

The test limbs of the animals of group I were treated by ultrasonic muscle stimulator (Physiotherapy unit Medisonic Deluxe, Model No. 13, Type No. MEI) at 72, 96 and 120 hours using a dose of 0.5 watts per sq. cm. for 5-10 minutes, whereas the animals of group II were left untreated.

Pain was evinced on palpation of the test joints during first 3 days post-operatively in animals of both the groups which in later stage subsided. The animals of group-I started bearing weight on test limbs at day 7 post-operatively with apparently normal extension and flexion movement though lameness persisted upto second week after surgical intervention. Thereafter the animals showed normal movements. The animals of group-II showed more degree of lameness and took as long as 10 days post-operatively to use their operated limbs during progression. At that stage slight weight bearing could be observed, however, stiffness of the test limb to some extent was noticed. The recovery in terms of active range of motion (ARM) was faster in animals of group I than that of group II.

* Deceased.

3.11. ANGIOGRAPHIC EVALUATION OF INTER OR INTRACORONARY ANASTOMOSES FOLLOWING EXPERIMENTAL LIGATION OF LEFT ANTERIOR DESCENDING (LAD) CORONARY ARTERY IN CALVES.

O. P. Gupta and G. R. Singh

Indian Veterinary Research Institute, Izatnagar (U. P.).

Six calves between 4-6 months of age were subjected to experimental ligation of left anterior descending (LAD) coronary artery. Coronary angiography was done in all the animals soon after their death or sacrifice. The angiograms were taken in resected hearts using 20% lead soap suspension as contrast material and were evaluated for inter or intracoronary anastomoses.

Among the six calves, two died within 15 minutes, one at 24 hours and one at day 11 following coronary ligation and remaining two calves which sustained myocardial insult, were sacrificed after 21 days of coronary ligation. The angiograms taken after 15 minutes of coronary ligation demonstrated more or less avascular zone distal to the ligation. After 24 hours of ligation, ischaemic area appeared moderately vascularized and visualization of vessels distal to the ligation was suggestive of retrograde filling through inter or intracoronary anastomoses. In the angiograms taken after 11 day of coronary ligation, the area distal to the

ligation was well vascularized. The vessels in the area, however differed in their configurations at this stage. At day 21, vascularization distal to the ligation was comparable to that of normal heart and it was difficult to mark the ligated site on the angiogram.

3.12. SURVIVAL TIME FOLLOWING EXPERIMENTAL LIGATION OF LEFT ANTERIOR DESCENDING (LAD) CORONARY ARTERY IN CALVES, PIGS AND GOATS.

O. P. Gupta and **G. R. Singh**

Indian Veterinary Research Institute, Izatnagar (U. P.).

Six each of Calves, Pigs and Goats were subjected to experimental ligation of left anterior descending (LAD) coronary artery under positive pressure ventilation.

In Calves, two had survival time for 21 days (sacrificed), one died on 11th day, one succumbed after 24 hours and other two animals died within 15 minutes after coronary ligation.

Among the 6 Pigs, 3 animals had survival time for 21 days (sacrificed), one animal died on 4th day of ligation and two animals succumbed respectively within 45 minutes and 15 minutes of coronary ligation.

In Goats, one animal had survival time for 21 days (sacrificed) and other animals died respectively after 96 hours, 2 hours, 90 minutes and 60 minutes of coronary ligation.

3.13. FUNCTIONAL STATUS OF URINARY BLADDER FOLLOWING EXPERIMENTAL RECONSTRUCTION IN GOATS USING BOVINE AMNION.

C. V Reddy, **O. P. Gupta** and **G. R. Singh**

Indian Veterinary Research Institute, Izatnagar (U. P.).

Eighteen clinically healthy female goats were utilized to evaluate the functional status of urinary bladder after its reconstruction by using

three different types of bovine amnion grafts viz. fresh amnion (Group 1), amnion preserved by freezing and boiling in 70% alcohol (Group 2) and 1% glutaraldehyde treated amnion graft (Group 3).

Clinically, the animals in all the three groups were dull and depressed for the first 24 hours post-operatively. All the animals of the three different groups passed blood tinged urine immediately after the animals were on their feet. The frequency of urination was comparatively more in animals of group 3 than those of group 1 and 2. None of the animals in any group noticed urinary incontinence.

The urinary bladder capacity decreased following bladder reconstruction in all the three groups. It improved with the passage of time in groups 1 and 2 by day 60 as compared to group 3.

The bursting pressure of reconstructed bladder in group 1 and 2 at day 30 and 60 was slightly higher than that of normal urinary bladder whereas in group 3, it was recorded slightly less than that of normal urinary bladder.

3.14. HISTOPATHOLOGICAL EXAMINATION OF RECONSTRUCTED URINARY BLADDER USING BOVINE AMNION: AN EXPERIMENTAL STUDY IN GOATS.

C. V. Reddy, Kalicharan, O. P. Gupta and G. R. Singh
Indian Veterinary Research Institute, Izatnagar (U. P.).

Histopathological examination of reconstructed urinary bladder by using three different types of bovine amnion grafts viz fresh amnion (Group 1), amnion preserved by freezing and boiling in 70% alcohol (Group 2) and 1% glutaraldehyde treated amnion graft (Group 3) were evaluated in 18 clinically healthy female goats.

Microscopic examination revealed partial and complete covering of regenerated bladder tissue at the reconstructed area at day 30 and 60 in all the groups. In group 3, the epithelial regeneration was less than group 1 and 2 at day 30 and 60. Cellular infiltration especially plasma cells and lymphocytes observed in all the three groups, indicates immunological reaction to the amnion graft. Deposition of collagen and elastic

fibres were more uniform and organized at day 60 than 30. However, collagen fibres density was less at day 60 than 30.

3.15. RADIOGRAPHIC EVALUATION OF BONE GRAFTS AND 'ALCAP' CERAMICS USED IN THE TREATMENT OF BONE DEFECTS IN GOATS.

H. P. Aithal, I. V. Mogha and G. R. Singh
Indian Veterinary Research Institute, Izatnagar (U. P.).

An animal model of complete fracture with bone loss was prepared in goats, using metatarsus as test bone. Autogenous cortical and cancellous bone grafts, decalcified allogenic bone pieces impregnated with autogenous marrow and composite grafts of ALCAP pieces with marrow were evaluated and compared in the treatment of bone defects at the fracture site. Radiographic observations were made on day 0, 30, 60 and 90 post-operatively. Early osseous union was seen between the host and the autogenous cortical bone grafts. Healing of the bone defect and unchanged density at the graft site indicated early incorporation of cortical grafts. In animals where cancellous bone chips were used, healing was slow in the early stages, but was comparable to cortical grafts at day 90. Healing with the composite grafts of decalcified bone and marrow was comparable to autogenous cortical bone grafts on day 60 onwards. Composite grafts of ALCAP and marrow showed slow healing, as evinced by persistence of implant pieces and absence of complete osseous union at the implant site even at day 90.

3.16. USE OF BONE GRAFTS AND 'ALCAP' IN THE MANAGEMENT OF FRACTURES IN GOATS: HISTOPATHOLOGICAL STUDIES.

H. P. Aithal, I. V. Mogha, O. P. Paliwal and G. R. Singh
Indian Veterinary Research Institute, Izatnagar (U. P.).

Autogenous cortical and cancellous bone grafts, composite grafts of decalcified allogenic bone and marrow and bone marrow impregnated

ALCAP pieces were evaluated in the treatment of fracture of metatarsus with bone loss in goats. Histological observations made at day 30, 60 and 90 revealed the sequential events of graft incorporation. At day 30 fibrocellular reaction was predominant at the graft-host junction in all four groups. In animals where autogenous cortical bone grafts were used, both the grafts and host bone contributed to new bone formation and at day 90 grafts were almost completely replaced leaving spreadout old lamellar bone at places. Early penetration of new bone trabeculae indicated faster incorporation of cancellous bone grafts. Surface resorption and trabecular penetration of decalcified bone grafts were evident at different intervals, but considerable amount of decalcified bone was left unresorbed at day 90. The newly formed bone failed to penetrate ALCAP pieces impregnated with marrow and the spaces in between the implant pieces were filled with fibrous tissue, indicating poor osteoinductive and osteoconductive properties of ALCAP ceramics.

3.17. HISTOPATHOLOGICAL EVALUATION OF COMPOSITE BONE GRAFTS IN GOAT - AN EXPERIMENTAL STUDY.

S. K. Maiti, Kalicharan and G. R. Singh
Indian Veterinary Research Institute, Izatnagar (U. P.).

Frozen decalcified allografts (Gr. A), autogenous red bone marrow impregnated frozen decalcified allografts (Gr. B) and autogenous citrated plasma impregnated frozen decalcified allografts (Gr. C) were transplanted in tibial bone defect in goats.

