



**SIXTH
SYMPOSIUM
NOV. 4-6, 1982**

**THE
INDIAN SOCIETY
FOR
VETERINARY
SURGERY**

Technical Bulletin and Souvenir

**DEPARTMENT OF SURGERY
COLLEGE OF VETERINARY SCIENCE AND ANIMAL HUSBANDRY
ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
BHUBANESWAR, ORISSA**

EXECUTIVE COUNCIL

INDIAN SOCIETY FOR VETERINARY SURGERY 1982-83

President	Dr. M. R. Patel, M. R. C. V. S. Ph.D.,
Past Presidents :	1. Dr. R. P. S. Tyagi, Ph. D 2. Dr. P. E. Kulkarni, Ph. D.,
Vice-Presidents :	1. Dr. J. Mohanty, Ph, D., 2. Dr. O. Ramkrishna, Ph. D., 3. Dr. R. L. Naik, M. V. Sc.
Secretary :-	Dr. P. O. George, F.R.V.A.C.,M.V.Sc.
Jt. Secretary :	Dr. Jit Singh, Ph. D.,
Treasurer :	Dr. I. S. Chandna, Ph. D.,
Editor,	Dr. Amresh Kumar, Ph. D ,

Zonal Secretaries

1. Dr. A.P. Singh, Ph. D , -North
2. Dr. S. K. Pandey, Ph. D-Central
3. Dr. S. T. Pandya, Ph. D-West
4. Dr. S. Pathak, Ph.D-East
5. Dr. Godfry David, M.V. Sc-South

Editorial Board

- Dr. R. P. S. Tyagi, Ph. D.
Dr. S. J. Angelo, Ph.D.,
Dr. A. A. Khan, Ph. D.
Dr. M. N. Mannari, M. V. Sc.
Dr. K. S. Despandey, Ph.D.
Dr. E. I. Rajendran, M. V. Sc.
Sri C. V. Shailaj-Consulting editor

SIXTH SYMPOSIUM

Indian Society for Veterinary Surgery 4th to 6th November, 1982

Venue---

College of Veterinary Science &
Animal Husbandry, Bhubaneswar

Organizing Committee

Patron

Dr. B. Misra, Ph.D.

Vice-Chancellor, O.U.A.T.

Chairman:-Dr. J. Mohanty, Dean.

Reception Committee:

Dr. J. Mohanty, Dean

Dr. B. Mohanty, D. S. W.

Dr. A. K. Mitra

Dr. S. C. Ojha

Dr. B. Pattnaik

Dr. R. S. Jena

Dr. B. K. Das

Dr. V. S. C. Bose

Dr. B. N. Mohanty

Dr. S. K. Ray

Dr. A. K. Ray

Dr. P. C. Dey

B. *Souvenir Committee*

Dr. A. K. Mitra, Convenor

Dr. B. Pattnaik

Dr. P. C. Dey

Dr. D. N. Mohanty

Sri. L. N. Kar

C. *Accommodation Committee*

Dr. B. Mohanty, D.S.W. Convenor

Dr. S. C. Mishra Hostel Suptd,

Dr. S. M. A. Salam

D. *Registration Committee*

Dr. S. C. Ojha, Convenor

Dr. V. S. C. Bose

Dr. B. N. Mohanty

Dr. S. K. Mitra

Sri N. G. Parija

E. *Committee for Conveyance*

Dr. B. N. Mohanty, Convenor

Dr. S. K. Ray,

Dr. S. R. Parija

Sri M. Jagannath

Sri R. C. Udaysingh

F. *Refreshment & Dinner*

Dr. B. K. Das Convenor
Dr. V. S. C. Bose
Dr. S. K. Ray
Dr. S. C. Mishra Hostel Suptd.
Dr. P. K. Das
Dr. R. S. Jena
Dr. G. R. Patnaik (ABG)
Dr. S. C. Das
Dr. A. K. Mohapatra
Dr. B. Pradhan
Dr. D. N. Panda

G. *Committee for Meeting & Audiovisual :*

Dr. S. C. Ojha Convenor
Sri L. N. Kar
Dr. S. K. Ray
Dr. A. K. Ray
Dr. B. N. Mohanty
Sri Chalit Harichandan Ray

H. *Advertisement*

Dr. V. S. C. Bose
Dr. S. M. A. Salam
Dr. A. C. Das

I. *Reservation Committee*

Dr. S. C. Ojha Convenor
Dr. V. S. C. Bose
Dr. A. G. Rao
Dr. S. R. Parija

J. *Committed for Entertainment*

Dr. S. K. Ray Convenor
Dr. B. N. Mohanty
Dr. R. S. Jena
Smt. P. Yasodhara

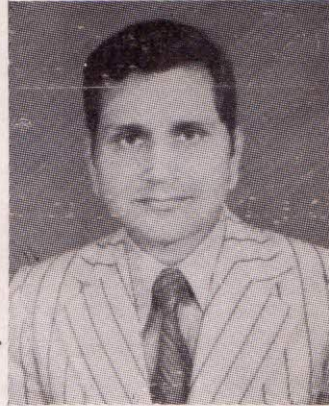
K. *Committee for arranging technical tour.*

Dr. A. K. Ray
Dr. V. S. C. Bose
Dr. S. M. A. Salam
Dr. A. C. Das

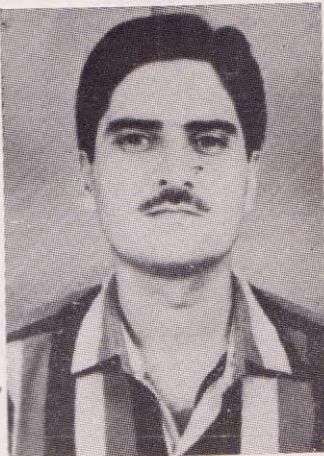
EXECUTIVE COUNCIL



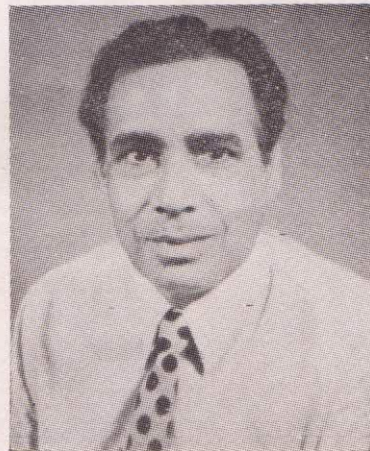
Dr. M. R. Patel
President



Dr. Amresh Kumar
Editor



Dr. Jit Singh
Joint Secretary



Dr. I. S. Chandna
Treasurer



Jr, J. Mohanty
Organising Chairman



Staff Members of Surgery Department
O. V. C.

PROGRAMME

THE 4th NOVEMBER, 1982, THURSDAY

8-30 to 10 A. M. —Registration (Central Clinic)

10 A.M. to 12 Noon —Inaugural function
(Central Clinic Clinical Seminar Hall)

12 30 P.M. to 1-30 P. M. —Technical Session-I (Radiology):

Chairman : DR. A. K. BHARGAV

Rapporteur : DR. O. RAMAKRISHNA

- | | |
|---|---|
| 1—Radiographic diagnosis of bone and joint affections of equines: | Dr. I. S. Chandna
Dr. S. Kumar and
Dr. K. Singh
Department of Surgery & Radiology
H. A. U., Hissar |
| 2—Radiographic features of the affections of bovine foot : | Dr. S. N Gogoi
Dr. J. M. Nigam and
Dr. A. P. Singh
Department of Surgery & Radiology
H. A. U., Hissar |
| 3—Radiography of ruminant skull—a study on some positioning and views : | Dr. Ram Kumar
Dr. V. K. Sobti and
Dr. B. Prasad
Department of Surgery & Radiology
P. A. U., Ludhiana |
| 4—Arteriographic anatomy of Thorax and abdomen in goat, dog, pig and rabbit : | Dr. A. P. Singh
Dr. K. N. M. Nayer
Dr. G. R. Singh
Dr. Y. Singh and
Dr. G. Singh
Department of Surgery & Radiology
H.A.U., Hissar |

- 5—Technique for intravenous pyelography in ruminants :
 Dr. A. P. Singh
 Dr. Jit Singh
 Dr. H. D. Williamson
 Dr. P. K. Peshim and
 Dr. J. M. Nigam
 Department of Surgery & Radiology
 H. A. U., Hissar
- 6—Cholecystography in dogs :
 Dr. S. S. Singh
 Dr. Ram Kumar and
 V. K. Sobti
 Department of Surgery & Radiology
 P. A. U., Ludhiana
- 7—Arteriographic pattern of major abdominal arteries in goat, sheep, pig and dog :
 Dr. A. K. Bhargav
 Dr. G. R. Singh
 Dr. A. P. Singh and
 Dr. H. C. Setia
 Division of Experimental Medicine & Surgery, I. V. R. I., Izatnagar
- 8—Lymphography in dogs :
 Dr. V. K. Sharma
 Dr. A. C. Varshney
 Dr. Amresh Kumar and
 Dr. Bhart Singh
 Department of Surgery & Radiology
 G. B Pant Univ. of Agriculture & Tech., Pantnagar
- 9—Radiographic approach for the hyoid bone fracture in a Labrador retriever dog :
 Dr. S. S. Mishra and
 Dr. S. J. Angelo
 Department of Surgery & Radiology,
 C. S. A., Univ. of Agriculture & Tech., Matura

- 10—Technique for double contrast peritoneography in ruminants :
 Dr. Jit Singh
 Dr. P. K. Peshin
 Dr. H. D. Williamson
 Dr. Kuldip Singh and
 Dr. A. P. Singh
 Department of Surgery & Radiology
 H. A. U., Hissar
- 11—Renal angiography and cystography in goats :
 Dr. Richi Tayal
 Dr. A. P. Singh and
 Dr. I. S. Chandna
 Department of Surgery & Radiology
 H.A.U., Hissar
- 12—Role of transtibial venography in evaluating the techniques of osteosynthesis in young bovine :
 Dr. D. S. Vijay Kumar
 Dr. A. P. Singh and
 Dr. J. M. Nigam
 Department of Surgery & Radiology
 H. A. U., Hissar.

TECHNICAL SESSION—II

3.30 P.M.—5.00 P.M. (Anaesthesiology-I)

Chairman — Dr. R. P. S. Tyagi

Rapporteur — Dr. S. K. Pandey

1. Physiological and Biochemical effects of Glyceryl Guaiacolate Thiopental Sodium Anaesthesia in Buffalo Calves.
 Dr. K.B.P. Agrawal,
 Dr. B. Prasad and
 Dr. V. K. Sobti.
 Department of Surgery and Radiology,
 Punjab Agril. University, Ludhiana-141004.
2. Intraperitoneal procaine in bovine Surgery.
 Syed Sajjad Hussain and
 Amresh Kumar
 Department of Surgery and Radiology,
 G. B. Pant Univ. of Agril. & Technology, Pantnagar.

3. Effects of various combinations of phenothiazine derivatives on chloromag and thiopentone general anaesthesia & studies on various haematological changes in experimental bull calves. Dr. N. K. Mohapatra,
Dr. S. C. Ojha,
Dr. V. S. C. Bose, and
Dr. J. Mohanty,
Department of Surgery, Orissa University of Agril. & Technology, Bhubaneswar.
4. Physiological effects of Diazepam in calves. Dr. K. K. Mirakhur,
Dr. A. K. Khanna and
Dr. B. Prasad,
Department of Surgery and Radiology, Punjab Agril. University, Ludhiana.
5. Repeated Ketamine anaesthesia in a leopard (*Panthera Pardas*) Dr. S. C. Pathak,
Dr. A. Mikit,
Dr. J. Saikia and
Dr. J. Lekharu.
Department of Surgery, Assam Vety. College, Gauhati.
6. Inhalation anaesthesia in Sheep. Dr. S. C. Pathak and
Dr. V. Umamaheswaran.
Department of Surgery, Assam Vety. College, Gauhati.
7. Effects of xylazine on acid-base status and blood gases in buffaloes and camels. Dr. P. K. Peshin,
Dr. A. P. Singh,
Dr. Jit Singh,
Dr. S. K. Chawla and
Dr. J. C. Lekharu.
Department of Surgery And Radiology H A. U. Hissar.
8. Effects of chloral hydrate and chloromag anaesthesia in camels. Dr. Sandeep K. Sharma,
Dr. Jit Singh,
Dr. P. K. Peshin and
Dr. A. P. Singh
Department of Vety. Surgery and Radiology, College of Vety. Science, H A. U, Hissar.

9. Droperidol as a preanaesthetic in thiopental anaesthesia in dog. Dr. A. K. Sharma and Dr. Amresh Kumar.
Department of Surgery and Radiology, G. B. Pant Univ. of Agril And Technology, Pantnagar.
10. Epidural anaesthesia in goats. Dr. Rajankutty, Dr. P. O. George and Dr. K. N. Muraleedharan.
Department of Surgery, College of Veterinary & Animal Science, Kerala.

TECHNICAL SECTION—III

(Anaesthesiology-II and Shock)

4.11.82, 5.30 P. M.—7.00 P. M.