The histological sections showed that the process of new bone formation were distinct in these animals. The union of the graft with host bone was observed conspicuously at their borders. The graft had attachment by trabecular bone on both endosteal and periosteal sides. Some of these trabeculae along with blood vessels were entering into the resorption cavities formed within the graft. In group B, the amount of newly formed woven bone was found more than the group A and C. Newly formed Osteoid tissue have been enriched with vascularisation and osteoblastic activity. Resorption and replacement process started within

the peripheral clefts of the decalcified bone grafts. The resorption of the graft was evidenced by the widening of some of the Haversian canals and the presence of osteoclasts in some areas of the graft.

However, the rate of resorption and new bone formation was faster in decalcified allogenic bone grafts impregnated with autogenous red bone marrow. The decalcified allogenic bone grafts alone and in combination with autogenous citrated plasma almost parallel as regard to their osteogenic or Osteoconductive properties are concerned.

3.18. HISTOLOGICAL STUDY OF STAINED (H & E) UNDECALCIFIED GROUND SECTION OF VARIOUS BONE GRAFTS IN GOATS - AN EXPERIMENTAL STUDY.

S. K. Maiti and G. R. Singh

Indian Veterinary Reseach Institute, Izatnagar (U. P).

Frozen decalcified allografts (Gr. A), autogenous red bone marrow impregnated frozen decalcified allografts (Gr. B) and autogenous citrated plasma impregnated frozen decalcified allografts (Gr. C) were transplanted in a tibial defect in goats.

The microscopic examination of stained (H & E) undecalcified ground sections in the groups A, B and C revealed the trabeculae of newly formed bone were seen originating from both the cut'end of the host bone and further progressed towards each other in an uneven manner and bridged the gap. The newly formed bone at the site of its origin was more organised as evidenced by presence of well defined osteons and abundant Haversian vessels. In the animals of group B, the intensity of new bone formation was comparatively more at its origin than the group A & C and there was indication of osteogenic activity within the marrow impregnated bone grafts.

3.19. OSTEMEDULOGRAPHIC AND ANGIOGRAPHIC EVALUATION OF DIFFERENT TYPES OF BONE GRAFTS AND CERAMIC IMPLANTS IN GOATS - AN EXPT. STUDY.

S. K. Maiti and G. R. Singh

Indian Veterinary Research Institute, Izatnagar (U. P.).

Thirty-Six trials were conducted to evaluate and compare frozen decalcified allografts (Gr. A); autogenous red bone marrow impregnated frozen decalcified allografts (Gr. B); autogenous citrated plasma impregnated frozen decalcified allografts (Gr. C); ALCAP ceramic implants (Gr. D); ALCAP Ceramics impregnated with autogenous red bone marrow (Gr. E) and ALCAP ceramics impregnated with autogenous citrated plasma (Gr. F) in 18 clinically healthy goats using both the tibia. The all types of grafts/implants were transplanted in a standard bone defects (1×3 cm.) created in the proximal third of medial aspects of tibia using electric bone saw under local infiltration anaesthesia.

The osteomedulogram taken at day sixty, showed flow of contrast media (Conray-420) across the grafted site visualizing proximal sinusoidal network and extraosseous veins draining the contrast material from the medullary cavity. Pooling of Contrast material seen at the grafted site was more in animals where plasma-coated frozen decalcified allografts were used followed by bone marrow impregnated frozen decalcified allografts and frozen decalcified allografts. In all the groups where ALCAP Ceramics alone or in combination of bone marrow and citrated plasma were used showed moderate stagnation of contrast media distal to the implanted site. There was no evidence of leakage of contrast material at the grafted/implanted site in the five groups. Whereas in group E, showed leakage of contrast material from the two implanted site.

Lead Oxide Soap suspension (20%) provided excellent contrast and visualization of arterial system even upto the capillary level. The course and distribution of vascular systems were normal in angiograms of intact limbs of all the six groups, at day ninety post operatively. The angiograms taken after removal of soft tissue showed cross-over of medullary vessels across the grafted/implanted site from endosteal side was seen in all the six groups. However, the intensity of vascularization was comparatively more in groups A, B and C than D, E and F.

3.20. STUDIES ON VASCULAR ANASTOMOSIS BY CARREL AND EVERSION TECHNIQUE USING POLYTETRAFLUOROETHYLENE AND POLYESTER SUTURES IN CANINES.

Lakshmi Chandra Sekhar, E. and M. S. Dewan Muthu Mohammed
Madras Veterinary College, Tamil Nadu Veterinary University, Madras.

Two different suture techniques i. e Carrel's and Eversion type and two different suture materials i. e. Polytetrafluoroethylene and Polyester for vascular anastomosis of carotid artery were evaluated in 24 dogs. Various parameters including physiological, haematological, radiological and histopathological studies were performed to evaluate the surgical techniques.

There were significant rise in temperature, pulse and respiratory rate on the 3rd post-operative day which later became normal on the 7th post-operative day. There was also a significant increase in the platelet count on the first post-operative week and the values came down to normal after 8th post-operative day. The percentage of leakage and stricture was less in Carrel's technique than eversion technique as evidenced by angiographic and histopathological study. It was concluded that Carrel's technique of anastomosis is the ideal technique for anastomosis of carotid artery and the Polytetrafluoroethylene is the better suture material which can be used in canines.

3.21. CENTRAL (BRAIN) ADMINISTRATION OF DRUGS BY STEREOTAXIC TECHNIQUE.

M. Kanniappan
Tamil Nadu Veterinary University, Madras Campus (Tamil Nadu)

Stereotaxic instrument mainly consists of a platform with three measuring scales-one scale to measure anterior-posterior, second lateral and the third vertical distances. The head of animal is fixed on the platform after general anesthesia. By careful manoeuvring these scales, an exact mark is made on the skull at which a hole is made by drilling. A microlitre syringe attached with the stereotaxic instrument passes through this hole and reaches the particular center of the brain where the

drug is discharged. If daily or frequent injection is necessary then a cannula may be fixed permanently on the skull which facilitates to give injection at any time in conscious (unanesthetised) animals.

The technique is almost same in all animals. Anyhow the Brain Atlas for each species may be required to fix the co-ordinates, i. e. to measure the antero-posterior, lateral and depth distances.

3.22. ELECTROCARDIOGRAPHIC CHANGES IN COW-CALVES FROM BIRTH TO 7TH WEEKS OF AGE.

C. S. Celly, P. Kinjavdekar and G. R. Singh
Indian Veterinary Research Institute, Izatnagar (U. P.)

In 25 cow-calves, ECG leads like I, II, III, aVR, aVL and aVF were recorded within 24 hours of their birth. Subsequently, the recording were made after 1, 2, 3, 4, 5, 6 and 7 weeks of age. The mean duration of P wave on day zero (0.02 ± 0.0005 secs) after showing a maximum increase on 3rd week (0.039 ± 0.0006 secs.) returned to 0.024 ± 0.00048 secs. on 7th week. Duration of mean QRS complex showed a gradual increase from zero day value to 7th week value with the exception of 6th week where it showed a decrease. Similarly, duration of T wave also showed a gradual increase from zero day value to 7th week value with the exception of 6th week where the value showed a decrease. The mean zero day values for amplitudes of P wave, mean QRS and T wave were 0.016 ± 0.0004 mv, -0.027 ± 0.0635 mv and -0.101 ± 0.0488 mv, respectively. On 7th week, the mean values were 0.013 ± 0.0004 mv., -0.012 ± 0.0658 mv and 0.032 ± 0.0185 mv respectively for P wave, QRS complex and T wave. Average value for MEA of P wave was 53.08 ± 10.180 on day zero and it decreased to 25.12 ± 7.426 by 7th week. Lot of variation was seen in MEA of mean QRS which followed an undulating pattern from zero day to 7th week. Mean value for MEA of T wave was -28.74 ± 23.044 on day zero and it increased to 29.72 ± 15.625 by 7th week. It seems from the results that vectors for forces of ventricular depolarization show more lability from birth to 7th weeks of age.

Session IV

GENERAL SURGERY

Chairman : Dr B. Prasad

Rapporteur : Dr S. K. Pandey

4.01. GROSS, HAEMATOLOGICAL AND HISTOMORPHOLOGICAL OBSERVATIONS OF EXPERIMENTAL INTRA-ABDOMINAL ADHESIONS IN DOGS.

V. S. Dabas, M. C. Desai, J. N. Mistry, B. G. Pandhamukhi and D. M. Tadkod
College of Vety. Sc. & A. H.
Gujarat Agri. University, Sardarkrushinagar-385 506 (Gujarat).

Experimental adhesions were created by denuding the antimesenteric border of the small intestine to mimic the post-operative intra-abdominal adhesions in sixteen dogs. Grossly, adhesions between parietal peritoneum, omentum, mesentery and intestines were seen in the form of fibrous bands with various degrees of firmness. Haematologically, pathogenesis of adhesion formation reflected by leucocytosis, wherein initial neutrophilia with relative lymphopenia was a special feature. Histomorphologically, severity of adhesions was denoted by abundant fibroblastic activity, heavy infiltration of leucocytes and invasion of the area by mast cells.

4.02. COMPARATIVE EVALUATION OF METRONIDAZOLE AND CORTISONE IN PREVENTION OF EXPERIMENTAL INTRA - ABDOMINAL ADHESIONS.

V. S. Dabas, S. Chaudhary, P. H. Tank and D. M. Tadkod
College of Vety. Sc. & A. H.,
Gujarat Agri. University, Sardarkrushinagar-385 506 (Gujarat).

Experimentally induced intra-abdominal adhesions were treated by metronidazole @ 20 mg and dexamethasone @ 2 mg on zero, fifth and tenth post-operative days, intraperitoneally. The effect of drugs were evaluated by gross, haematological and histomorphological studies. These observations indicated a definite advantage of the treatment adopted towards minimizing post-operative intra-abdominal adhesions when compared to controls (untreated animals) and metronidazole proved to be slightly better as compared to cortisone.

4.03. EFFECT OF AUTO - TRANSFUSION AND HAEMODILUTION ON HAEMATOLOGY IN DOGS - AN EXPERIMENTAL STUDY.

Sukhbir Singh, K. K. Mirakhur & N. K. Sood
Punjab Agricultural University, Ludhiana-141 004 (Punjab).

Haemoglobin, PCV, TEC, platelet counts, TLC and DLC and bone marrow biopsy were studied in 20 bitches for evaluating the effect of autoblood transfusion and haemodilution. Effects on these parameters were appreciable but well within clinically safe limits. PCV, Hb, TEC and platelet counts exhibited fall immediately after haemodilution but showed increasing tendencies in subsequent sampling. On 10th day after auto-transfusion the values were close to basal value. However, the fall in PCV was least affected in the animals which were transfused 3 days after blood collection.

Bone marrow biopsy smears revealed slight narrowing of myeloid erythroid ratios indicating mild stimulation of erythropoiesis in the bone marrow.

4.04. EFFECT OF AUTO-BLOOD TRANSFUSION AND HAEMODILUTION ON BLOOD CHEMISTRY DURING ELECTIVE SURGERY IN DOGS.

Sukhbir Singh, K. K. Mirakhur and R. K. Chaudhary
College of Veterinary Science,
Punjab Agricultural University, Ludhiana 141 004 (Punjab).

Twenty female dogs divided into 4 groups of 5 animals each were used. In group I, blood collection was followed by haemodilution and transfusion of the pre-donated blood after surgery (ovario-hysterectomy) on the same day. In group II, auto-transfusion following surgery was carried out 3 days after blood collection and haemodilution. In group III, in addition to procedure of group II, when half of the blood was transfused, simultaneously, another collection was done equivalent to half the amount harvested in first collection and was retransfused 2 days after the first transfusion. Group IV animals were sham operated (control) and all the procedures were carried out except blood collection, haemodilution and auto-transfusion. Biochemical parameters studied were

total proteins, plasma fibrinogen plasma electrolytes, plasma creatinine, blood urea nitrogen and plasma enzymes viz., AST, ALT, ACP, ALP and LDH. Total proteins and fibrinogen levels decreased after haemodilution and exhibited increasing tendencies subsequently. They were least affected in the second regimen. Plasma electrolytes and renal functions remained more or less unchanged. Plasma enzymatic profile remained almost unchanged. It was concluded that auto-transfusion and haemodilution had no deleterious effect on liver and kidney functions and is well tolerated.

4.05. BLOOD GASES AND ACID-BASE STUDY FOLLOWING AUTO-TRANSFUSION AND HAEMODILUTION IN DOGS UNDERGOING ELECTIVE SURGERY.

Sukhbir Singh and K. K. Mirakhur
College of Veterinary Science,
Punjab Agricultural University, Ludhiana-141 004 (Punjab).

Blood gas and acid-base status were studied in 20 bitches following autoblood transfusion and haemodilution during ovario-hysterectomy. Correlation of blood pH, PaCO₂, BE and HCO₃ revealed mild respiratory alkalosis immediately after the blood collection and haemodilution. A mild acidosis seen following surgery was of respiratory origin in dogs bled and transfused on the same day whereas metabolic type in animal transfused 3 days later. There was consistent reduction in oxygen saturation of venous blood, thereby indicating an increased oxygen utilization.

4.06. CLINICAL AND GROSS OBSERVATIONS OF TEAT WOUNDS REPAIRED WITH SKIN GRAFTING IN GOATS.

P. B. Patel, J. N. Mistry, R. M. Patel and D. M. Tadmok
College of Veterinary Science & Animal Husbandry,
Gujarat Agricultural University, Sardar Krushinagar-385 506 (Gujarat).

Full thickness skin punch grafting was experimentally studied in twenty four penetrating teat wounds in twelve adult goats. Clinical and gross observations were made to evaluate the healing process on 10th

and 20th post-grafting days. Clinically, no systemic disturbances were observed. Grossly, percentage of acceptance was very high by 10th day and the accepted surface was smooth, shining and hairless. The 20th day observations revealed cent percent acceptance of the graft. Hair growth had already started on the accepted surface.

4.07. FULL THICKNESS SKIN PUNCH GRAFTS FOR REPAIR OF EXPERIMENTAL PENETRATING TEAT WOUNDS IN GOATS - HISTOMORPHOLOGICAL AND HISTOCHEMICAL OBSERVATIONS.

P. B. Patel, M. C. Desai, J. N. Mistry, B. G. Panchmukhi & D. M. Tatkod
College of Veterinary Science & Animal Husbandry,
Gujarat Agricultural University, Sardar Krushinagar-385 506 (Gujarat).

Observations were made in twenty four penetrating teat wounds in twelve female adult goats. The 10th day histomorphological picture revealed active healing process with leucocytic infiltration, fibroblastic activity and capillary proliferation. By 20th day the gap between the grafts was filled up. Mature collagen fibres occupied the gap. Stages of healing process were still evident through PAS positive activity at both the phases of observation.

4.08. USE OF MODIFIED GELATIN FILMS AS DRESSING MATERIAL FOR TRAUMATIC WOUNDS IN LARGE ANIMALS.

B. Ramesh Kumar, T. N. Ganesh and M. S. Diwan Muthu Mohammed
Madras Veterinary College, Vepery, Madras (Tamil Nadu).

Pharmaceutical grade gelatin material was processed into thin films at Central Leather Research Institute, Madras. The films were coupled with antibiotics and other dressing materials (Gauze or Bandage) for wound treatment at Large animal surgical unit in Madras Veterinary College. The material was used for wound dressing in fresh, bleeding

injuries. The haemostatic and wound healing properties of the material were studied. Gross and histopathological reactions at the site of wound dressing were also observed.

4.09. WOUND HEALING PROPERTIES OF NEEM OIL AND NEEM OINTMENT.

R. L. Bhardwaj and **D. N. Sharma**
College of Vety. & Animal Science, H P.K.V., Palampur-176 062 (H.P.).

Neem oil (pure oil obtained from neem seeds) and Neem ointment (Neem oil in paraffin base 50 : 50) have been evaluated in experimentally created incised and gap wounds in cow calves. The rate of healing was estimated on 7th, 14th and 21st days of application of the medicaments in either types of wound. There was no deviation from the normal values in the physiologic norms of the animal after wound creation and during application of the treatment. The oil had a flash but slight irritant effect on the wounds After few hours of the application; both the preparations were found to have exerted anodyne and astringent effects on the wound. There was neither suppuration nor miasis. Calf to calf licking of the wounds was also not observed. The pure oil application however caused more dryness and contracture of the wounds than the ointment. Thus ointment appeared more soothing and more or less equally effective wound healer besides being cost effective.

4.10. EFFECT OF OPERATION THEATRE ENVIRONMENT ON LAPAROTOMY WOUND IN BOVINES.

N. S. Saini, **S. N. Sharma**, **M. S. Oberoi** and **K. S. Roy**.
College of Veterinary Science, Punjab Agri. University, Ludhiana (Punjab)

Right flank laparotomies were performed of five clinically healthy cross bred calves. A significant ($P < 0.05$) increase of 22.1 and 2.7 times

in bacterial count in subcutaneous tissue and incised skin edges respectively, and a non-significant increase (1.1 times) on muscles and peritoneum had occurred during 15 minutes exposure to the operation theatre environment. Polymorphonuclear cells and Gram-positive and Gram-negative bacterial infiltration was also demonstrated histopathologically in muscles and peritoneum. Organisms isolated from operation theatre air were *Staphylococcus aureus* (5), other *Staphylococcus* spp (4), *Bacillus* spp. (5); *Micrococcus* spp (1); and Yeast (1). Usually similar organisms were found on the laparotomy wound, also, just before closure of abdomen. Operation theatre environment is concluded to be the significant source of operative wound contamination.