Chairman—Dr. M. R. Patel

Rapporteur—Dr. Amresh Kumar

1. Efficacy of Bupivacaine hydrochloride as an epidural anaesthetic in goats Dr. S. K. Pandey
Dr. S. S. Gill and
Dr. V. P. Chandrapuria,
Department of Surgery,
J.N.K.V.V., Jabbalpur
2. Variations in liver and kidney functions with use of different Diezapam-Glyceryl guaiacolate combinations in goats Dr. A. K. Kinge and
Dr. S. K. Pande
Deptt. of Surgery
J.N.K.V.V., Jabbalpur
3. Pelvic plexus block in male bovines Dr. K. Bhasker Singh and
Dr. S. V. Rao
Deptt. of Surgery
College of Vety. Science, Tirupati
4. Epidural morphine with chlorpromazine premedication in canine surgery Dr. S. S. Hussain and
Dr. Amresh Kumar
Deptt. of Surgery & Radiology,
G. B. Pant, Univ. of Agri. & Tech,
Pantnagar

- | | |
|---|--|
| 5. Effect of Thiopental sodium on oxygen environment and acid-base status in calves | Dr. Jit Singh
Dr. A. P. Singh and
Dr. P. K. Peshin
Deptt. of Surgery & Radiology
H. A. U., Hissar |
| 6. Alterations in blood and plasma volumes and haematocrit following experimental septic shock | Dr. P. N. Sahay
Dr. V. K. Sobti and
Dr. R. N. Kohli
Deptt. of Surgery & Radiology
P. A. U., Ludhiana |
| 7. Cardiac Kinetics, Oxygen transport and Oxygen utilization in experimental septic shock in calves | Dr. P. N. Sahay and
Dr. R. N. Kohli
Deptt. of Surgery & Radiology
P. A. U., Ludhiana |
| 8. Experimental studies on haemorrhagic shock in buffalo-calves | Dr. P. E. Kulkarni and
Dr. K. T. Deshmukh
Deptt. of Surgery, Punjab Rao
Krishi Víswa-Vidyalaya, Akola |
| 9. Role of Surgical Pathology in disease diagnosis and treatment of animals. | Dr. B. C. Nayak
Department of Pathology
O. U. A. T, Bhubaneswar. |

TECHNICAL SESSION—IV

(Large animal Surgery-I)

5.11.82 7.00 A. M.—9.00 A. M.

Chairman—Dr. P. E. Kulkarni

Rapporteur—Dr. Jit Singh

- | | |
|--|--|
| 1. Bilateral congenital luxation of patella in a crossbred calf—a surgical treatment | Dr. K. N. Deka
Dr. J. C. Lekharu
Dr. S. N. Gogoi and
Dr. H. N. Sharma
Deptt. of Surgery, Assam Vety.
College, Gauhati |
|--|--|

2. Certain haemodynamic and biochemical effects of bilateral ureteral ligation in calves
 Dr. A. M. Jalaluddin
 Dr. B. Prasad and
 Dr. V. K. Sobti
 Deptt. of Surgery & Radiology
 P. A. U., Ludhiana

3. Pathophysiological changes during uraemia in cattle-effects of total neprectomy
 Dr. M. S. Kanwar
 Dr. A. P. Singh
 Dr. P. K. Peshin and
 Dr. Jit Singh
 Deptt. of Surgery and Radiology
 H. A. U., Hissar

4. Studies on the effects of urine-peritoneum in cattle
 Dr. M. S. Kanwar
 Dr. A. P. Singh
 Dr. Jit Singh and
 Dr. P. K. Peshin
 Deptt. of Surgery and Radiology
 H. A. U., Hissar

5. Clinicopathologic status of urine retention in bullocks—an evaluation of acid-base status and blood gases
 Dr. K. K. Mirakhur
 Dr. B. Prasad
 Dr. S. N. Sharma
 Dr. Ram Kumar
 Dr. A. K. Khanna and
 Dr. V. K. Sobti
 Deptt. of Surgery and Radiology
 P. A. U., Ludhiana

6. Urethrotomy at various sites and the technique of repair in experimental bull calves
 Dr. A. K. Mohanty
 Dr. J. Mohanty and
 Dr. S. C. Ojha
 Deptt. of Surgery, O. U. A. T.,
 Bhubaneswar

7. Effect of stress in the form of exercise on certain haematological parameters in horses
 Dr. S. R. Parija
 Dr. A. K. Mitra and
 Dr. J. Mohanty
 Deptt. of Surgery, O. U. A. T.,
 Bhubaneswar

8. Histopathological changes following bilateral ureteral ligation and bilateral nephrectomy in calves
 Dr. V. K. Sobti
 Dr. A. M. Jalaluddin
 Dr. B. Prasad
 Dr. S. K. Nagpal and
 Dr. P. P. Gupta
 Deptt. of Surgery and Radiology
 P. A. U., Ludhiana
9. Acid-base status and blood gases following experimental hyperkalemia in buffalo calves
 Dr. V. K. Sobti
 Dr. S. S. Singh
 Dr. S. Sabitri and
 Dr. V. Ramkumar
 Deptt. of Surgery and Radiology
 P. A. U., Ludhiana
10. Electro cardiographic observations during bovine diaphragmatic herneorrhaphy
 Dr. V. K. Sobti
 Deptt. of Surgery and Radiology
 P. A. U., Ludhiana
11. Electro-vectero cardiographic observations during purulent pericarditis and subsequent thoracopericardiotomy in a cow
 Dr. V. K. Sobti and
 Dr. B. Prasad
 Deptt. of Surgery and Radiology
 P. A. U., Ludhiana
12. Effects of bilateral nephrectomy on the electro-vectero-cardiogram in calves
 Dr. V. K. Sobti
 Dr. A. M. Jalaluddin and
 Dr. G. Chandrasakhi
 Deptt. of Surgery and Radiology
 P. A. U., Ludhiana
13. In vitro changes in acid-base status of the arterial and venous blood following storage at various temperatures in buffaloes.
 Dr. V. K. Sobti
 Dr. S. S. Singh and
 Dr. B. Prasad
 Deptt. of Surgery and Radiology
 P. A. U., Ludhiana
14. Diaphragmatic hernia in bovine : certain biochemical constituents of diaphragm in relation to etiology.
 Dr. N. Venkataravanappa and
 Dr. D. Krishnamurty
 Deptt. of Surgery and Radiology
 H. A. U., Hissar.

TECHNICAL SESSION—V

(Orthopaedics)

5.11.82 9.30 A.M.—11.00 A.M.

Chairman—Dr. H. N. Sharma

Rapporteur—Dr. Ram Kumar

1. Vascular response to tibial fracture healing in sheep
Dr. S. K. Chawla
Dr. I. S. Chandna
Dr. A. P. Singh and
Dr. J. M. Nigam
Department of Surgery & Radiology
H. A. U., Hissar
2. Biochemical evaluation of the failures of implants after internal fixation
Dr. Gajraj Singh
Dr. A. K. Bhargava and
Dr. I. V. Mogha
Division of Experimental Medicine & Surgery, I. V. R. I, Izatnagar
3. Surgical correction of Luxated patella in goats
Dr. T. K. Gahlot
Dr. S. S. Rathor
Dr. D. S. Chouhan and
Dr. R. J. Choudhury
Deptt. of Surgery, College of Vety. Science, Bikaner
4. Immobilization of fractured bones of goat and sheep
Dr. P. E. Kulkarni
Deptt. of Surgery, Punjab Rao Krishi Viswa-Vidyalaya, Akola
5. Repair of fractured humerus in a peacock
Dr. M. N. Mannari
Dr. D. M. Tadkod
Dr. R. R. Parsania
Dr. B. M. Jani and
Dr. S. B. Thakur
Deptt. of Surgery, Gujrat Vety. College, Anand

- | | |
|--|---|
| 6. Fracture repair complications in animals | Dr. A. P. Singh
Dr. K. N. M. Nayar
Dr. I. S. Chandna and
Dr. S. K. Chawla
Deptt. of Surgery and Radiology
H. A. U., Hissar |
| 7. Clinical, Radiological and Angiographic studies of experimentally created tibial fracture in buffalo calves | Dr. D. M. Todkod and
Dr. R. N. Kohli
Deptt. of Surgery and Radiology
P. A. U., Ludhiana |

TECHNICAL SESSION—VI
(Large Animal Surgery—II)

6.11.82 10.30 A.M.—11.30 P.M.

Chairman — Dr. M. N. Mannari

Rapporteur — Dr. S. S. Misra

- | | |
|--|--|
| 1. Extirpation of third eyelid in clinical cases of conjunctival abscesses in buffalo calves | Dr. A. S. Bose |
| 2. Experimental studies on glycerine preserved homologous composite tendon grafting in bovines | Dr. L. L. Dass
Dr. P. N. Sahay and
Dr. A. A. Khan
Deptt. of Surgery, Ranchi Vety. College, Ranchi |
| 3. Evaluation of some prosthetic materials for hernioplasty in bovines | Dr. A. A. Khan
Dr. L. L. Dass and
Dr. P. N. Sahay
Department of Surgery, Ranchi Vety. College, Ranchi |

4. The oral dermoid cyst in a calf
 Dr. S. K. Khetri
 Dr. T. K. Gahlot
 Dr. Y. C. Joshi
 Dr. K. B. Sharma
 Dr. R. K. Agarwala
 Vety. Polyclinics, Udaipur
5. A new technique for the management of recurrent serous elbow hygroma (olecranon bursitis) in equines
 Dr. S. S. Mishra and
 Dr. S. J. Angelo
 Department of Surgery, Mathura
 Vety. College, Mathura
6. Bilateral conjunctival dermoids in ongole calves—a report of two cases
 Dr. S. P. Mouli and
 Dr. S. Karimullah
 Vety. Hospital, Guntur, A. P.
7. Muzzle printography in cattle
 Dr. S. N. Pandey
 Touring Vety. Offr. Dhurwa, Ranchi
8. Cystoprothesis with preserved urinary bladder in buffalo calves
 Dr. S. P. Sharma
 Dr. D. P. Singh
 Dr. J. G. Singh and
 Dr. K. B. P. Agarwal
 Deptt. of Surgery, Rajendra Agril. Univ., Patna
9. An experimental study on pedicle skin graft in buffaloes
 Dr. D. P. Singh
 Dr. A. A. Khan
 Dr. K. B. P. Agarwal and
 Dr. S. P. Sharma
 Department of Surgery, Rajendra Agril. Univ., Patna
10. A rare case of seminoma in a horse
 Dr. K. Sukumaran
 Dr. D. M. Tadkod
 Dr. R. R. Parsania
 Dr. B. M. Jani and
 Dr. S. B. Thakur
 Deptt. of Surgery, Gujrat Vety. Coll., Anand

11. Exploratory exposure of the brain in experimental calves
Dr. S. Nayak
Dr. J. Mohanty and
Dr. S. C. Ojha
Department of Surgery,
O U. A. T., Bhubaneswar.
12. Role of tracheotomy in the treatment of eversion of uterus in a cow
Dr. P. O. George
Dr C. Abraham Varkey
Deptt. of Surgery, College of Vety.
Kerala
13. A modified site for caesariotomy to remove four month old mummified foetus
Dr. J. Mohanty
Dr. A. K. Mitra
Dr. V. S. C. Bose
Dr. S. C. Ojha and
Dr. A. K. Ray
Department of Surgery, Orissa Vety.
College
14. Testicular Tumour in a Bullock
Dr. Abdul Gani
Dr. P. E. Kulkarni
Govt. Veterinary Polyclinic Solapur
& Punjab Rao Krishi Vidyapeeth,
Akola
15. Modified outrigger method in the treatment of fracture
Dr. Abdul Gani
Dr. P. E. Kulkarni
Dr. M. S. Dhakale
Govt. Vety. Polyclinic, Akola
Solapure and Punjab Rao Krishi
Vidyapeeth, Akola

TECHNICAL SECTION—VII

(Surgery of small ruminants and small animals)

6.11.82, 12.00 Noon—2.00 P. M

Chairman—Dr. P. O. George

Rapporteur—Dr. A. A. Khan

1. A porcine model for experimental extracarpal circuit
Dr. G. Arthur Vijayan Lal
Dr. B. Mohan Chandran
Dr. G. S. Bhavaneswar and
Dr. M. S. Vallathan
Sree Chitra Tirural Institute for
Medical Science and Technology
Biomedical Technology wing
Poojapura, Trivendrum-695012
2. Experimental studies on duodenal by pass in relation to lean meat production and an animal model for gastric ulcers
Dr. A. K. Bhargava
Dr. Gajaraj Singh
Dr. A. P. Singh
Dr. I. V. Mogha
Dr. O. P. Paliwal
Dr. K. Charan and
Dr. G. S. Padda
Division of Experimental Medicine
and Surgery, I.V.R.I., Izatnagar
3. Metabolism of glycoprotein during wound healing
Dr. V. P. Chandrapuria,
Dr. S. K. Pandey and
Dr. H. S. Kushwah
Deptt. of Surgery, College of Vety.
Sci. & A. H., Jabbalpur
4. Partial pneumectomy in sheep under costal nerve blocks
Dr. S. S. Misra and
Dr. S. J. Angelo
Deptt. of Surgery, College of Vety.
Sci. & A. H., Mathura