Session V

ORTHOPAEDIC SURGERY AND RADIOLOGY

Chairman : Dr Harpal Singh

Rapporteur : Dr D. M. Tadkod

5.01. HORN PLATES VERSUS STAINLESS STEEL PLATES IN REPAIR OF MANDIBULAR FRACTURES IN BUFFALO CALVES.

D. P. Amin, S. C. Ojha, D. R. Barvalia and P. H. Tank
College of Veterinary Science & Animal Husbandry,
Gujarat Agri. University, Sardar Krushinagar-385 506 (Gujarat).

The efficacy of bovine horn plates versus stainless plates in experimentally created unilateral mandibular fractures of interdental region in twelve buffalo calves divided in two groups equally was assessed. Clinically, the mobility of fracture fragments, prehensile activity with difficulty were observed for a longer period in stainless steel group. Local swelling and pain were also more pronounced in this group. Radiographically, evidence of callus formation was appreciably encouraging at 45 days without any significant complications in horn plating group. Osteomyelitis, local infection and loosening of screws and plates were more frequently observed in stainless steel group. Horn plating was therefore considered to be more promising and worth attempting in such clinical cases.

5.02. STUDIES ON THE EFFECT OF PECTINEUS TENOTOMY AND PECTINEUS TENDONECTOMY IN HIP DYSPLASTIC DOGS.

L. Nagarajan, Godfrey David, N. N. Balasubramanian and
Dewan Muthu Mohammed
Veterinary College & Research Institute, Namakkal (Tamil Nadu).

The work was carried out in normal dogs and 6 clinical cases of canine hip dysplasia to compare the efficacy of two different surgical techniques, namely, pectineus tendonectomy and pectineus tenotomy. The dogs were evaluated both clinically and radiologically before and after surgery. The various parameters like the coxofemoral angle, depth of acetabulum, angle of abduction and improvement after surgery were studied. The average increase in the coxofemoral angle after pectineus tendonectomy was 0.85° more than the increase after tenotomy. The reduction in the distance between the most medial points of femoral heads (a relative measure of the depth of acetabulum) was 2.34 mm more after pectineus tendonectomy than the reduction created by pectineus

tenotomy. The increase in the angle of abduction after pectineus tendonectomy was 2.08° and 1.85° more than the increase after pectineus tenotomy in normal and dysplastic dogs respectively. The changes in posture and improvement in gait were more satisfactory after pectineus tendonectomy than after tenotomy.

5.03. BOVINE FRACTURES - REVIEW OF 70 CASES.

P. S. Bansal and D. C. Dhablania

College of Veterinary Science, PAU, Ludhiana-141 004 (Punjab).

Seventy clinical cases of various types of fractures in cattle and buffalo were referred for treatment during the last two years. Out of these, 60 were of cattle and remaining were of buffaloes. In cattle the fracture of metatarsal was commonest (38.3%), followed by tibia (25%), metacarpal (18.3%), radius and ulna (8.3%), humerus (5%) and femur (10%). Dislocation of hip joint was recorded only in one case. The fractures were simple in 50% whereas in the remaining were compound fractures. In buffaloes, the incidence was maximum in metacarpal (50%) followed by metatarsal (30%), humerus and femur. These fractures were repaired by various types of external and internal fixation methods and their prognosis depended on the nature and severity of fracture.

5.04. SYNOVIAL FLUID STUDY IN HEALTH AND IN INDUCED INFECTIOUS ARTHRITIS IN BUFFALO CALVES.

S. Kumar and H. P. Singh

College of Veterinary Science,

G. B. Pant University of Agri. and Tech., Pantnagar-263 145 (U.P.).

In 6 buffalo calves synovial fluid was studied for its physical and biochemical characteristics during health and induced infectious arthritis at different intervals. Physical parameters viz quantity, pH, viscosity and mucin precipitate quality were studied. Biochemical parameters

included total protein, albumin, globulin, A:G ratio, urea, uric acid, alkaline phosphatase, acid phosphatase, sodium, potassium, calcium and inorganic phosphorus.

The level of enzymes like alkaline phosphatase and acid phosphatase increased considerably during arthritis. There was decrease in viscosity and pH of the synovial fluid alongwith poor mucin precipitate quality. Total protein, albumin, globulin, uric acid and urea were increased. Inorganic phosphorus, sodium and calcium also showed increased level. Glucose level and A:G ratio were decreased. No significant change in level of potassium and chloride was found.

5.05. ULTRASONOGRAPHY OF CANINE ABDOMEN.

K. K. Mirakhur and S. S. Rathor

College of Veterinary Science,

Punjab Agricultural University, Ludhiana-141 004 (Punjab).

Ultrasonography of canine abdomen in the routine clinical practice has been found to be of immense value in disorders of liver, kidneys, uterus, ovaries, urinary bladder and peritoneal cavity. Echotexture of various organs both normal and pathologic shall be discussed.

5.06. EVALUATION OF ULTRASONIC THERAPY IN EXPERIMENTAL ACUTE TRAUMATIC ARTHRITIS IN DOGS.

R. Bhatia, V. K. Sobti, K. S. Roy and A. S. Dhaliwal

College of Veterinary Science,

Punjab Agricultural University, Ludhiana-141 004 (Punjab).

Acute traumatic arthritis was induced in stifle joint of 8 dogs by intra-articular injection of turpentine oil. They were divided into 2 groups of 4 dogs each. One group served as control whereas second group was subjected to ultrasonic therapy @ 0.5/cm². Synovial cytology and histopathology of joint tissues showed near normalisation in treated animals whereas acute inflammation persisted in controls even 9 days after the induction of arthritis.

5.07. CAROTID ANGIOGRAPHY IN BOVINE.

A. K. Ray and A. K. Mitra

Faculty of Veterinary Science & Animal Husbandry,
O. U. A. T., Bhubaneswar-751 003 (Orissa).

Plain radiography and carotid angiography using Conray-420 was done in 24 experimental and 5 clinical cases. Subtraction radiographs were also obtained in order to accurately identify the damaged blood vessels in these animals and space occupying lesions in clinical cases. The experimental cases were induced with mechanical trauma at selected places. The animals were controlled with general anaesthesia in experimental cases and sedation alongwith local anaesthesia in clinical cases. The results have been presented.

5.08. STUDIES ON AORTOGRAPHY AND INTRAVENOUS PYELOGRAPHY IN DIAGNOSIS OF DISEASES OF KIDNEY IN CANINE.

R. Seshachalam and N. N. Balasubramaniam

Veterinary College & Research Institute, Namakkal, (Tamil Nadu).

Pyelonephritis, hydronephrosis and infarction of kidneys were experimentally induced in three groups of six dogs each. The group-I received *E. Coli* infection into renal pelvis to induce pyelonephritis. Ligation of ureter was carried out in Group II to induce hydronephrosis and renal artery was ligated in group III to induce infarction of kidney. The investigations on physical and biochemical parameters of blood and urine were done. Plain skiagram, intravenous urogram and non-selective renal angiogram were done on all the 3 groups using meglumine lothalamate and sodium lothalamate.

Aortography visualized hydronephrosis more effectively than intravenous pyelography and also provided more accurate information on evaluation of parenchyma and renal vessels. Aortography proved to be better than intravenous pyelography in diagnosing damages to renal parenchyma.

6.09. STUDY OF ARTHRITIS IN RELATION TO PERIARTHRITIS IN BOVINES.

S. S Misra

College of Veterinary Science & Animal Husbandry,

C. S. Azad Univ. of Agri. and Tech., Mathura-Campus, Mathura (U. P.).

Carpal arthritis in six Haryana calves, 6-14 months old, was studied clinico-experimentally. Synovial volume in 4 out of 6 calves was not significantly increased; locomotory impairment was, however, pronounced. In 2 calves it was bilateral. Synovial examination did not reveal abnormal aberration from the normal values; colour, consistency was unchanged. Bacteriological examination evidenced sterility of synovia

Radiological examination indicated periarticular soft tissue changes in 3 animals. It is known that the inflammatory and vascular changes in the contiguous vital periarticular components could lead to a more alarming manifestation of arthritis where locomotory impairment is pronounced. Periarticular injection of hydrocortisone acetate mixed with hyaluronidase and chloramphenicol was rewarding in all cases.

5.10. EXPERIMENTAL STUDIES ON EFFECT OF ELECTROMAGNETIC STIMULATION ON FRACTURE HEALING.

S. P. Mehesare, A. D. Ingle, M. G. Thorat, M. V. Joshi and P. E. Kulkarni
Faculty of Veterinary Science,
Punjabrao Krishi Vidyapeeth, Akola, (Maharashtra).

Six male buffalo calves, 3 years old, were divided in two groups comprising of 3 animals each. Animals of group I served as control and of group II applied with magnetic stimulation of 65 Hertz with 150 duty cycles on experimentally created fracture of metacarpal bone. Effect of magnetic stimulation on fracture healing and osteogenesis was assessed by radiologic, angiographic, clinical, histomorphological and biochemical investigations on 28th, 35th and 42nd post-operative days. Faster healing was observed in Group II animals receiving the electromagnetic stimulation. There were no significant changes in blood calcium, inorganic phosphorus and alkaline phosphatase profile on 28th, 35th and 42nd post-operative days between the two groups.

5.11. RADIOGRAPHIC DIAGNOSIS OF BONE TUMOUR IN ANIMALS - A REPORT OF 45 CASES.

G R Singh, H. C. Setia and I. V. Mogha

Indian Veterinary Research Institute, Izatnagar (U. P.).

A total of 45 clinical cases suspected for tumourous growth in different body regions were radiographed. Out of 25 cases of dog, 9 cases of Mammary Tumour and 3 cases of Venereal granuloma subjected for radiographic examination of the chest for the diagnosis of the metastatic lesion revealed that metastasis of Mammary Tumour was more common than Venereal Granuloma. Other tumours in dogs involving different organs of the body included osteo-sarcoma (2), Squamous Cell Carcinoma (1), Fibroma (3), thyroid carcinoma (1), Hemangioma (1), Nasal Granuloma (1), Teratoma (2) and Unspecified tumourous growth located at the base of the heart and lungs (2).

In large animals horn cancer in bullocks (13), osteosarcoma in bullock (1), Ethmoid Tumour in cows (2) Osteoma in equine (1), Fibroma in equine (1) and in small animals, fibro-sarcoma in rabbit (1), Nasal fibroma in Piglet (1), orbital bone tumour in goat (1) were diagnosed radiographically.

5.12. EFFECT OF INTRA-ARTICULAR INJECTION OF DIMETHYLSULFOXIDE ON NORMAL BOVINE SYNOVIA.

Rishi Tayal, A. P. Singh, B. A. Moulvi and E. L. Chandrashekhar

College of Veterinary Science, Haryana Agri. University, Hisar.

Dimethylsulfoxide (1 ml of 40% solution of 90% DMSO in lactated Ringer's solution) was injected into the left radiocarpal joint of four calves. The corresponding right joint was injected with 1 ml of lactated Ringer's solution to serve as control. Intra-articular administration of both DMSO and lactated Ringer's solution elicited a mild inflammatory response, evidenced by increased leucocytic and neutrophilic counts and total protein content of the synovial fluid. Lower leucocytic and neutrophil counts and total protein concentration, good mucin clot forming quality and high viscosity of the synovia samples of DMSO-injected

joints than those of control ones suggests that DMSO is less irritating to the articular tissues than the lactated Ringer's solution. DMSO also checks the depolymerization of the hyaluronic acid which directly relates to the viscosity of the synovial fluid.

5.13. SURGICAL REPAIR OF BILATERAL MANDIBULAR FRACTURE IN A NEWLY BORN CROSSBRED COW CALF.

S. K. Tiwari

College of Vety. Science & A.H., Anjora, Durg (M P.).

A newly born crossbred cow calf was brought with lower jaw hanging like a lumpy mass. Careful examination revealed bilateral mandibular fracture but the teeth were intact. Simple wiring technique in the figure of eight was used after sedation with triflupromazine (40 mg) and administration of ketamine hydrochloride (100 mg). A stomach tube was inserted for 5 days to give milk and water. Intravenous fluid therapy was given for 4 days. The animal recovered after one and half months.

Session VI

CLINICAL SURGERY (SMALL ANIMAL)

Chairman : Dr J. Mohanty

Rapporteur : Dr D. C. Dhablania

6.01. SEROUS CYSTADENOCARCINOMA IN A BITCH.

L. Nagarajan, C. Ramani and Ramanujam.

Veterinary College and Research Institute, Namakkal (Tamil Nadu).

A five year old Labrador bitch which whelped one month before was referred with a purulent vaginal discharge. Based on clinical and haematological examination, it was diagnosed as pyometra and panhysterectomy was performed. An unilocular limesized cyst was noticed in the left ovary. The cystic wall was found to have small projections inside the cavity. Histopathological examination revealed that the cystic wall was lined by cuboidal epithelium suggestive of cystadenocarcinoma. The animal had a secondary mammary tumour which was excised five months later.

6.02. ACUPUNCTURE THERAPY FOR POSTERIOR PARESIS IN PET ANIMALS (DOGS AND CATS).

G. V. Lakshmipathi

College of Veterinary Science,

A. P. Agricultural University, Tirupati Campus-517 502 (A.P.).

Six acupuncture points belonging to stomach (St 96 TSU-SAN-Li), Spleen (Sp 6 SANYIN-JIAO), Triwarmer (Tw 8 SANYANGLUAO), Gall Blader (GB 34 YANGLING QUAN), Urinary Blader (BI 67 ZHIYIN) and the Governor vesel point on the tail were stimulated by simple insertion, manual and electronic stimulation of the acupuncture needles in clinical cases of posterior paresis in dogs and cats. This was further supplemented by acupoint injections of B1, B6 & B12 (NEUROVET). The location of acupuncture points and the therapeutic regimen is described. The spectacular recovery of the animals and the beneficial effects of acupuncture therapy are discussed.

6.03. UNUSUAL CAUSE OF INTESTINAL OBSTRUCTION IN A DOG - A CASE REPORT.

R. R. Parsania, N. H. Kelawala, P. V. Parikh and B. M. Jani
College of Veterinary Science & A.H., Anand Campus-388 001 (Gujarat).

A male dog aged about 7 months was admitted with a history of vomiting since last 2 days. Dog was debilitated and dehydrated. Palpation of abdomen revealed mass in the anterior quadrant of the abdomen. However, contrast radiography of gastro-intestinal tract using barium meal could not reveal any mass inside. Hence, rational therapy was continued for 3 days. After 3 days, there was no improvement and laparotomy was performed which revealed thickened intestinal wall starting from duodenum to mid-part of jejunum. Enterotomy at the duodenum portion revealed skein at the gastro-intestinal junction which was removed. Remaining part of skein was also expelled through mouth cavity, which was passing through the frenum linguae. Enterotomy and laparotomy wound was closed in a routine way. Recovery was uneventful.

6.04. PSEUDOPREGNANCY WITH SIMULTANEOUS OCCURRENCE OF INTESTINAL OBSTRUCTION IN A BITCH.

M. K. Bhargava, V. P. Chandrapuria and S. K. Pandey
College of Veterinary Science & Animal Husbandry,
Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur (M.P.).

A Doberman bitch aged about three years was referred with the history of intermittent vomiting, abdominal colic and anorexia for the last one week. Distended abdomen and enlarged mammary glands with secretion of milk were observed, correlating with the history of mating 55 days ago. Owner also reported about her capricious appetite developed nearly after a month of mating. On clinical examination animal showed mild abdominal pain on palpation. After completion of its gestation period, plain radiography was done to over-rule the possibility of pregnancy. Radiographic interpretation revealed presence of a radiopaque mass in the anterior gut. Accordingly exploratory laparotomy was performed and a piece of stone measuring 5.5 cms in length and 10.4 cm in diameter was removed after enterotomy. Subsequently, end to end

entero-anastomosis was performed to excise the nonviable part and maintain patency of the bowel. Dog made uneventful recovery within 15 days after operation.

6.05 SECONDARY MEGACOLON OR PSEUDOMEGACOLON ASSOCIATED WITH PICA IN A BITCH - A CASE REPORT.

Kuldeep Singh, Prem Singh, Jit Singh and Ashok Kumar
College of Veterinary Science,
Haryana Agricultural University, Hisar-125 004 (Haryana).

A doberman bitch, one year old, was examined for not passing faeces and taking mud and sand for the last seven days. Faeces were found negative for parasitic ova or cyst. Blood examination revealed marked neutrophilia. Radiography of the abdominal area confirmed the diagnosis for colonic obstruction. The obstructive masses in the form of sand like deposits were removed successfully after surgical intervention but the bitch could not survive.

6.06. A RARE CASE OF FIBROSARCOMA IN A DOG.

P. V. Parikh, N. H. Kelawala and R. R. Parsania
College of Veterinary Science & A. H.,
Gujarat Agricultural University, Anand Campus (Gujarat).

An adult Cocker spaniel was presented with a history of retention of urine, passing urine only while catheterization. On the basis of clinical examination case was suspected for some prostatic pathology. Exploratory laparotomy revealed apple size growth just behind kidney occupying the entire pelvic cavity and pressing over the neck of urinary bladder. Bladder was found distended with congestion and thickening. While exposing the growth it got ruptured because there was no well defined capsule. The growth was removed manually piece by piece through finger separation. Abdominal cavity was routinely closed after flushing with normal saline solution. Histopathology of tumour revealed fibrosarcoma. The postoperative complication and their management is discussed.