5. Extraneous proctopexy technique for the management of rectal prolapse in animal
 Dr. S. S. Misra and
 Dr. S. J. Angelo
 Department of Surgery, College of Vety. Sci. & A. H , Mathura
6. Effect of partial castration on growth rate and meat quality in goats
 Dr. I. V. Mogha
 Dr. A. K. Bhargava and
 Dr. Gajraj Singh
 Division of Experimental Medicine and Surgery, I.V.R.I., Izatnagar
7. Experimental studies on intestinal obstruction in sheep
 Dr. R. K. Purohit and
 Dr. D. S. Chouhan
 Deptt. of Surgery & Radiology, College of Vety. Science, Bikaner
8. Chemical Composition of buffalo uroliths and some observations on their occurrence in Andhra Pradesh
 Dr. K. Bhaskar Singh
 Dr. S. Venkatasubaih
 Miss Nishat Mukhlis and
 I. V. Subba Rao
 Veterinary Hospital, Nidubrolu and Radio Tracer Chemistry Lab , A. P. Agril. Univ., Hyderabad
9. Blood histamine and serotonin levels in limbs under tourniquet control in goats : a preliminary study
 Dr. Gajraj Singh
 Dr. U. S Singh
 Dr. I. V. Mogha and
 Dr. A. K. Bhargava
 Divin. of Expt. Medicine and Surgery I.V.R.I., Izatnagar
10. Observations on the effects of graded uraemia in ruminants
 Experimental studies in sheep
 Dr. Jit Singh
 Dr. A. P. Singh
 Dr. P. K. Peshin
 Dr. K. N. M. Nayar
 Dr. Mahinder Singh
 Dr. Sandeep Sharma and
 Dr. J. Lakheru
 Department of Surgery & Radiolog
 H.A.U., Hissar

- | | |
|---|---|
| 11. Effects of jejunal strangulation obstruction in sheep-Dilemma of metabolic alkalosis in ruminants | Dr. A. P. Singh
Dr. Jit Singh
Dr. P. K. Peshin
Dr N. Venkataravannappa and
Dr. Rishi Tayal
Department of Surgery & Radiology
H. A. U., Hissar |
| 12. Traumatic lesions in the teat and their repair in experimental goats | Dr. Th N. K. Singh
Dr. J. Mohanty and
Dr. A. K. Mitra
Department of Surgery, O.U.A.T,
Bhubaneswar |
| 13. A polyclinic concept | Dr. B. N. Patra
Retd. Director of A. H. & Vety.
Services, Orissa. |

SMALL ANIMAL SURGERY

- | | |
|--|---|
| 1. Tensitometer for studying mechanical properties of linear skin wounds in dogs and buffaloes | Dr. Amresh Kumar.
Dr. P. N. Kapoor and
Dr. A. K. Sharma
Department of Surgery & Radiology
G. B. Pant. Univ. of Agri. & Tech,
Pantnagar |
| 2. Venereal granuloma in a dog-complete amputation of penis along with prepuce, serotum and testes | Dr. G. B. Patel
Dr. B. M. Jani and
Dr. M. N. Mannari
Deptt. of Surgery, Gujrat Vety.
College, Anand |
| 3. Unusual coprostasis and mega-colon in an Apso | Dr. P. N. Sahay
Dr. A. A. Khan
Dr. U. K. Deokiouliyar and
Dr. L. L. Dass
Deptt. of Surgery, Birsa Agril.
University, Ranchi |





RAJ BHAVAN
Bhubaneswar
20-10-82

MESSAGE

Treatment of animals whether by surgery or medicines is far more difficult than treating human beings. Human beings can express themselves and help the doctors concerned in coming to a proper diagnosis and course of treatment while for dumb animals the process of diagnosis and correct assessment of a course of treatment is both complicated and difficult. As such, Veterinary Doctors trained in Veterinary Sciences have to be more alert and possess keen investigative mind to understand the disease of an ailing animal. Therefore, Veterinary Surgery is far more complicated and problematic. An operation of an animal will have to be under heavy odds and not all too perfect conditions. The 6th Symposium proposed to be held under the auspicious of Indian Society for Veterinary Surgery at Bhubaneswar from the 4th to 6th of November, 1982 will bring out the latest technique relating to Veterinary Surgery and help the participants with valuable information and technical knowledge.

I wish the Symposium all success and hope that the deliberations would be of immense value to the participants and those engaged in Animal Husbandry.

Sd/ C. M. POONACHA
Governor, Orissa,



BHUBANESWAR

Date 19-10-82

MESSAGE

I am happy to learn that the sixth symposium of the Indian Society for Veterinary Surgery is being held at Bhubaneswar from November 4 to 6, 1982. Veterinary Surgery, which constitutes a vital branch of the modern veterinary sciences, deserves greater attention and care in this country for its overall economic growth. I hope the symposium will throw a new light on the development of veterinary surgery for the benefit of the students of and researchers in veterinary sciences.

I send my warmest greetings to the organisers and participants of the symposium and I wish their endeavours all success.

Sd/ J. B. PATNAIK
Chief Minister, Orissa



BHUBANESWAR

16-10-1982

MESSAGE

I am glad to know that the 6th Symposium of Indian Society for Veterinary Surgery is being organized at the College of Veterinary Science and Animal Husbandry in the OUAT campus from 4th to 6th November, 1982

I am sure the scientific decisions that might be taken after due deliberations about veterinary surgery in the Symposium will benefit the veterinarians in particular and the farmers of the country in general.

It is a pleasure to know that the Organizers are bringing out a Souvenir on the occasion.

I wish the Symposium all success.

Sd/ BASUDEV MOHAPATRA
Minister, Agriculture & Co-operation, Orissa



BHUBANESWAR

20-10-1982

MESSAGE

I am glad to learn that "the Sixth Symposium of Indian Society for Veterinary Surgery" will be held at Bhubaneswar from 4th to 6th November, 1982. On this auspicious occasion a Souvenir has been proposed to be published in which abstracts of scientific papers to be presented in the Symposium, will be included.

I wish all success of the function.

Sd/ KUANRIA MAJHI

Minister of State
Forest, Fisheries & Animal Husbandry, Orissa



GOPABANDHU BHAWAN,
Cuttack-753001

22nd October, 1982

MESSAGE

It is a matter of great pleasure and privilege that the 6th Symposium and Annual Convention of the Indian Society for Veterinary Surgery is being held in the campus of the Orissa College of Veterinary Science and Animal Husbandry under the auspices of the Orissa University of Agriculture and Technology, Bhubaneswar. The symposium will continue from 4th to 6th November, 1982. The Annual Convention of the Indian Society of Veterinary Surgeons constitute very important part of the Veterinary Science and it is particularly helpful to our State since Orissa has got the largest cattle population compared to other parts of the country. At the moment Orissa is passing through a great crisis and suffers from most devastating natural calamities like cyclone, drought and flood followed by another spell of drought. The loss of human lives and cattle has been colossal. On account of such calamities that occurred in the past and at present it would be very helpful indeed if the eminent Veterinary scientists discuss and devise ways and means of controlling explosion of cattle population and improving breed as has been the case in many other developed countries of the world

I extend my congratulations to the Dean, Faculty of Veterinary Science and Animal Husbandry of Orissa University of Agriculture and Technology and all the distinguished delegates and scientists who are participating in this Convention.

Sd/ RADHANATH RATH,

Editor, The "Samaj" & President,
Servants of the People Society, New Delhi &
Ex-Pro-Chancellor, Orissa University of Agriculture & Technology



BHUBANESWAR

October 18, 1982

MESSAGE

I am glad to know that the 6th Annual Convention of Indian Society for Veterinary Surgery is scheduled to be held in the 1st week of November, 1982. Importance of surgery is no longer confined to relief of pain, it is now an economic necessity. Animals have become very costly. When farmers purchase these animals by investing huge amount of money, they must get the privilege of proper care and attention, and surgical operation as and when necessary. But unfortunately we have not yet been able to provide adequate facilities even though the necessity has been realised. It is not only lack of funds but also lack of sufficient awareness to develop this branch. I hope the surgeons coming from different parts of India will consider how best we can equip different hospitals with equipments so that the surgeons can do their job with efficiency.

I wish the Convention all success.

A handwritten signature in dark ink, appearing to read 'A. Misra'.

Vice-Chancellor,
Orissa University of Agriculture & Technology



INDIAN COUNCIL OF
AGRICULTURAL RESEARCH

KRISHI BHAWAN, Dr. RAJENDRA PRASAD ROAD,
NEW DELHI-110001

Dated the 6th September, 1982

MESSAGE

Dear Dr. Mohanty,

I am grateful for your letter No. 286/DVC dated the 31st August, 1982 informing me that the Indian Society of Veterinary Surgery (ISVS) is holding its 6th Symposium at Bhubaneswar from 4th to 6th November, 1982. I am further happy to learn that the Society at this juncture will bring out a Souvenir containing abstracts of the Scientific papers.

There has been a tremendous progress in veterinary surgery in the recent years rather the veterinary surgery has opened a way for human surgery. We now have excellent departments of Veterinary Surgery, Radiology and Anaesthesiology in the Agricultural Universities. Further the Indian Veterinary Research Institute, Izatnagar, has a Division of Experimental Medicines and Surgery. In spite that we have excellent research and training facilities now available in the field of Veterinary Surgery there is a need for improving the facilities for undertaking major operations, at least in the district hospitals, with specialists in radiology, anaesthesia and surgery of various systems available so that we can fully

utilise the surgical techniques available for the benefits of our livestock. The necessity of such facilities is becoming more important as the production level of our livestock is increasing making them economically more valuable. Similarly, with the improvement in the living standards, the interest in pet animals would also increase and there will be a greater demand for small animal surgery, atleast in major cities.

I wish to convey my sincerest good wishes to the organisers of the Sixth Symposium. I hope that the Symposium will bring in together research workers and teachers in veterinary surgery, review the progress of teaching and research and indicate the areas where further research need to be done. It may also identify the surgical techniques which have been perfected in recent past and must be made known to the Veterinary Surgeons in the field. It may also be necessary to consider systems for in-service training or short-term refresher courses for the field veterinarians and specialists in various aspects of veterinary surgery.

With my regards,

Yours sincerely,

Sd/ R. M. ACHARYA

Deputy Director General (Animal Sciences)

Prof. J. Mohanty,
Organising Chairman, I. S. V. S. & Dean,
Orissa Veterinary College, Bhubaneswar-751003.

MESSAGE

SRI K. VISWANADHAM, I. A. S.

Director of Animal Husbandry Dairy and
Vety. Services, Orissa Cuttack.

I am extremely happy to learn that the 6th Symposium of Indian Society for Veterinary Surgery will be held at Orissa Veterinary College, Bhubaneswar from the 4th to 6th Nov. 82 and on this occasion a souvenir is going to be published by the organisers.

The Veterinary and Animal Husbandry Scientists have adopted new technology for production of animals with substantially high efficiency and productivity. Veterinary Surgery has thus a special role so far as surgical treatment of the animals is concerned and the surgery specialists have naturally a major role to play for the welfare of animals.

The congress of reputed Veterinary Surgeons of the country, their deliberations, their exchange of views and ideas and above all, their personal contacts will no doubt bring out fruitful results for development of Veterinary Surgery in India.

I take this opportunity to congratulate Dr. J. Mohanty, Dean, Orissa Veterinary College for arranging this symposium in Orissa.

I wish the symposium all success.

(K. Viswanadham)

From the Pen of the Organizing Chairman

The Sixth Symposium and annual convention of the Indian Society for Veterinary Surgery has been organized in the Orissa Veterinary College campus at Bhubaneswar. The holy city of Bhubaneswar has been famous for centuries for the Lingaraj temple and the artistic features in Mukteswar and Rajrani temples. The city also presents the beautiful caves of Khandagiri and Udaygiri with the Hati Gumphas inscriptions of Kharabela of the second Century B. C. The New Capital of Bhubaneswar is of recent construction with official buildings and the residences. Close by is the Bodhistupa of Dhauli, a historic monument depicting how the terror Emperor Asoka turned to a worshiper of Buddhism.

A few Kilometers away is the Nandan Kanan - a natural Zoo with a lake side view presenting interesting specimens of white tiger, black panther and artificial rearing of crocodile.

Visitors whether from within or abroad can not avoid the Golden triangle of temples of Orissa. Konark temple, a temple of SUN-GOD, even though partly ruined due to outside invasion, still stands majestically on the sandy coast of the Bay of Bengal. The creative Orissan art in the stones of the temple is a witness of baffling workmanship of 13th Century B. C.

The Jagannath temple of Puri with marvellous paintings, adores the most revered deity of the entire Hindu world. The sea beach close to the temple is magnificent.

Further attractions are the exquisite filigree work of Cuttack, colourful textile designs of Sambalpur and the beautiful applique of Pipili.

The members of the Organizing committee have tried hard to make the stay of the delegates comfortable. On behalf of the Orissa University of Agriculture & Technology, Government of Orissa and the Organizing Committee, I extend a cordial welcome to the delegates and hope that they will forget the shortcomings.

On behalf of the Organizing Committee I express a deep sense of obligation to all those who have helped us in making the conference a possibility.