6.07. STONE AS A CAUSE FOR INTESTINAL OBSTRUCTION IN A DOG - A CASE REPORT.

P. V. Parikh, N. H. Kelawala and R. R. Parsania
College of Veterinary Science,
Gujarat Agricultural University, Anand Campus (Gujarat).

Doberman with a history of anorexia and intermittent vomition since last 3 days, revealed temperature 103°F, tenderness of abdomen and scanty faeces in the rectum. Plain radiograph of abdomen revealed radio opaque mass inside the intestine. Enterotomy was performed and a stone of arecoline size with irregular surface was removed from jejunum. Operative procedure, postoperative care and management is discussed.

6.08. PARAPROSTATIC CYST IN A DOG - A CLINICAL REPORT.

N. N. Balasubramanian, T. N. Ganesh, W. P. Archibald David and Mala S. Purohit
Madras Vety. College, Tamil Nadu Vety. Univ., Madras (Tamil Nadu).

A case of Paraprostatic cyst was recorded in a 11 year old, non descript, male dog. The clinical symptoms exhibited were anorexia, dullness, dysuria and incontinence. The animal was found to be weak and anaemic. Detailed investigation revealed marked anaemia and leucocytosis. Survey radiograph and double contrast cystography suggested the presence of a cystic mass and displacement of the bladder towards the pelvis. Exploratory laparotomy under epidural anaesthesia with thiopentone narcosis revealed it to be a big cystic mass attached to the prostate gland. The cystic mass (900 g) was surgically excised after draining the content (1200 ml). Cytological examination of the serosanguinous cystic fluid showed the presence of numerous pus cells and R.B.Cs. Cultural examination of the fluid did not reveal any organism of aetiological significance. Histopathological examination of the mass provided the final diagnosis as Paraprostatic cyst. The animal after showing improvement on the early post-operative period died on the 4th post-operative day due to wound dehiscence and peritonitis.

6.09. SURGICAL RESECTION OF LATERAL CARTILAGE FOR CHRONIC OTITIS EXTERNA IN DOGS.

T. N. Ganesh, N. N. Balasubramanian, W. P. Archibald David and M. S. Dewan Muthu Mohammed.

Madras Veterinary College, Tamil Nadu Veterinary University, Madras.

Ten dogs of different breeds suffering from chronic otitis externa were operated by the modified Zepp technique. The lateral cartilage of the vertical ear canal was partially resected and the unresected part was grafted ventrally. The ear swabs were cultured preoperatively and the dogs were treated with specific antibiotics post-surgically. Ultraviolet exposure at the operated site for 7 days hastened recovery and the operated wound healed by 10 to 14 days. In 7 animals recovery was complete and no recurrence of infection was reported. In one dog there was para-aural abscess accompanied with external ear canal infection and post-surgically there was recurrence of symptoms. Due to stricture of the horizontal ear canal, there was recurrence of symptoms in another dog. One animal died during the post-operative period due to an unrelated cause.

6.10. INTRAVENOUS PYELOGRAPHIC STUDIES IN FOUR DOGS - A CLINICAL REPORT.

T. N. Ganesh, N. N. Balasubramnian, W. P. Archibald David and M. S. Dewan Muthu Mohammed

Madras Veterinary College, Tamil Nadu Veterinary University, Madras.

Four dogs with the renal and urinary problems were taken for the study. After the clinical assesement and detailed investigation the animals were subjected to survey radiographs and Intravenous pyelography (IVP). I.V.P. was performed by injecting Meglumine lothalamate (or) sodium lothalamate at the dose rate of 800-1500 mg l/kg B.W. The I. V. P. revealed the following in each and diagnosis was accordingly made.

Case No 1 : Right kidney failure and chronic nephritis of the left kidney (chronic nephritis).

Case No. 2 : Normal structure and excretory pattern of the renal system (Cystic and Urethral calculi).

Case No. 3 : Pyelonephritis with bilateral dilatation of the ureters (Nephritis and cystitis).

Case No. 4 : Normal structure and excretory pattern of the renal system (Cystic calculi).

6.11. CLINICAL STUDIES ON THE EFFECT OF VINCRISTIN SULPHATE ON VENEREAL GRANULOMA IN DOGS.

T. N. Ganesh, B. Ramesh Kumar, W. P. Archibald David and M. S. Dewan Muthu Mohammed
Madras V. College, Tamil Nadu V. Uni. Madras Campus (Tamil Nadu).

Seven dogs presented with venereal granuloma (Transmissible venereal tumour) were given Vincristin sulphate (Onchocristin AO, TDP Ltd) at the dose rate of 0.025 mg/kg body weight once in 3 days till the growth disappeared. Complete blood count studies at the different stages of treatment showed marked leukopaenia in the post-treatment days. Clinically, the untoward symptoms seen were constipation for few days and local tissue necrosis due to perivascular effusion of the drug in two cases.

6.12. CYSTIC OVARY AND HAEMOMETRA IN CANINES : CASE REPORT.

C. L. Badgujar, C. C. Wakankar, B. V. Jalnapurkar and S. Z. Sharma
Bombay Vety. College, K.K. Vidhyapeeth, Bombay Campus (Maharashtra).

Three bitches and one cat were presented to the clinic with the history of anorexia, weight loss, general weakness and bloody discharge from vagina in all except one bitch. Abdominal palpation revealed pain, abnormal round mass in one bitch and enlarged uterus-like mass in others. Laparotomy showed a big cystic ovary in one bitch and haemometra in others. Panhysterectomy was performed in each and the recovery was uneventful. Histological findings are described.

6.13. LUNG ABSCESS IN A DOG.

N. N. Balasubramanian, Archibald David, Mala S. Prohit, Suresh Kumar, and S. Thilagar.

Madras Veterinary College, Tamil Nadu Veterinary University, Madras.

A non-descript male dog, 7 years old, with a history of breathing difficulty and dry cough of 2 months duration was admitted to the Surgical Unit. The case was tentatively diagnosed as Lung abscess (Cardiac lobe) by radiography and was confirmed by exploratory thoracotomy. The abscess was incised, and drained under general anaesthesia with positive pressure ventilation by performing left lateral thoracotomy at 5th intercostal space. The thoracotomy wound was closed in the usual technique. The recovery was uneventful.

6.14. A CASE OF PYOMETRA WITH VAGINAL TUMOR (FIBROMA) IN A BITCH.

N. N. Balasubramanian, Archibald David, S. Thilagar, R. Suresh Kumar
Madras Veterinary College, Tamil Nadu Veterinary University, Madras.

A 12 years old female Pomeranian dog was presented with a history of anorexia, weight loss, vaginal discharge, polydypsia and polyuria. Survey radiography of the abdomen revealed radiodense mass in the caudal abdominal region extending into the abdomen. The distended uterus was removed with both the horn from the body at the level of tumor through the midventral prepubic laparotomy after proper fluid and electrolyte therapy. Fibromatous growth weighing 45 g. was removed by making an incision on the anterior wall of the vagina. The incised wound on the vaginal wall was closed with continuous inversion suture using 1-0 chromic catgut. The laparotomy wound was closed by the usual technique and animal made an uneventful recovery.

6.15. AN UNUSUAL CASE OF ROUND CELL FIBROSARCOMA ASSOCIATED WITH NOCARDIA INFECTION IN A LABRADOR DOG.

Mohinder Singh J. M. Nigam, S. K. Sharma and A. C. Varshney
College of Veterinary & Animal Science, HPKV, Palampur-176062 (H.P.).

An eight year old labrador bitch was referred to college clinic with a history of localised swelling covering anterolateral aspect below the left elbow joint for the last seven months. Clinical examination revealed mild lameness with normal weight bearing. The growth was hard and firmly attached to the limb. Additionally two small growths were present on chest area. X-ray and direct smear examination, histopathology, culture and haematology examinations confirmed the lesions as round cell fibrosarcoma associated with nocardia infection. Surgical excision of the growths was done under general anaesthesia. Post-operative follow up of the case revealed recurrence of growth after one month.

6.16. SURGICAL MANAGEMENT OF BILATERAL MANDIBULAR FRACTURE IN A DOG.

Naveen Kumar, M. Hoque and I. V. Mogha
Indian Veterinary Research Institute, Izatnagar (U. P.).

A nondescript 4 years old dog was showing symptoms of dropping of the lower jaw, drooling of saliva and inability to eat or drink. Clinical examination and lateral radiograph confirmed bilateral fracture of mandible caudal to the canine teeth. Under general anaesthesia appropriate size of Steinmann pin was inserted horizontally in the caudal part of the mandibular fragment at the level of first premolar. The fracture was immobilised with criclage wire in figure of eight fashion, anchoring the canines and protruding ends of the pin, intraorally. Radiograph 45 days post-operatively showed satisfactory callus formation and adequate alignment of fracture fragments. The pin and wire were removed 2 months after the operation.