J. MOHANTY

ABSTRACTS

Radiographic Diagnosis of Bone & Joint Affections of Equines

I. S. Chandna, S, Sumar and K. Singh

Department of Vety. Surgery & Radiology
College of Vety, Sciences, Haryana Agricultural University, Hissar-125 004, Haryana,

Radiographic Survery of Clinical cases in equines should affections of bone and joints in 77 animals Majority of affections were observed in animals aged 8 years and below. No significant variations were observed in relation to sex and limb involvement. The major affections diagnosed radiographically included arthritis,

(Osteoarthritis and infectious arthritis) of different joints, exostosis, ring bone, laminitis, side bone, sesamoiditis, navicular disease, calcification of ligaments & tendon and fracture of bone. The carpal, tarsal, and fetlock joints were most commonly affected with pathological changes.



Radiographic features of the affections of bovine foot

S. N. Gogoi, J. M. Nigam and A. P. Singh

Forty clinical cases with different foot diseases in bovines were examined by plain radiography. The various diseases recorded were septic pedal arthritis-3, Osteoarthritis-4, exostosis of the digits-18, rotation of the third phalanx-5, displacement of the distal sesamoid bone-3, Osteomyelitis of the pedal bone-1, Phalangeal fractures and dislocations-3,

Chronic laminitis-2 and abscessation of the foot-1.

Angiography in a number of animals showed reduced vascularity in chronic laminitis and osteomyelitis of the third phalanx whereas hypervascularity and formation of collaterals in corkscrew claw and exostosis of the digit were observed.



Radiography of ruminant skull-a study on some positionings and views

Rama Kumar V., V. K. Sobti and B. Prasad

Department of Surgery and Radiology

Punjab Agricultural University, Ludhiana-141004, India

Normal radiographs of cow calves and buffalo calves were taken to visualize different regions of the rostral aspect of the skull and or cranium. Apart from standard dorsoventral and lateral views, three modified positions in frontal view were also tried. The merits and demerits of these views to study radiographic anatomy for diagnostic radiograph are discussed.



Arteriographic Anatomy of Thorax and Abdomen in Goat, Dog, Pig and Rabbit.

A.P. Singh, K. N. M. Nayar, G. R. Singh

Yashwant Singh, and Gurdial Singh

Department of Surgery & Radiology, College of Veterinary Sciences

Haryana Agricultural University, Hissar - 125 004, Haryana

Arteriographic studies using sodium iothalodate/lead soap suspension, were conducted in anaesthetized goats, dog pig and rabbit to visualize the major thoracic and abdominal arteries. Origin, location and ramification of coronary arteries, brachiocephalic trunk, celiac, cranial, mesenteric, right and left renal and caudal mesenteric arteries were described and discussed in relation to different species of the animals used in the study. Lateral radiographic projection was found good for clear-cut demonstration of different vessels of thoracic and abdominal regions.



Technique for Intravenous Pyelography in Ruminants

A. P. Singh, Jit Singh, H. D. Williamson, P. K. Peshin and J. M. Nigam

Department of Vety. Surgery & Radiology, College of Veterinary Sciences,
Haryana Agricultural University, Hissar-125 004, Haryana

The urinary tract in ruminants is normally observed by the abdominal viscera. Therefore, routine radiographic investigation of urinary tract in this species is not generally attempted. We therefore, employed a double contrast technique where pneumoperitoneum was used in conjunction with excretory urography for clear visualization of upper urinary tract in

ruminants. Both belus and infusion urographic techniques were used in sheep and calves. Only infusion technique was used in adult cows. The radiographic anatomy of the upper urinary tract in ruminants has been studied. Visualization of the nephrogram and collecting system varied depending on the method of excretory urography used.



Cholecystography in Dogs

S. S. Singh, Ram Kumar V. and V. K. Sobit

Department of Surgery and Rediology
Punjab Agricultural University, Ludhiana

Eighteen clinically healthy dogs were subjected to cholecystography after administering Iobenzamic acid (Osbil, May and Baker Ltd., India) orally. The optimum dose (4-6 tablets), the time required for early marking (2-4 hrs.) and elimination

following a fatty meal (3½-5 hrs) as well as persistence of the contrast material under fat free feeding (28-32 hrs) were assessed. The results are discussed in the light of utility for the assessment of hepatic function.



Angiographic pattern of major abdominal arteries in goat, sheep, pig, and dog

A. K. Bhargava, G. R. Singh, A. P. Singh, & H. C. Setia

Division of Experimental Medicine & Surgery,
Indian Veterinary Research Institute, Izatnagar (U.P) 243122

Radiological evaluation of vascular diseases can not be possible without comparison with angiographic patterns of normal subjects. Diseases like vascular aneurysm, embolism, collateral development, arteriovenous shunt, atherosclerosis, stenosis, extraluminal deviations are some of the most important conditions revealing clinical symptoms unknown to veterinarians, and mysterious to veterinary radiologists.

Vascular supply to liver, spleen, stomach (mono and polygastric animals), pancreas, adrenal, can be clearly demonstrated by abdominal aortography. Such demonstrations in living animals have become so fascinating that authors consider

them worth describing in the interest of clinical diagnosis for future developing interest of physicians in differential diagnosis.

Angiograms through abdominal aorta following carotid catheterization were evaluated for describing radiographic anatomy. There were marked differences in the normal pattern and distribution of celiac and mesenteric arteries in sheep, goat, dog and pig. Mesenteric supply of pigs was more characteristic and organized. Arteries arising from aorta for adrenal, spleen and kidney were quite similar, however, the distribution patterns of renal arteries in polygastric and monogastric animals were different as per the morphology of kidneys.



Lymphography in dogs

V. K. Sharma, A. C. Varshney, Amresh Kumar and Bharat Singh.

Department of Surgery and Radiology
College of Veterinary Sciences, Pantnagar, Nainital (U.P.)

Three contrast media viz. Iodized oil fluid (Lipidol), sodium iothalamate (Conray-420) and sodium acetrizoate 40% (Diaginol viscous)

were evaluated in 9 clinically healthy dogs for the roentgenographic visualization of lymph glands, vessels and thoracic duct. Ten millilitres of

contrast media were injected slowly into the metatarsal lymph vessel with the help of 25 to 27 gauge hypodermic needle. Lymph vessels were visualized by injecting 1% Evans blue dye mixed with equal volume of 2% procaine hydrochloride solution subcutaneously in the hind paw. The radiographs were taken immediately after injection and at 10, 20 and 30 minutes. Lymph glands, vessels and thoracic duct were clearly visualized by lipidol and it remained in the system for a

comparatively longer period. The viscous contrast media (Diaginol) produced clear image of lymph gland and vessels only upto the pelvis and the thoracic duct could not be clearly visualized. It disappeared from the system within 15 minutes. Likewise, in the animals given aqueous contrast media, Conray-420, the lymph glands and vessels were transiently visualized after ten minutes of injection. The aqueous contrast media also produced lymphadema.



Radiodiagnostic Approach for the Hyoid Bone Fracture in a Labradorretriever Dog

Dr. S. S. Misra, M. V. Sc., Ph. D. and Dr. S. J. Angelo, M. S., Ph. D., M, R. C. V. S.

Department of Surgery & Radiology, College of Veterinary Science and Animal Husbandry,
C. S. Azad University of Agriculture & Technology, Mathura-Campus, Mathura-281002

Fractures of hyoid bone are reckoned to be a great rarity and are caused by sudden trauma, at the base of the tongue, excessive pulling of the tongue, rough seizures by throat etc.

In the reported case a labrador dog was presented with a sudden complaint of complete protrusion of the tongue and inability to withdraw and move. There was profuse drooling of saliva, eyes congested and the

dog made futile attempts to pick up food material. A suspicion of rabies, however, prohibited extension physical examination initially. History revealed that the episode occurred in the night when the dog made a violent attempt to let loose himself from the restraint. The attendant noticed the dog in the present condition in the early hours of the following morning. The neck collar had a steel buckle which probably injured some structures. On the day

venoclysis was instituted with nervine and muscle tonics.

The dog was examined radiographically next day on the suspicion of fracture of the hyoid bone which was confirmed. Since no cast application was feasible the dog was maintained on daily admistrative with 25% glucose tonophosphon and

neurotrat injectables. Signs of recovery were evident with effect from the 4th day onwards and the dog could eat little bit although abnormally with effect from 7th day. The treatment was continued on alternate days till complete recovery occurred in the 3rd week after injury.



Technique for Double Contrast Peritoneography in Ruminants

Jit Singh, P. K. Peshin, H. D. Williamson, Kuldip Singh, and A.P. Singh'

Department of Vety. Surgery & Radiology, College of Veterinary Sciences,
Haryana Agricultural University, HISSAR-125004, HARYANA

Studies on double contrast peritoneography were conducted in five adult sheep and four calves (80-125 kg.). For these studies, positive contrast was achieved by injecting sodium iothalamate (0.5 ml/kg.) and negative contrast by injecting oxygen or air into the peritoneal cavity. Pneumoperitoneum in sheep aided visualization of rumen, reticulum, Omasum and abomasum. DCP demarcated these organs, except reticulum, in a better way. DCP in

both calves and sheep demonstrated kidneys, calyces (only in calf), ureters, urinary bladder, liver parenchyma, intestines, aorta and posterior vena cava.

Pneumoperitoneum helped to provide clear visualization of the vertebrae column in calves. DCP should be helpful in the study of structural and functional abnormalities of the abdominal viscera in ruminants.



Renal Angiography And Cystography in Goats

Rishi Tayal, A.P. Singh, and i.S. Chandna,

Department of Surgery & Radiology, College of Veterinary Sciences,
Haryana Agricultural University, HISSAR-125004, HARYANA

Studies were conducted to standardize the radiographic procedures for visualization of arterial supply of kidney and outlining the urinary bladder in 12 goats. Renal angiography was done by selective placement of radiopaque catheter into right or left renal artery via femoral artery, under fluroscopy. Sodium iothalamate was used as contrast medium. For visualization of the urinary bladder, positive contrast, double contrast and triple

contrast cystography and pneumocystography were done using either sodium iothalamate or air alone or combination of both. The technique for each procedure with the merits are described. Selective renal angiography provided clearcut visualization of main renal artery and its tributaries. The double and tripls contrast cystography were considered better for demonstration of bladder wall as compared to either positive contrast or pneumocystography.



Role of Transtibial Venography in Evaluating the Techniques of Osteosynthesis in Young Bovine

D.S. Vijaykumar, A.P. Singh, J.M. Nigam

There techniques of osteosynthesis were employed to repair the experimental tibial fractures in 36 male buffaloe calves. The efficacy of these techniques were assessed on the basis of transtibial venographic observations conducted at 4, 8 and 12 weeks of bone healing. The technique of transtibial venography was standardized utilizing 10 intact

tibiar. The conclusions drawn from this study were based on Kaskis signs of positive osteomedullogram. Rapid transfrature venous reconstitution with a better rate of clearance of the injected radiopaque fluid observed in double plated tibiase by 4th week of healing indicated a high degree of stabilization with a resultant early union of the fracture.



Physiological and Biochemical effects of Glyceryl Guaiacolate— Thiopental Sodium Anaesthesia in Buffalo-calves

K. B. P. Agrawal, B. Prasad and V. K. Sobiti

Department of Surgery and Radiology, Punjab Agricultural University, Ludhiana-141004, India

Glyceryl guaiacolate was used along with thiopental sodium as general anaesthesia in 10 clinically healthy male buffalo calves. There was marked hypotension and tachycardia with a decrease in the central venous pressure and tidal volume.

Arterial hypoxaemia, hyperglycaemia hypokalaemia and mild metabolic acidosis were other consistent features. The results of the study indicate that this combination should be used with caution in animals with existing cardiovascular disease.

—*—

Intraperitoneal procaine in bovine surgery

Syed Sajjad Hussain and Amresh Kumar

Department of Surgery and Radiology, College of Veterinary Sciences, Pantnagar, Nainital (U.P.)

Procaine hydrochloride 0.25% and 0.5% in normal saline was administered intra-peritoneally @ 1 ml/kg body weight to produce visceral procaine blockade in 24 healthy buffalo calves. No significant changes in heart rate, respiration rate, rectal temperature was observed ($P > 0.05$). Slight increase in mean arterial blood pressure was observed which returned to pre-administration level by 90 minutes.

packed cell volume and neutrophils with a corresponding decrease in lymphocytes at 1/2 an hour interval. Total leucocytes, erythrocyte sedimentation rate, haemoglobin concentration remained essentially within normal range. Blood glucose levels increased slightly and serum proteins decreased at 1/2 an hour in both the groups. The values of serum electrolytes (Na^+ , K^+ and Cl^-); serum enzymes; aspartate amino transferase and alanine amino transferase, blood urea nitrogen and creatinine remained within physiological limits upto 72 hours in both the

groups. Minor alteration observed in haemocytological and biochemical parameters returned to pre-administration level by 72 hours.

Surgical operations viz. abomasotomy, enterotomy and splenectomy were successfully completed after

0.25% and 0.5% procaine administration. It produced a good anaesthesia and adequate relaxation of the abdominal musculature. The recovery was smooth and uncomplicated. The blocking response to visceral pain was better in 0.5% procaine treated animals.



Effects of various Combinations of Phenothiazine Derivatives on Chlor-mag and Thiopentone General Anaesthesia and Studies on various Haematological changes in Experimental Bull Calves

N. K. Mohapatra, S. C. Ojha, V. S. C. Bose and J. Mohanty

The preanaesthetic effects of different combinations of phenothiazine derivatives using Phenergan, Largactil, Siquil and Vallergan were studied when chlor-mag and thiopentone were used as general anaesthetics in thirty experimental bull calves. The animals were randomly assigned in ten groups. In the first four groups phenothiazine derivatives were administered singly at the rate of 0.50 mg/kg body weight, while in the remaining six groups, they were administered in six possible combinations using two at a time at the rate of 0.25 mg/kg body weight for each.

In each case, respiration rate, tidal volume, minute ventilation, PO_2 , PCO_2 , pH, plasma bicarbonate,

total CO_2 , base excess, haemoglobin concentration, haematocrit value and blood sugar were estimated to study the blood gas tension, acid-base status and haematological changes

It was concluded that the above mentioned phenothiazine derivatives can be advantageously used in combinations as suitable preanaesthetics. However, Phenergan was not considered as a good preanaesthetic in view of the concurrent problems like hypotension, poor sedation, regurgitation and respiratory embarrassment. Out of the different combinations studied, Siquil plus Largactil and Siquil plus Vallergan were found to be effectively suitable preanaesthetics.



Physiological effects of Diazepam in calves

K. K. Mirakhur, A. K. Khanna and B. Prasad

Department of Surgery and Radiology, Punjab Agricultural University, Ludhiana-141004, India

Sedation studies of diazepam were carried out on 10 calves. In addition physiological studies at the dose rate of 0.4 mg/kg intravenously were conducted on 6 calves. There was a consistent tachycardia with decreased venous return. Mean arterial pressure did not exhibit a significant change. Acid Base status was within safe limits. Appreciable hypoxaemia and increased oxygen extraction ratio were observed.

—*—

Repeated Ketamine anaesthesia in a leopard (*Panthera pardus*)

S. C. Pathak, A. Mukit, J. Saikia and J. Lekharu.

Department of Surgery, Assam Veterinary College, Gauhati.

A leopard approximately four years old and kept under captivity in the Assam State Zoo, was to be examined. Three ml. (50 mg/ml) of Ketalar was injected into the tail muscle holding the later through the grill of the cage. Four minutes later he was recumbent and the head dropped. Subsequently he was brought out of the cage for examination. Examination revealed the leopard to be highly anaemic, dehydrated and weak. A soft tissue mass was observed in the perineal region which was pressing upon the rectal wall, necessitating surgery. At 18 mts. the animal recovered completely. Treatment against anaemia and weakness was suggested.

Fluid could not be given in conscious state. Surgery was proposed after a week. No special care was taken to prepare the animal for surgery. Five ml. of Ketalar (50 mg/ml) was injected into the thigh muscle. The animal collapsed after 2.5 mts. Surgery was performed and a mass approximately double the size of a tennis ball was removed. At 24 mts. post ketamine injection, he recovered. The skin stitches were removed on the tenth p. o. day against under ketamine anaesthesia-3 ml. (50 mg./ml.).

In the case under report, Ketamine has been found extremely useful, very safe for restraint and operative procedure in leopard. The diug even after repeated use did not

produce any untoward effect in a very weak patient. Satisfactory muscular relaxation occurred contrary to some reports published elsewhere.

—*—

Inhalation anaesthesia in Sheep

S. C. Pathak and V. Umamaheswaran.

Fifty crossover experiments were conducted on ten sheep to evaluate ether, cyclopropane and halothane. A tropine sulphate @ch 5°-8 mg. was used as premedication. Induction was done with 125-500 mg of thiopentone sodium (5%)—doses to effect. In few cases apnoea occurred. Induction in 4 animals was done with cyclopropane and in 2 animals with halothane. Induction with all these three anaesthetics were smooth. However, with cyclopropane and halothane, the recovery was so quick that intubation had to be hurried up.

Eighteen expts, were done with ether Oxygen by semoclosed system. The anaesthesia was of medium depth in the majority of the experiments. Profuse salivation was noticed during and after anaesthesia. The recovery was prolonged and associated with shivering. Hyperglycaemia was significant. Post anaesthetic dullness and salivation were conspicuous.

Seventeen experiments were conducted using cyclopropane through closed system with a to-and-for absorber unit. Adequate depth of anaesthesia was reached, which was very steady and easy to maintain. Hyperglycaemia was significant. Recovery was smooth. No Post-anaesthetic complications were seen.

Fifteen experiments were conducted in closed system with a to-and-fro absorber unit. Halothane was vaporised in the trilene vaporizer of the Boyle's apparatus. Anaesthesia was fluctuating and frequent apnoea occurred during the period of maintenance. Regulation of anaesthesia at the desired depth was very difficult due to the high potency of the drug and the absence of a specific vaporizer.

Recovery period was longer with ether-10 minutes, with halothane 25'4 minutes and with cyclopropane-28'7 minutes.

Of the anaesthetic compared, cyclopropane was found to be more suitable for sheep.

—*—

Effects of Xylazine on Acid-Base Status and Blood Gases in Buffaloes and Camels

P. K. Peshin, A. P. Singh, Jit Singh, S. K. Chawla, S. K. Sarma and J. C. Lekharu.,
Deptt. of Surgery and Radiology, College of Veterinary Sciences, H A U, Hissar.

In six buffalo calves effects of xylazine alone evaluated. Another six animals were premedicated with S/C injection of atropine (0.04 mg/kg.) and xylazine was administered after 15 minutes. In both the groups, xylazine was given intramuscularly at the dose rate of 0.22 mg/kg. Observations were made upto 120 minutes.

Xylazine alone did not affect rectal temperature. Respiratory rate decreased significantly ($P < 0.05$) at all stages of observation. At 15 and 30 minutes, respiratory rate was 6 / minute as compared to the base value of 21 / minute. Haemoglobin values were not changed. No significant variations were seen in arterial pH. The increase in $p\text{CO}_2$ was significant from 10 minutes onwards and remained so upto the end of the experiment. The decrease in arterial and venous $p\text{O}_2$ was significant at 5 minutes after which values gradually came towards normal within the period of observation. The venous oxygen saturation decreased significantly at 5 minutes. No significant variations were seen in the arterial oxygen saturation and content. The increase in the arterio-venous oxygen

content and oxygen utilization was nonsignificant. When the animals were premedicated with atropine, rectal temperature decreased gradually, the fall being significant at 120 minutes. The decrease in respiratory rate was significant at all stages of observation. The increase in $p\text{CO}_2$ at 30 and 60 minutes was nonsignificant. Increase in bicarbonate, through not marked, was significant from 30 minutes onwards. No significant alterations were observed in oxygen transport variables. Arterials pH and haemoglobin were unaffected.

In eight camels, xylazine was administered at the dose rate of 0.5 mg/kg. intramuscularly. No significant variations were seen in temperature, respiratory rate and haemoglobin. The increase in both $p\text{CO}_2$ and bicarbonate was significant at 45 mts. Hypoxaemia due to fall in Po_2 values was significant at 45 mts. No other significant variation was seen in other oxygen transport variables.

The normal values of acid-base status, blood gases and oxygen transport system of camels established from 20 animals shall also be discussed.



Effects of Chloral Hydrate and Chloromag Anaesthesia in Camels

Sandeep K. Sharma, Jit Singh, P. K. Peshin and A. P. Singh,

Department of Vety. Surgery & Radiology, College of Veterinary Sciences, Haryana
Agricultural University, Hissar - 125 004, Haryana

The effects of chloral hydrate and chlormag anaesthesia in six camels for each were evaluated. Both agents were given at the fixed dose rate of 100 mg / kg. body weight

Administration of chloral hydrate caused severe hypotension, the fall in diastolic pressure being of higher magnitude, tachycardia and decreased central venous pressure. There was respiratory acidosis, hypoxemia and decreased oxygen utilization by the tissues. Slight decrease in total proteins was accompanied by unaffected

glucose levels. Electrolyte balance was not disturbed. There were no alterations in haemoglobin-oxygen affinity.

The combination of magnesium sulphate with chloral hydrate removed the disadvantages with chloral hydrate alone. The haemodynamic parameters remained within safe limits. No acidbase and blood gas abnormalities were observed. Haemoglobin-oxygen affinity remained unchanged. Electrolyte balance was not disturbed.



Droperidol as a preanaesthetic in thiopental anaesthesia in dog.

A. K. Sharma and Amresh Kumar

Department of Surgery and Radiology College of Veterinary Sciences, Pantnagar, Nainital (U.P.)

Droperidol premedication @ 10 mg/kg, body weight in atropine (0.04 mg/kg) premedicated dogs decreased the dose of thiopentone sodium required for surgical anaesthesia. There was a smooth induction. It also increased the duration of anaesthesia significantly ($P < 0.05$). A significant decrease in heart rate

and respiratory rate was observed during maximal depth of anaesthesia ($P < 0.05$), however, their values did not go below physiological limits. Rectal temperature slightly decreased. The mean arterial pressure and central venous pressure slightly decreased and returned to near preadministration level by 90 minutes after

administration of thiopentone sodium. No significant and marked changes in various components of EKG could be detected after atropine—droperidol—thiopentone sodium administration.

Haemocytological (total erythrocytes, leucocytes, packed cell volume, Hb and differential leucocyte count) and biochemical parameters (serum electrolytes: Na^+ , K^+ and Cl^- , creatinine, serum enzymes: SGPT, SGOT) were slightly altered after thiopentone administration. Blood glucose was elevated. The thiope-

ntone concentration in plasma could be detected in traces even upto 36 hrs after thiopentone administration. Various surgical operations viz ovariohysterectomy, cystotomy, castration, gastrotomy, nephrectomy and splenectomy were performed under atropine droperidol thiopentone sodium anaesthesia. Supplemental increments @ 3 mg/kg of thiopentone sodium as per requirement permitted successful completion of surgical procedure. The recovery was smooth and uncomplicated.



Epidural Anaesthesia in Goats

Rajankutty, K, George, P. O., Muraleedharan Nayar, K. N., Ravindran Nayar, S. and Abraham Varkey, C.

Department of Surgery, College of Veterinary and Animal Sciences, Mannuthy, Trichur.

The experimental study was conducted in 12 apparently healthy, Alpine-Malabari cross-bred bucks. In Group I, consisting of six animals, Lidocaine, hydrochloride two per cent solution at the rate of 0.4 ml./kg. bodyweight and in group II, consisting of six animals, Lidocaine at the same rate with Hyaluronidase (at the rate of 150 i. u. per 100 ml. Lidocaine) were administered at the lumbosacral epidural space.

It was observed that

i) relaxation of the anal sphincter

and flaccidity of the tail were the symptoms first to occur and last to disappear.

ii) transient unilateral or bilateral hind leg lameness, anorexia and sleepiness were noticed in some of the animals following recovery,

iii) protrusion of the glans penis from the prepuce as in bulls was not seen in any of these animals and

iv) addition of Hyaluronidase to Lidocaine hydrochloride solution reduced the time of onset and duration of anaesthesia and increased the extent of anaesthesia.



Efficacy of Bupivacaine Hydrochloride as an Epidural Anaesthetic in Goats

S. K. Pandey, S. S. Gill and V. P. Chandrapuria

College of veterinary Science and Animal Husbandry Jabbalpur, (M. P.)

Efficacy of Bupivacaine hydrochloride (0.5%) was assessed in 10 goats for epidural anaesthesia. Each animal was given 6 different treatments at 6 day intervals as follows

- I Bupivacaine hydrochloride @ 0.5 mg./kg. body weight,
- II Bupivacaine hydrochloride @ 1.0 mg./kg body weight.
- III Bupivacaine hydrochloride @ 1.5 mg./kg. body weight.
- IV Triflupromazine hydrochloride @ 0.3 mg/kg. body weight + Bupivacaine hydrochloride @ 0.5 mg/kg. body weight
- V Triflupromazine hydrochloride @ 0.3 mg./kg body weight + Bupivacaine hydrochloride @ 1.0 mg./kg. body weight.
- VI Triflupromazine hydrochloride @ 0.3 mg./kg. body weight + Bupivacaine hydrochloride @ 1.5 mg./kg. body weight.

The termination and reappearance of reflexes were assessed by pin prick method at different parts of the body surface in following order, tail, anus perineum, scrotum (caudal and cranial), sacral, thigh leg,

abdomen (caudal and cranial) lumbar (caudal and cranial) and flank (ventral and dorsal).

The desensitization was achieved within 4.28 ± 0.20 minutes and was limited upto sacral in treatments I and IV. In the animals of treatments III and VI complete anaesthesia was achieved within 1.65 ± 0.26 minutes while in II and V it was within 3 minutes.

The minimum duration of anaesthesia was for 79.07 ± 2.56 minutes in treatment I, while it was maximum with a mean value of 103.36 ± 2.89 minutes in treatment VI. Complete recovery was observed in 239.08 ± 2.0 minutes in treatment II and in 321.36 ± 4.48 minutes in treatment IV, respectively.

Insignificant increase in body temperature was noticed in treatments I, II and III, while it dropped insignificantly in animals of treatments IV, V and VI.

Similarly insignificant increase in pulse rate was noticed during first 50 minutes in animals of all the treatments.

—*—

Variations in Liver and Kidney Functions with use of different Diazepam-Glyceryl Guaiacolate Combinations in Goats

A. E. Kinge and S. K. Pandey

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

Six healthy male goats weighing from 20 to 25 kg and approximately 12 to 18 months of age were selected for this experiment. During the observation period of 8 days, four blood samples from each animal were collected at different time intervals for tests on liver functions (alkaline phosphatase, SGOT, total serum protein with albumin and globulin and icterus index) and kidney functions (BUN, creatinine and uric acid).