6.17. SURGICAL MANAGEMENT OF INFECTIOUS ORAL PAPILOMATOSIS IN CANINE.

A. K. Srivastava and **V. S. Srivastava**
Officer Incharge, Canine Therapy; State Vety. Polyclinic, Lucknow,
Director, Animal Husbandry, (U.P.) Lucknow.

Infectious oral papillomatosis have been noticed in young adult dogs during the last 4 years (1987-1991), at this polyclinic. These oral tumors were caused by a filterable virus; and produced dysphagia, dysorexia, dysmasesia, oral fetor and loss of saliva from the mouth. The tumors were seen at labial commissures or anywhere on the mucosa of the mouth, but usually they did not extend caudad into the pharynx. They were varying in size from small, scattered elevations; to large confluent, pedunculated masses of tissue. They were usually whitish grey in colour and had rough surfaces. The various medical therapies were of no use; and hence surgical removal was adopted. The papillomas were grasped with forceps and removed by electrocautery/surgical diathermy; with proper hemostasis. The process will be discussed in detail.

6.18. A NOTE ON SURGICAL MANAGEMENT OF LACERATED CORNEA AND PROLAPSED IRIS IN A DOG.

A. K. Srivastava and **V. S. Srivastava**
Officer Incharge Canine Therapy; State Vety. Polyclinic, Lucknow.
Director, Animal Husbandry Uttar Pradesh, Lucknow.

A Dachshund dog having lacerated cornea and prolapsed iris was brought to this polyclinic. The portion of the iris was disengaged from the wound slightly and the iris tag was snipped off from the cornea, under general anaesthesia. A subconjunctival injection of sterile atropine was then made. Atropine and antibiotic were dropped on the cornea, and the eye was bandaged. The bandage was removed after 48 hours and more atropine and antibiotic were instilled before rebandaging for 48 hours. The recovery was uneventful.

6.19. RESTRAINING OF A SIBERIAN TIGER-CUB FOR REMOVAL OF FAECOLITH - A CASE REPORT.

G. Chakraborty and Utpal Das

Padmaji Naidu Himalayan Zoological Park, Darjeeling and Livestock Yard,
Calcutta Municipal Corporation, Calcutta-700 015.

Anaesthesia was induced by I/M administration of Ketamine-Xylazine for the diagnosis of an anorexic Siberian tige-cub straining vigorously for defaecation. Per rectum examination confirmed the presence of a large hard faecolith. There was adequate muscle relaxation; and loss of pedal and anal reflexes during anaesthesia which permitted successful removal of faecolith. The Cub regained consciousness within an hour.

Session VII

CLINICAL SURGERY (LARGE ANIMAL)

Chairman : Dr P. B. Kundu

Rapporteur : Dr N. N. Balasubramanian

7.01. SURGICAL MANAGEMENT OF SOFT PALATE TUMOUR IN A CAMEL.

D. R. Barvalia, S. R. Chaudhary, Vijander Singh and S. C. Ojha
College of Veterinary Science & A. H.,
Gujarat Agricultural University, Sardar Krushinagar-385 506 (Gujarat).

A twelve year old male camel, had difficulty in swallowing and regurgitation during mastication. A hard pink coloured pedunculated mass observed on the soft palate was retracted out of the oral cavity under chloral hydrate narcosis (10%, 250 ml intravenously) and removed surgically under local infiltration anaesthesia. Post-operatively, daily dressings with betadine solution was followed and antibiotics administered for five days. There was uneventful recovery.

Histopathological examination of the growth revealed fibroma.

7.02. FOREIGN BODY SYNDROME IN GOAT - REVIEW OF 3 CASES.

V. D. Aher, A. P. Bhokre and V. S. Panchbhai
College of Veterinary & Animal Science,
MAU, Parbhani-431 402 (Maharashtra).

Foreign body syndrome is common in dairy cattle but rare in goats because of selective eating habitat of goats. A brief account of clinical symptoms, radiographic diagnosis and successful treatment of three cases of foreign body is placed on record. All of these three cases were reported from the City proper and the foreign bodies observed were sewing needle. It could be inferred that occurrence of foreign bodies in goat might be due to lack of pasture feeding or feeding in the urbanized condition and accidental ingestion of foreign bodies alongwith other material like cloth or cloth-bag.

**7.03. ULTIMOBRANCHIAL (THYROID-C-CELL) TUMOUR IN A BULLOCK-
A CLINICAL CASE REPORT.**

R. R. Parsania, N. H. Kelawala, B. M. Jani, K. S. Prajupati, P. V. Parikh
College of Veterinary Science, A. H.,
Gujarat Agricultural University, Anand Campus-388 001 (Gujarat).

A kankrej bullock, aged about 9 years was presented to College Hospital with a history of tympany. Clinical examination revealed three

distinct lemon sized, hard, fluctuating, inter-connected swelling at the ventro-lateral aspect of left side of neck at the level of jugular furrow and normal ruminal movement. Excision was carried out under general anaesthesia using xylocain. Histopathological examination revealed Thyroid-C-cell carcinoma (Ultimobranchial tumour) alongwith metastasis in anterior cervical lymph node. Recurrent tympany may be due to pressure over oesophagus which was not evident after excision. Recovery was uneventful.

7.04. ARTERIO - VENOUS SHUNT IN METATARSAL REGION OF A BULLOCK - A CASE REPORT.

Prem Singh, Rishi Tayal, Ashok Kumar, Kuldip Singh and I. S. Chandna.
College of Veterinary Science,
Haryana Agricultural University, Hisar-125 004 (Haryana).

Arterio-venous shunt could be felt by a prominent thrill near mid portion of metatarsus in a bullock. Contrast radiography confirmed its presence between metatarsal artery and vein. For its ligation, a double loop of silk ligature was placed at its origin and termination after applying tourniquet and putting series of percutaneous sutures. Its occlusion was confirmed by post-operative contrast radiography. Post-operatively, a pressure bandage was used along the entire metatarsal area. The bullock showed improvement in its weight bearing capacity but swelling of metatarsal area persisted even after its ligation.

7.05. ACUTE PSEUDOMONAS ORCHITIS IN A STALLION AND ITS MANAGEMENT.

B. M. Jani, R. R. Parsania, N. H. Kelawala, P. V. Parikh, R. G. Jani and K. Sukumaran
College of Veterinary Science & A. H.
Gujarat Agricultural University, Anand Campus-388 001 (Gujarat).

A stallion of Kathi breed aged 14 years with the history of scrotal swelling and anorexia of three days duration revealed huge diffuse swelling over the scrotum with febrile symptoms like high rise of temperature,

toxaemia, incoordination and rapid heart and respiration rates. The horse was immediately administered broad spectrum antibiotics, corticosteroids, analgesics and fluid therapy. On recovery from febrile state, swelling did not completely subside but open wound in scrotum with pus discharge resulted. Pseudomonas organisms were isolated from the pus swab. Open method of castration was performed and the animal recovered completely thereafter. Haematological, blood biochemical and enzymatic findings before and after treatment are discussed.

7.06. PARAPENILE URETHRAL PENOTOMY - A NEW TECHNIQUE IN THE MANAGEMENT OF BOVINE PENILE UROLITHIASIS.

S. Purnendu Mouli

Veterinary Polyclinic, A. H. Kothapeta Guntur-522 001 (A. P.).

Eight cases of penite urolithiasis in male bovines have been successfully treated by a new technique-Parapenile urethral penotomy approach. Urolithiasis was post scrotal in 3 bulls and prescrotal in 4 bullocks and 1 buffalo bullock. Application of rubber tourniquets around the penis on both the sides of incision till its suturing resulted in minimal bleeding and widened the scope for surgical adroitness on penis. This technique was found to be simple, safe and practical and involved less invasive surgery and avoided complications seen in urethrotomy, urethrostomy, amputation of penis and crushing or ficking out the calculus.

7.07. OCULAR GANGLIONEUROMA AND ITS SURGICAL MANAGEMENT IN BUFFALOES - A REVIEW OF 15 CASES.

N. S. Saini, K. I. Singh, V. K. Sobti and P. S. Bansal

College of Veterinary Science,

Punjab Agricultural University, Ludhiana-141 004 (Punjab).

Fifteen Murrah buffaloes, aged 5-9 years, were examined for unilateral growths at the corneo-scleral junction of the eyeball. The pedunculated growth was generally present on the dorsal side of the cornea. Its surgical excision was done under regional nerve blocks. Histopathologically the growth was confirmed to be ocular-ganglioneuroma.

7.08. SURGICAL MANAGEMENT OF TEAT AFFECTIONS IN BOVINES.

Balwinder Singh, K. K. Mirakhur and K. B. Singh
College of Veterinary Science,
Punjab Agricultural University, Ludhiana-141 004 (Punjab).