The animals received treatment I (diazepam-GG) treatment II (diazepam +GG+thiopentone) and treatment III (diazepam + GG + phenobarbitone) after 24 hours of starvation at an interval of 8 days.

Zero hours blood sample was collected from each animal and subsequently blood samples were

collected at 30 minutes, 4, 8, 12, 24, 48, and 72 hours post-treatment for the liver and kidney function tests.

The alkaline phosphatase and total serum protein levels did not change, however, an insignificant increase in the SGOT activity was observed in treatments I, II, and III. No significant change in the icterus index was observed in treatments I and II, but significant increase was observed in treatment III.

Significant increase in the blood urea nitrogen level was recorded in treatment II and III, with the increased level continuously for a longer period in the treatment III. BUN level remained unchanged in treatment I. No significant change in creatinine and uric acid levels was observed in treatments I, II and III.



Pelvic plexus block in male bovines

Dr. K. Bhaskar Singh and Dr. S. V. Rao

Department of Surgery, College of Veterinary Science, TIRUPATI, 517502. (A. P.)

Pelvic plexus block was tried on twenty male bovines (6 cattle and 14 buffaloes) to desensitize the pelvic urethra and bladder for passage of the instruments such as retractor, cystoscope, lithotrite etc into them through prebulbomuscular urethrotomy opening. Supra-rectal infra-rectal and para-rectal radial infiltration of 2% Xylocain solution made during the withdrawal of a 15 G., 16.5 cm long needle introduced through the supra,

infra and para-rectal sites, produced analgesia of pelvic urethra and bladder. Involvement of block of both somatic and sympathetic elements might have caused not only analgesia and relaxations but also reduction in intra-pelvic pressure. Prebulbomuscular urethrotomy and instrumentation of pelvic urethra and bladder for various surgical manoeuvres can be done without resorting to anterior epidural block.



Epidural morphine with chlorpromazine premedication in canine surgery

S. S. Hussain and Amresh Kumar

Department of Surgery & Radiology, College of Veterinary Sciences, Panthnagar, Nainital (U. P.)

Morphine sulphate @ 3 mg./kg. body weight was administered epidurally to 20 healthy dogs of nondescript breed, weighing from 7 to 5 Kg. The dogs received atropine sulphate @ 0.065 mg./Kg. body weight i/mly. half an hour and chlorpromazine @ 2 mg./Kg. i/mly 15 minutes before administration of morphine sulphate. The surgical analgesia lasted from 2 to 2½ hours, and righting reflexes appeared in 3 to 3½ hours. Variety of surgical

procedures viz gastrotomy, caecotomy, splenectomy, nephrectomy, ovariohysterectomy, castration and tail amputation could be successfully performed. The onset of surgical anaesthesia occurred in 15-20 minutes after the administration of morphine sulphate,

A significant decrease in respiratory rate and rectal temperature and increase in heart rate was observed in all the animals ($P < 0.05$) after

morphine administration. Mean arterial blood pressure showed significant increase. No marked EKG abnormality could be observed during surgical analgesia.

Haemocytologic and biochemical changes after epidural morphine included a slight increase in total erythrocytes, leucocytes, packed cell volume and haemoglobin concentra-

tion, and a mild increase in blood glucose level and slight changes in serum electrolytes (Na^+ , K^+ and Cl^-) ($P > 0.05$). These parameters returned to pre-administration level by 48 hours.

The over all surgical analgesia was rated good in all the animals and post-operative recovery was smooth and uncomplicated.



Effect of thiopental sodium on oxygen environment and acid-base status in calves—systemic vs organ effects

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

Department of Veterinary Surgery & Radiology, College of Veterinary Sciences,
Haryana Agricultural University, Hissar-125004, (Haryana)

The systemic effects of administration of thiopental sodium were compared with changes in intestine, kidney and brain of six calves. Parameters investigated were pH, pCO_2 , pO_2 , oxygen saturation, arteriovenous oxygen content difference, oxygen utilization, haemoglobin-oxygen affinity, HCO_3 and base excess.

Systemic effects included severe hypoxemia due to fall in pO_2 and oxygen saturation, severe respiratory acidosis and unchanged haemoglobin-oxygen affinity. The HCO_3 and BE

had a tendency to increase. There was slight increase in oxygen utilization

In the intestines, significant fall in pO_2 was associated with non-significant increase in oxygen utilization. There was significant acidosis due to more production of carbon dioxide. In the kidneys also acidosis was seen due to higher CO_2 . There was a tremendous increase in the renal oxygen utilization which was made possible by extracting more oxygen from venous side. Arterial hypoxaemia did not effect the

capability of kidney to utilize more oxygen. Since studies on brain were conducted after thiopental administration only, the results were compared with our previous studies with chloral hydrate and xylazine. Thiopental sodium caused higher degree of acidosis due to higher production of CO_2 and less genera-

tions of HCO_3 . Oxygen utilization after thiopental sodium administration was much low than after xylazine administration.

The haemoglobin-oxygen affinity of all these organs remained unaffected. No variations were seen between the systemic and organ values.



Alterations in blood and plasma volumes and haematocrit following experimental septic shock in calves

P. N. Sahay, V. K. Sobti and R. N. Kohli

Department of Surgery and Radiology Punjab Agricultural University
Ludhiana, 141004, India

Septic shock was induced in seven clinically healthy calves to evaluate its effect on blood and plasma volumes and haematocrit at various stages of shock. Blood and plasma volume in later stages of shock, declined significantly ($P < 0.05$) to 12.2%, and 15.8%, respectively from normal. However, there was no appreciable change in blood and plasma volumes and the haematocrit

at initial stages of shock. The rise in the haematocrit in the terminal stage was negatively correlated with the plasma volume. These findings suggest that the septic shock in bovines is hypovolemic in its terminal stages. Moreover, the changes observed in this investigation were conspicuously different from those recorded in other species.



Cardiac Kinetics, Oxygen transport and Oxygen utilization in experimental septic shock in calves

P. N. Sahay and R. N. Kohli

Department of Surgery and Radiology, Punjab Agricultural University, Ludhiana-141004.

Septic shock was induced experimentally in 20 clinically healthy calves. Haemodynamic and cardiac kinetic studies revealed hypokinetic (60%), hyperkinetic (15%) and hypo and hyperkinetic dynamics. In all the three forms, the mean arterial pressure, central venous pressure and stroke volume decreased.

While there was a varying degree of tachycardia, P_{50} values invariably decreased in the later stages of shock while in the combination group, the P_{50} value was consistently below the normal from early stages. This pattern of cardiac kinetics appeared to be quite different from other species



Studies on Experimental Haemorrhagic shock in Buffalo Calves

P. E. Kulkarni and K. T. Deshmukh.

Department of Surgery and Gynaecology, Punjab Rao Krishi Viswavidyalaya, Akola

There exists a controversy, whether the blood volume or the rate of blood loss is more important in production of haemorrhagic shock. Hence it was considered worthwhile to study the effect of different rates on induction and maintenance of shock following 30-35 per cent blood loss and the responses reflected by the shocked subjects.

Twelve apparently healthy male buffaloe calves were used for the experiment and were randomly divided

into 3 groups. In group I and II the rates of bleeding ranged between 214.28 to 348.83 ml/minute (average 282.98 ml/min) and 90.09 to 150 ml/minute (average 119.02 ml/min), respectively. In control group rates were 284.15 and 115.38 ml/min, which closely correspond the average rates of bleeding in group I and II. The autologous blood transfusion and antibiotic therapy was undertaken in group I and II after 4 hours of bleeding. The control animals received only antibiotic treatment.

The exteriorization of carotid artery was done by routine procedure for the purpose of carotid canulation in order to bleed an animal or record M. A. B. P. A technique of measuring as well as regulating the rates of bleeding by using electrically operated aspirator was evolved in the present study.

The data collected is described under the following heads .

Haemodynamics :

M. A. B. P. shows an abrupt fall following blood loss. Then it starts rising, and is remarkably elevated at 1 hour after bleeding.

The values of TEC and haemoglobin content have decreased upto 4 and 8 hours in treated and control groups respectively. The lowest values being at 4 and 8 hours. In groups I and II following blood transfusion rise is noticed which is inconsistent. In group III, however, the decreased is marked upto 3rd day of bleeding.

The PCV shows more or less the similar trend as observed for TEC and haemoglobin values

Biochemical investigations :

The serum sodium level decreases upto 4 hours after bleeding and the maximum hyponatremia is recorded at 4 hours. No correlation is seen between rates of bleeding and fall in sodium level.

The potassium level, however, increases and the maximum hyperkalemia is recorded after 1 hour. In this case also, rates have no definite effect

The total serum proteins decrease after bleeding and the maximum fall is at 1 hour following the withdrawal of blood.

Symptomatology :

Tachycardia and hyperventilation are evident immediately after withdrawal of blood. A moderate tachycardia following blood transfusion is also seen. The rates of bleeding are found to have no correlation with an increase in heart rate or respiratory rate.

Hypothermia is observed after blood loss and is maximum at 2 hours. Later on rectal temperature is elevated.

The clinical signs like oliguria, coldness of skin and extremities, palor of visible mucous membranes, diminished intensity of heart sound and weakness of pulse are observed as.

It has been concluded from the present experiment that withdrawal of 30-35 per cent blood volume even at different rates results only in mild and reversible type of shock. The signs of recovery are noticed as early as 2 hours after haemorrhag even in the absence of blood transfusion,



Role of Surgical Pathology in Disease diagnosis and treatment of animals

B. C. Neyak, Ph.D.

Professor & Head of the Department of Pathology, Orissa Veterinary College, Bhubaneswar-751003.

Surgical pathology may be defined as the study of the pathology of such diseases as are accessible to operative intervention. Surgical pathology embraces various branches such as biopsy, repair of injured body parts or wounds by various grafts and experimental research with special reference to transplantation of malignant tumours.

Biopsy means removal of pieces of tissues from the living body for giving a diagnosis and prognosis of the condition to follow a course of treatment and to evaluate its effectiveness. Biopsy has many advantages when properly conducted. It has a great clinical value in diagnosis and differential diagnosis of not only benign or malignant tumours, but also various other diseases of bone marrow, liver, kidneys, lymph nodes, skin, mammary glands, testes, uterus, prostate, thyroid glands and salivary glands including different infectious granulomas. Biopsy specimens are usually obtained by surgical excision, punch or needle aspiration method and curettage and are subjected to frozen section technique and stained with polychrome methylene

blue to give immediate diagnosis. This method is very helpful in case of internal body neoplasm, where quick diagnosis may be given while the patient is still on the operation table and the results agree to about 90% when compared with paraffin block sections.

Repair of spontaneously or surgically induced wounds by grafts and the study of graft-recipient relationship constitutes another field of surgical pathology. There are numerous types of grafts such as animal graft, autodermic or auto-epidermic graft, bone graft, cutis graft, fascia graft, jump graft, pedicle graft, pinch graft including others. In general skin grafting is indicated in most of the clinical affections involving extensive skin losses with poor epitheliasation from the wound edges. Free grafts have been used to repair hernias for reconstruction of urethra, creation of channels from gall bladder to jejunum, intestinal anastomosis and for denuded areas following amputation of horns. The percentage of acceptance and rejection of the graft by the host and the features of wound healing can be systematically

studied with the close co-ordination of the pathologist and the surgeon.

Transplantation experiments in Onchology research to study different aspects of cancer tissue such as its invasiveness, metastasis, sensitivity to various anticancer drugs are of great concerns where the surgeon, pathologist and the clinician are mostly involved. There are some reports in India about such studies with neoplasms particularly of horn cancer and cancer of ethmoidonasal types in the homologous and heterologous species. In other cancer research laboratories laboratory animals have been used as tools for this research and diagnosis. Check pouch of syrian hamster, anterior chamber of the eye in rats, rabbits and guineapigs,

immunologically competent animals such as new born animals, S.P.F. and germ free animals and "NUDE" mouse have been utilised for this method. To conduct this type of work, the surgeon's help to prepare the animals, to extirpate the tumour growth and transplant at proper site. On the above lines collaborative research projects between the Surgery and Pathology Departments in the field of Surgical Pathology are in progress and some studies on skin grafting and arterial grafting to repair urethral wounds and teat wounds, surgical interventions to repair traumatised injuries to the head, patellar desmotomy to treat upward fixation of patella, experimental urethral obstruction, etc. have been studied.

—*—

Bilateral Congenital luxation of Petella in a cross bred calf—a surgical treatment

K. N. Deka, J. C. Lekharu, S. N. Gogoi and H. N. Sharma

Department of Surgery & Radiology, College of Veterinary Science, Khanapara, Gauhati

A seven day old jersey cross-bred female calf with bilateral congenital luxation of petella was treated under two phased surgical manoeuvre. The first phase of surgery included repair of left stifle joint under 6% chloral hydras anaesthesia followed by infiltration analgesia with procain hydrochloride (2.5%) at the site of operation. The

surgical repair of the right stifle joint was carried out under second phase of operation following 15 days of the first joint. Both the limbs after operation were supported in the extended position for 10 days by Thomas splint. The calf was able to stand and walk normally after 14 days of the second phase operation.