Teat fistulae, both traumatic and congenital were repaired by percutaneous horizontal mattress suture using nylon. Cases with extensive laceration of teat and udder were sutured in three layers with satisfactory healing and patency of teat. Congenital imperforate teats with fistulae were opened and a self-retaining teat cannula was fixed for seven days. Congenital conjoined teats were surgically separated without perforating the teat sinus.

7.09. AUTO-SKIN GRAFTING OF A GRANULATING WOUND IN A MARE-
A CASE REPORT.

J. N. Mistry, D. R. Barvalia, P. H. Tank and D. M. Tatkod
College of Veterinary Science & A. H.,
Gujarat Agricultural University, Sardar Krushingar-385 506 (Gujarat).

A mare was brought to the college clinics with a history of 3 months old lacerated wound. The wound was unhealthy and exuberent granulation was covering the entire wound. The granulating tissue was removed and treated with antibiotics locally to control the infection. After a week, fullthickness skin pinch grafting was performed under infiltration analgesia. Sixty percent grafts were accepted when the wound was examined on 8th post-grafting day and showed clear signs of healing. The wound healed uneventfully by 20 days.

7.10. ECTOPIC URINARY BLADDER AND CRYPTORCHIDISM IN A KID.

R. W. Ashturkar
Veterinary Dispensary, A. H.,
Dharmabad Dist. Nanded-431 809 (Maharashtra).

A congenital case of ectopic urinary bladder and cryptorchidism was recorded in a new-born kid, aged 2 days and weighing about 2.25 kg.

The kid was initially presented for retained urination. On detailed examination, it was revealed that the penis was rudimentary and the testicle had not descended in the scrotal cavity. The urinary bladder filled with urine was ectopic, which was present in front of the pelvic brim outside the pelvic cavity.

7.11. INDWELLING INTUBATION TECHNIQUE FOR THE MANAGEMENT OF OBSTRUCTIVE LESIONS OF TEAT IN BUFFALOES.

S. S. Misra

College of Veterinary Science & A. H.,

C. S. Azad University of Agricultural and Technology, Mathura-281 001.

In a broad based clinical study of 131 buffaloes during the period between 1986 and 1990 belonging to the local dairies and district Mathura, the incidence was found to be : stenosis of teat orifice invariably involving rosette of Frustenberg (68), teat lumen granuloma (37), teat base membrane lesion (17) and imperforate teat being minimum (9). It was observed that intrasinal (within the teat sinus) infusion of local anaesthetic was adequate for surgery. A delicate radical surgery using a mosquito haemostat and Berretts papillotome was adequate with an experienced hand.

Reclosure due to regrowths and granulation occasionally complicated surgery in a significant percentage. An indwelling snugly fitting polyethylene catheterization upto the lactiferous sinus obviated the complications; the catheter was anchored with a single mattress suture encircling the catheter. A small length of fitting latex tubing helped prevent infection and permit drainage; this was secured by a loose fitting rubber band around the teat. Parenteral/local antibiotic and anti-inflammatory drug therapy being mandatory in all cases as per requirement.

7.12. DICLOFENAC SODIUM (ZOBID-SG) INJECTABLE IN THE MANAGEMENT OF PERACUTE PAINFUL CLINICAL CONDITIONS IN BOVINS.

S. S. Misra

College of Veterinary Science & Animal Husbandry,

C. S. Azad University of Agriculture and Technology, Mathura-281 001.

In 14 cases of adult bovines, of both sexes, suffering from an acute traumatically induced omarthritis, coxitis and gonitis, administration of

375 mg to 500 mg per day of diclofenac sodium (D. S. : Zobid-S. G.) almost predictably cured the lameness.

In another locomotory ailment tentatively diagnosed as ephemeral fever but manifested by inflammation of one or more fetlock and pastern joint; D. S. administered 500 mg twice daily for 2 days resulted into dramatic recovery in 6 buffaloes.

There are noteworthy indications that D. S. could be an excellent drug in the management of peracute mastitis and prolapse of uterus in bovines with or without other therapy.

7.13. A CLINICAL SURVEY OF BOVINE TEAT AND UDDER LESIONS.

S Thilagar and M. S. Dewan Muthu Mohammed

Madras Vety. College, Tamil Nadu Vety. Univ., Madras-7 (Tamil Nadu).

One hundred fifty one cases of cow (67.6%) and buffalo (32.4%) were analysed for teat and udder lesions based on clinical signs. The incidence of mastitis was maximum (67.5%) among all lesions with maximum incidence in single quarter (70.7%). Occurrence of mastitis increased with increase in lactation number. Teat obstruction in 31 animals showed an incidence of (38.7%) in right hind quarter. Teat obstruction were recorded in the midportion of the teat canal (51.6%), teat orifice (41.2%) and at the base (3.2%).

7.14. SURGICAL MANAGEMENT OF MAGAOESOPHAGUS IN A CROSS BRED HEIFER : A CASE REPORT.

Naveen Kumar, I. V. Mogha and M. Hoque

Indian Veterinary Research Institute, Izatnagar (U. P.).

A two year old Holstein-Friesian crossbred heifer had a history of regurgitation of food and occasional mild bloat. Just after mastication; a doughy enlargement at the lower third of the neck on the left side was observed. Palpation did not reveal any obstruction and there was no

impedence to the passage of stomach tube into the rumen. Contrast radiography of oesophagus, confirmed megaesophagus. Under local infiltration analgesia cervical oesophagus was exposed by giving incision between the venajugularis and sternocephalic muscles. Muscular layer of oesophagus was separated with mucosal layer without entering the lumen and was inverted by applying lembert continuous sutures with No. 1 braided black silk. This resulted in narrowing of the lumen of oesophageal wall and was also confirmed by post-operative contrast radiography. The animal made an uneventful recovery.

7.15. INFECTIOUS ARTHRITIS CAUSED BY DECUBITUS LESIONS IN A COW CALF.

K. Pratap, P. N. Kumar and G. R. Singh
Indian Veterinary Research Institute, Izatnagar (U. P.).

The report includes a systematic approach to the treatment of infectious arthritis in a two months old cow calf. The animal was lame and had deep-seated wounds with pus pockets on the lateral aspects of both hock joints. A small abscess of about 2 cm in diameter was present on dorsolateral aspect of right tibio-tarsal articulation.

Bacteriological examination revealed the presence of Streptococcus infection, which on ABST examination showed the sensitivity to Chloramphenicol, Erythromycin and Nitrofurantoin. Plain radiography of both joints revealed only soft tissue swelling with no articular changes. Blood (haematology and biochemical analysis) and synovial fluid examination (physical, cytological and biochemical) confirmed the case of infective arthritis. Caseated pus was removed by incising the right fibrous joint capsule. The infective synovial effusion was drained out and animal was treated with Chloramphenicol intra-articularly and systemically for 5 days. Antiseptic dressing with Betadine and protective bandaging was done daily for first five days and subsequently on alternate day for 20 days. The animal showed complete recovery.

7.16. AN ATYPICAL VENTRAL HERNIA IN A GOAT - A CASE REPORT.

A. K. Srivastava, P. K. Tripathi and V. S. Srivastava
State Veterinary Polyclinic, Lucknow.

A goat referred to this Polyclinic, having an atypical ventral hernia. Plain radiograph of abdomen revealed a full grown foetus along with uterine horn in the hernial sac. The linear incision through skin over the centre of sac revealed rupture of prepubic tendon and peritoneum. The uterine horn was incised to remove the dead foetus. The mucosa of uterine horns were necrosed with decaying placentomes. The necrosed masses were removed, before closure of uterine horn. The hernial ring was repaired using a mesh of heavy unbleached muslin stripes (one-half inch wide) sutures. Suturing of the edges was done using overlapping mattress sutures. The excess skin of the sac was removed and the skin incision was closed with a series of mattress sutures. The recovery was uneventful.

7.17. ORALTUMOURS IN LARGE ANIMALS - A REPORT OF 28 CLINICAL CASES.

Prem Singh, D. K. Sharma, S. M. Behl, K. Kumar and I. S. Chandna
Haryana Agriculture University, Hisar (Haryana).

Analysis of 28 Clinical cases of oral tumours in large animals revealed Odontoma-12 cases, Ameloblastoma (Admantinomas)-10, Epulids-6. The animals operated for these oral tumours included cow, buffalo, bullock and camel. Species wise distribution is as follows :

	Odontoma	Ameloblastoma	Epulids
Cow	7	—	—
Bullocks	2	2	—
Buffalo	3	8	4
Camel	—	—	2

Tumors were surgically removed and were confirmed on histopathological examination.

Follow up of these cases revealed recurrence of tumours in 10 cases, 6 for ameloblastoma and 4 for odontoma while no recurrence was seen in epulids.

Session VIII

YOUNG SURGEON AWARD

Chairman : Dr J. M. Nigam

Rapporteur : Dr S. C. Pathak

Session IX

FIELD VETERINARIAN AWARD

Chairman : Dr P. E. Kulkarni

Rapporteur : S. C. Ojha

Session X

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