—*—

Certain haemodynamic and biochemical effects of bilateral ureteral ligation in Calves

A. M. Jalaluddin, B. Prasad and V. K. Sobti

Department of Surgery and Radiology, Punjab Agricultural University, Ludhiana-141004, India

Bilateral Ureteral ligation was performed on seven clinically healthy cross bred calves, to study the haemodynamic status and biochemical changes in blood in stages of uraemia. The central venous pressure increased in the initial stages and dropped significantly in the terminal stages. The packed cell volume decreased in the terminal stages only. The blood urea nitrogen, plasma creatinine and potassium showed a

progressive and significant increase till the death of the animals. There was metabolic alkalosis which was partially compensated in the initial stages and fully compensated by respiratory acidosis in the terminal stages. The arterial hypoxaemia was evident in the initial and terminal stages while the oxygen extraction ratio increased considerably in the terminal stages only.



Pathophysiological changes during uraemia in cattle-effects of total Nephrectomy

M. S. Kanwar, A. P. Singh, P. K. Peshin and Jit Singh

Department of Vety. Surgery & Radiology, College of Veterinary Sciences,
Haryana Agricultural University, Hissar-125 004, Haryana

In continuation of our studies to evaluate the pathophysiological changes during uraemia in ruminants, effects of total nephrectomy in calves were studied. Para-meters investigated included acid-base status and gases in arterial and venous blood and cerebrospinal fluid (CSF), and biochemical constituents of blood, CSF, saliva and ruminal fluid. Observations were made upto 7 days

only after which animals were sacrificed.

After total nephrectomy, there was no evidence of acid-base and gas abnormalities in blood and CSF. Progressive increase in blood urea nitrogen and creatinine was accompanied by hyperkalaemia, hypochlor-aemia and fall in sodium on 7th day. Slight fall in calcium was associated

with inconsistent changes in inorganic phosphorus. There was no evidence of haemoconcentration.

In the CSF of these animals progressive increase in urea nitrogen, creatinine, potassium and inorganic phosphorus was accompanied by slight fall in sodium. The chloride values decreased from 3rd day onward. Calcium values were not affected.

In the ruminal fluid progressive increase in the urea nitrogen and

creatinine was accompanied by significant increase in sodium, potassium and chloride from 2nd, 1st and 2nd day onwards, respectively. There was overall decrease in calcium.

Salivary urea nitrogen, creatinine, potassium and inorganic phosphorus increased progressively. The changes in sodium were not consistent. Calcium increased slightly.



Studies on the effects of urine Peritoneum in cattle

M. S. Kanwar, A. P. Singh, Jit Singh, and P. K. Peshin,

Department of Surgery & Radiology, College of Veterinary Sciences,
Haryana Agricultural University, HISSAR-125004, HARYANA

Urine-peritoneum experimentally created in six calves by rupture of urinary bladder resulted in metabolic alkalosis with respiratory acidosis. There was slight hypoxemia due to fall in po_2 only. Oxygen utilization of tissues was not affected in CSF there was alkalosis corresponding to blood pH changes which was due to highly increased HCO_3 values.

The alterations in biochemical constituents of blood included progressive increase in BUN and

creatinine. Hypochloreaemia and hyperkalemia were seen in the terminal stages. The fall in calcium was only in terminal stage Plasma sodium levels remained unaffected. There was a progressive increase in the plasma inorganic phosphorus values with the progress of uraemia.

The biochemical constituents of CSF showed similar trend of changes as observed in blood.

In the ruminal fluid, urea nitrogen and creatinine values incre-

ased progressively. The sodium levels decreased significantly in the terminal stages. The increase in potassium, inorganic phosphorus and decrease in calcium were significant from the initial stages. The fall in chloride was significant in later stages. In the saliva of these calves

creatinine and urea nitrogen increased with the progress of uraemia. The increases in potassium and inorganic phosphorus were significant from the early stages of uraemia. The sodium values decreased in the terminal stages while calcium values remained almost unaffected.

—*—

Clinico-physiologic status of urine retention in bullocks—

An evaluation of Acid Base status and Blood gases

K. K. Mirakhur, B. Prasad, S. N. Sharma, Rama Kumar V.,
A. K. Khanna and V. K. Sobti

Department of Surgery and Radiology, Punjab Agricultural University
Ludhiana-141004, India,

The bullocks presented with retention of urine were the subjects of the study. Arterial and the venous blood was analyzed prior to surgery and subsequently after the treatment at various intervals.

Metabolic alkalosis, haemodilution and decreased arterial oxygen content were the features. Individual variations in the oxygen extraction ratio were also observed.

—*—

Urethrotomy at Various Sites and the Techniques of Repair in Experimental Bullcalves

A. K. Mohanty, J. Mohanty and S. C. Ojha

Department of Surgery, Orissa College of Veterinary Science & Animal Husbandry, Bhubaneswar

Considering the lack of information on the reconstruction of urethra in bovines, an attempt was made in the present study to investigate the

feasibility of autogenous grafts as a suitable substitute for the repair of the urethral defects in experimental bull calves, using full thickness skin

grafts, arterial grafts and fascia lata grafts. Mine Bull calves were selected and divided at random into three groups each consisting of three animals. In all the cases laparocystotomy and through-and-through catheterization from the bladder up to the urethral opening was performed. The urethral wound was created surgically at the postscrotal site in two calves and prescrotal site in one calf in each group.

Repair of the urethral wound was done by transplanting respective

autografts using full thickness skin graft in Group I, autogenous arterial graft in Group II and autogenous fascia lata graft in Group III. The full thickness skin grafts and arterial grafts were found to be partly successful in two out of three cases, in Group I and Group II respectively, as evident from the clinical and histopathological findings. In Group III in which fascia lata grafting was done, all the three failed to take the graft due to leakage of urine from the grafted site and resultant sloughing of the grafts.



Effect of Stress in the form of Exercise on Certain Haematological Parameters in Horses

S. R. Parija, A. K. Mitra, A. K. Roy and J. Mohanty

Department of Surgery, College of Veterinary Sc. & A. H.
Orissa University of Agri. & Technology, Bhubaneswar

An experimental study in 4 gelds and 2 mares was performed to record changes in some haematological parameters at different time intervals after exercise. The exercise was allowed for exactly 30 minutes. The parameters recorded before exercise were again repeated immediately after exercise, at 4 hours and 8 hours after exercise.

The results were statistically analysed which showed that immediately after exercise there were significant ($P < 0.05$) increases in total erythrocyte, haemoglobin, packed cell volume and serum total protein. Significant ($P < 0.05$) falls in erythrocyte sedimentation rate and whole blood glucose were observed at the same time intervals,



Histopathological changes following bilateral ureteral ligation and bilateral nephrectomy in calves.

V. K. Sobti, A. M. Jalaludin, B. Prasad, S. K. Nagpal and P. P. Gupta

Department of Veterinary Surgery and Radiology, Punjab Agricultural University, Ludhiana

In a study undertaken on 12 clinically healthy cross bred calves of 1 to 2 years of age, to assess the changes associated with bilateral ureteral ligation (6 animals) and bilateral nephrectomy (6 animals), the tissue from various organs were collected just after the death. Following bilateral ureteral ligation, four animals showed severe interstitial nephritis characterized by coagulative necrosis of tubular epithelial lining. Subepicardial and subendocardial haemorrhages were also noticed.

Lungs had areas of congestion. There was mild infiltration of lymphocytes in the portal and triad region of the liver. In nephrectomized animals, there were microabscesses (one animal), dilatation of portal veins (2 animals) and diffused fatty changes (one animal) in the liver. Embolic abscesses in the pulmonary tissue were seen in one animal. Endocarditis with septic thrombi was noticed in two of the nephrectomized animals.

Acid-Base status and blood gases following experimental hyperkalemia in buffalo calves

V. K. Sobti, S. S. Singh, S. Sabitri and Rama Kumar V.

Department of Veterinary Surgery and Radiology, Punjab Agricultural University, Ludhiana-141004, India

Hyperkalemia was induced experimentally in 7 clinically healthy male buffalo calves aged 1 to 1½ years. There was uncompensated respiratory alkalosis alongwith significant arterial hypoxaemia. The oxygen extraction

ratio decreased considerably immediately after hyperkalemia but it increased in the later stages. The changes in the acid base status and blood gases were quite different from those in other species.

Electrocardiographic observations during bovine diaphragmatic herniorrhaphy

V. K. Sobti

Department of Surgery and Rediology, Punjab Agricultural University, Ludhiana-141001, India

Electrocardiograms were recorded in 14 buffaloes at various stages of herniorrhaphy. In 12 animals, there was no intraoperative complication except that there was rupture of mediastinal pleura in 4 animals. A significant tachycardia was observed immediately after chloral hydratethiopentone anaesthesia. Animals in which pleura was ruptured, there was a marked decrease in the amplitudes of P and T waves and the mean QRS complex. The T wave

was prolonged significantly when the animal was brought back to lateral recumbency and had resumed spontaneous breathing. Two animals regurgitated after anaesthesia. In one of the animals, there was absence of P wave and negligible ST segment just before regurgitation. However, during regurgitation, both the animals exhibited ventricular premature contractions with fixed coupling in a bigeminal fashion.



Electrovectorcardiographic Observations during Purulent Pericarditis and subsequent Thoracopericardiotomy in a cow

V. K. Sobti and B. Prasad

Department of Vety. Surgery & Radiology, Punjab Agricultural University, Ludhiana-141004, India

Electrovectorcardiographic studies were made in a cow during purulent pericarditis and subsequent thoracopericardiotomy. In pericarditis, the forces of ventricular depolarization and ventricular recovery were affected in the frontal as well as horizontal plane while the forces of atrial depolarization were altered in the horizontal plane only.

There was sinus tachycardia and prolonged electrical systole during pericarditis. When the thorax was opened, it was supervened by supra-ventricular tachycardia. During pericardial drainage, the animal exhibited multiformed ventricular premature contractions without fixed coupling.



Effects of Bilateral Nephrectomy on the electrovectorcardiogram in calves

V. K. Sobti, A. M. Jalaluddin and G. Chandrasakhi

Deptt. of Veterinary Surgery and Radiology, Punjab Agricultural University, Ludhiana

Bilateral nephrectomy was performed in five clinically healthy calves and the electro-vectorcardiographic studies were undertaken at various intervals till the death of the animals. There was significant decrease in the duration and amplitude of P wave in the terminal stages. A marked increase in the T wave amplitude was noticed in the initial and preterminal stages. The PR interval shortened significantly while there was considerable prolongation of the QT interval. A mild bradycardia was observed in the initial stages only. The electrocardiographic patterns preceding cardiac failure were : absence of P wave or sinoatrial block, 2nd degree atrioventricular block and ventricular fibrillation. The orientation of the P, mean QRS and T vectors changed considerably in the sagittal and transverse planes of the body.

—*—

In Vitro Changes in Acid Base status of the Arterial and Venous Blood following Storage at various Temperatures in Buffaloes (*Bos bubalis*)

V. K. Sobti, S. S. Singh and B. Prasad

Department of Surgery and Radiology, Punjab Agricultural University, Ludhiana-141004

The arterial and venous blood samples collected anaerobically from 7 clinically healthy buffalo calves were stored for 24 hours at room temperature (24-26°C), in the refrigerator (0-8°C) and in the ice water (2-4°C). The changes in the arterial and venous pH, pCO₂, pO₂, base excess and bicarbonate were minimal in the ice water upto 4 hours of storage. There was no appreciable change in the acid base status of the arterial blood at room temperature upto one hour. Based upon regression equations, the correction tables were devised for storage at different temperatures.

—*—

Diaphragmatic hernia in bovine : Certain biochemical constituents of diaphragm in Relation to etiology

N. Venkataravanappa and D. Krishnamurthy

Department of Vety. Surgery and Radiology,
College of Veterinary Science, Haryana Agricultural University, Hissar-125004, Haryana

Fourteen clinically healthy animals (adult she-buffaloes and cows) were used for the present study. Tissue pieces from the areas of tendinous and muscular portions where the rupture of diaphragm has been reported were collected and analysed for various biochemical constituents.

Tissue pieces of diaphragm from places where rupture does not normally occur were also collected and analyzed.

The values of various constituents viz : myosin, collagen, elastin, total nitrogen and total ash failed to show significant differences either within the species or in between the species.



Vascular Response to Tibial fracture healing in Sheep

S. K. Chawla, I. S. Chandna, A. P Singh and J. M. Nigam

Department of Surgery and Radiology, College of Veterinary Sciences,
Haryana Agricultural University, Hissar-125004 (Haryana)

Angiographic studies were conducted in thirty six sheep to observe vascular response during tibial fracture healing, repaired by simple coaptation, intramedullary pinning and bone plating. Generalized extraosseous hypervascularity was observed in initial stages of fracture healing. However, hypervascularity was more intense in fracture repaired with coaptation, followed by

intramedullary pinning and bone plating. The vascularity returned to near normal after six weeks, except in cases of delayed union, infection and displaced fracture, where it persisted upto 9th week. The callus was well vascularized by newly proliferated vessels of soft tissue origin between 6 and 9 weeks in all the techniques



Biomechanical evaluation of the failures of implants after internal fixation

Gajraj Singh, A. K. Bhargava and I. V. Mogha

Division of Experimental Medicine & Surgery,
Indian Veterinary Research Institute, Izatnagar-243122 (U. P.)

The failures of implants in terms of bending or breaking, were evaluated in case of long bone fractures attended during the last five years. Failures were more common in femur than other long bones. It was observed from the post-operative X-rays that at the end of open reduction and internal fixation, there was defect at the fracture site. It was either due to over correction, or loss small fragment or poor reduction. As a result the implants, being under too great tension, got gradually bent until contact between the cortices was again established. It was

apparent from the biomechanical factors acting during the internal fixation that implants were being subjected to bending stresses, instead of tension stresses, which all implants are designed to withstand.

Thus in clinical practice one should expect an implant to break or bend if it is sued to fix a long bone fracture, where there is poor reduction, which may be due to severe comminution, loss of fragments or slow resorption of necrotic fragment, as in such cases fulcrum of movement lies within the implant owing to bending stress and metal fatigue.



Surgical Correction of the Luxated Patella in Goats

Drs. T. K. Gahlot, S. S. Rathor, D. S. Chouhan and R. J. Choudhary

College of Veterinary and Animal Sciences, Bikaner, Rajasthan

Eleven goats with lateral (10) and medial (1) luxation of patella were given surgical treatment and compromising results were obtained. The surgical technique consisted of manual reposition of patella followed by application of a stainless steel wire in figure of eighth fashion. The upper

loop of figure of eight encircled the apex of reposed patella and middle point gave anchorage to the crossing wires on transfixing screw at medial epicondyle of femur in cases of lateral luxation and lateral epicondyle in cases of medial luxation. The lower loop was passed either through the

drilled hole in the anterior tibial tuberosity or through the vicinity of insertion of patellar ligaments at anterior tibial tuberosity and before tying the knot complete flexion and extension of the limb with patella in position was assured. Reinforcement sutures were also applied incorporating the muscles and fascia.

Bending of the screw and breakage

of wire with recurrence of luxation were observed radiographically in two cases in a three week follow up programme at weekly intervals. Four cases with slight bending of screw showed no recurrence and of these four cases, two showed breakage of wire in third postoperative week without recurrence. Remaining cases showed no complications



Immobilization of Fractured Bones of Goats and Sheep

P. E. Kulkarni

Punjabrao Krishi Vidyapeeth, Akola

A considerably large number of goats and sheep with fractured bones is treated in Veterinary Hospitals at Akola. Immobilization with plaster of paris bandage or some type of internal fixation is generally practised. Weight of the plaster of paris, and the cost involved are the restrictive factors in the treatment. The animals are hence sold at a cheaper cost for slaughter by the poor owners.

Commonly available resin which hardens on drying was tried in the present experiment. About 75 g resin was dissolved in 200 ml of hot water at 95 to 98°C, and the resultant gel was cooled down to 60 to 62°C.

Dressing bandage of requisite width was soaked in the resin gel and the excess quantity was squeezed out. The resin soaked bandage was wrapped over the area taking care to involve one joint above and one below the seat of fracture. The animal was restrained in recumbent position till the resin was set and had hardened. Reinforcement with bamboo splints of appropriate length was resorted to in cases of fractures of bones above knee and stifle joints. The bandage was removed after 21 days.

Typewise and bonewise distribution of 40 cases treated with this method was :

Type	Number of cases	Bone	Number of cases
Simple	9	Humerus	6
Compound	6	Radius/ulna	6
Oblique	13	Metacarpus	12
Transverse	12	Tibia	7
		Metacarpus	15

It was observed that in all the above cases the bandage remained sufficiently hard and was impermeable to water. It was light in weight and was well tolerated by the animals which could move about rather freely

during the period. The overall cost of the treatment worked out to Rs. 1.25 only, which is considerably cheaper as compared to that of the plaster of paris bandage treatment.



Repair of fracture of humerus in a Peacock.

M. N. Mannari, D. M. Tatkod, R. R. Parsania, B. M. Jani and S. B. Thakur

Gujarat College of Veterinary Science and Animal Husbandry, Anand

Fracture repair in pet birds is poorly documented. Keymer (1960) while reviewing cage and aviary bird surgery reported that fractures of the wings were less common than of legs. Bush (1977) advocated use of external halfpin and full pin splints for the fractures of medium sized birds. Spink (1978), recommended Slings, splints, intramedullary pin, Kirschner's apparatus, Rush pins, Jona's splints and bone grafts for successful repair of fractures in raptors. Ketamine hydrochloride in combination with xylazine or diazepam was advised for anaesthesia by the author.

A male peacock with a compound mid-shaft oblique fracture of the right humerus was presented for treatment at the college hospital. The medial aspect of the skin was open and the lower segment of the fracture was protruding out of the opening. Reduction was carried out manually and the fracture segments were immobilized by cerclage wiring under ketamine hydrochloride anaesthesia. The skin wound was approximated, using 2/0 silk, by horizontal mattress sutures. No complications have been reported even after six weeks.



Fracture repair complications in animals

A. P. Singh, K. N. M. Nayar, I. S. Chandna, and S. K. Chawla

Department of Surgery & Radiology, College of Veterinary Sciences,
Haryana Agricultural University, HISSAR-125004 HARYANA

The post-operative complications of fractures treated with different techniques of external and internal immobilizations are described with reference to 270 cases in bovine, equine and ovine patients. Malalignment and infection were the most common complications. External immobilizations by simple coaptation, hanging pin cast and transfixation

were mostly associated with complications like malunion, delayed union and nonunion. Infection and elevation of the plates were major complications with plate fixation. Internal fixation with intramedullary pin, k-nail and double plate fixation showed minimum post-operative complications.



Clinical Radiological and angiographic studies of experimentally created tibial fractures in buffalo-calves

D. M. Tadmor and R. N. Kohli

College of Veterinary Science, Ludhiana, Punjab

Many agents and techniques, for acceleration of fracture healing have been employed with varying degrees of success (Brookes and Helal, 1968; Herold and Tadmor, 1968; Benfer and Struck, 1973, and Masih and Kohli, 1977). A study on the acceleration of fracture healing, through venous occlusion, of the lower third tibial fractures in buffalo-calves is presented.

The study was conducted on 24 animals in two groups of 12 animals

each. Experimentally created fractures were repaired by a pair of Rush pins. In addition to this, venous stasis by ligating the femoral and medial saphenous veins was produced in the second group. Clinical, radiographic and angiographic observations were recorded in four phases of healing.

A pair of Rush pins employed provided near perfect immobilization. The technique of venous stasis proved effective. Walking

pattern and gross appearance of fracture site and callus at different phases did not reveal any difference in the healing process between the two groups. Similarly, radiographs failed to demonstrate the difference in the calluses of two groups at different phases of healing except at the second phase. A radioluscent and radiodense calluse bridging the fracture fragments in groups I and II, respectively, at the second phase indicated better healing in group-II

Venous occlusion considerably accelerated the early phases of fracture healing perhaps by causing increased vascularization of periosteal and surrounding soft tissues. Though the difference in the healing process narrowed down at the remaining phases, a slight advantage, however, still remained in the animals with venous engorgement through concentration of vessels at the periphery of the callus



Extirpation of third eye lid in Clinical cases of Conjunctival Abscesses in Buffalo Calves

A. S. Bose

Conjunctival surgery in Veterinary literature is usually restricted to tumors and dermoids. But the present paper deals with rare cases of conjunctival abscesses in three buffalo calves. All the three calves were having history of pyrexia and dullness before admission. The symptoms mainly included hypertrophy of conjunctiva with severe congestion and oedema pressing over the eye ball. The vision was completely obstructed due to severe chemosis.

Radical surgery was undertaken in all the 3 cases with good results. Anaesthesia was quite satisfactory with palpebral and retrobulbar blocks. Post-operative treatments consisted of topical application of ophthalmic antibiotic ointment with cortisone and parenteral administration of procaine benzyle penicillin. All the three calves recovered well and the eyes were normal on the 10th post-operative day.



Experimental Studies on Glycerine Preserved Homologous Composite Tendon Grafting in Bovines

L. L. Dass, P. N. Sahay and A. A. Khan

Department of Surgery, Ranchi Veterinary College, Birsa Agricultural University, Ranchi-834007

An approach to glycerine preserved homologous composite tendon grafting has been successfully tried in nine buffalo calves. The success has been assessed on the basis of clinico-morphological and histopathological findings. A positive correlation was observed between the period of healing and improvement of gait, and adhesion and gliding of tendon with/within the sheath. The 14 day graft histologically revealed marked

inflammatory reactions and halfhazard arrangement of collagen fibres. At 28 days, the graft exhibited well organised collagen fibres running parallel to the long axis of the tendon as well as indications of resolution of adhesions. The control group animals, where the severed tendon remained unrepaired, exhibited complete lack of normal locomotion during the period of observation and non-union of severed tendon ends.



Evaluation of some Prosthetic Materials for Hernioplasty in Bovines

A. A. Khan, L. L. Dass and P. N. Sahay

Department of Surgery, Ranchi Veterinary College Birsa Agricultural University,
Ranchi-834007 (Bihar)

The experiment was conducted in 12 male buffalo calves of about 2 years age for evaluating nylon and plastic nets as prosthetic materials for hernioplasty. Onlay, inlay and reinforcement techniques were employed for grafting both in the plastic and nylon repaired groups. Clinico-morphological and histological findings sugge-

sted that nylon and plastic nets are both ideal prosthetic materials for hernioplasty with marginal differences, the latter being superior. With both the materials, the reinforcement technique was adjudged to be the best, followed by onlay and inlay grafting technique in that order



The oral dermoid cyst in a calf

Drs. S. K. Khatri, T. K. Gahlot, Y. C. Joshi, K. B. Sharma & R. K. Agarwala

Veterinary Polyclinics, Udaipur.

A male non-descript calf aged 7 days was brought to the Veterinary Polyclinics, Udaipur (Rajasthan). The animal was presented with a mass hanging from the mouth, with growth of hair on it. Clinical examination of the patient showed a dermoid cyst of the size of a table tennis ball. It was attached firmly to the soft palate and was found to be interfering in suckling. The animal was operated under tranquillization and local infiltration anaesthesia. The dermoid cyst alongwith the base, the papillae and soft prlate tissue were resected with some healthy tissue. The soft palate was apposed by using two mattress sutures of chromic catgut No. 1/0.

Post-operative care consisted of injection of oxysteclin (Sarabhai) and Dextrose saline 5% solution by intravenous route, and dressing of the suture line by boroglycerine for three days. The animal started eating and drinking and was discharged on the fourth post-operative day.

The dormoid cyst was 8 cm. long and 10 cm. in diameter. The gross specimen revealed a tooth like structure at the base, but there was calcification in the centre of the dermoid cyst.

In the case under report the unusual dermoid cyst of soft palate was successfully excised.



A new Technique for the Management of recurrent-serous elbow-hygroma (olecranon-bursitis) in equines

Dr. S. S. Misra, M. V. Sc., Ph. D., and Dr. S. J. Angelo, M. S., Ph. D., M. R, C. V. S.

Department of Surgery & Radiology, College of Veterinary Science,
and Animal Husbandry, C.S. Azad University, of Agriculture and Technology,
Mathura-Campus, MATHURA-281002 (U.P.)

Management of recurrent serous olecranon bursitis (shoe-boil/hygroma) may invariably be quite problematic. Conventional and recently advocated methods include aspiration and injection of corticosteroids, surgical drainage and excision, the latter is usually attended with complications like exuberant granulations. Aspiration and injection of 5% copper sulphate solution, and tincture of iodine has also been adopted with varied results. In instances, encountered by the authors where aseptic drainage and injection of antibiotic and corticosteroids failed and the lesion repeatedly recurred, an alternative and committal closed surgical technique has been evolved and evaluated in 4 horses. The technique is merited to obviate open surgery which is reasonably unsafe for such locations for there have been exuberant granulations in so many cases. The principle of the technique is to retain the closed integrity of hygroma and obliterating its lumen for refilling by engendering appreciable compression over the area duly supported by elastoplast bandage.

The technique essentially consists of aspiration of the contents of the hygroma which are usually serosanguineous and viscid; thereafter, the cavity is lavaged repeatedly by antibiotic mixed sterile saline solution (Chloramphenicol injectable solution 1 ml in 100 ml), till the aspirata is clear. The procedure leads to complete evacuation of the contents of the hygroma which appears to be deflated and puckered. A set of close mattress sutures are applied dorsoventrally in such a way as to practically obliterate the lumen of the sac. The redundant skin is retained intact *in situ*. The suture line is painted with tincture of iodine and sealed with colloidion flexible or Healex spray. An elastoplast bandage is tightly secured around the elbow. The entire procedure necessitates strict asepsis and tranquillisation, sedation or general anaesthesia as may be dictated by the temperament of the animal. Post-operative antibiotic and A.T.S. administration are mandatory. The bandage and suture are removed on 6th day post-operatively. Emollient ointment leads to uneventful recovery in all cases.

—*—

Bilateral Conjunctival Dermoids in Ongole Calves—a report of two cases.

S. P. MOULI, M.V.Sc., Veterinary Officer, Veterinary Hospital,
(P. O.) Nidubrolu, (D. T.) Guntur (A. P.)

And

S. Karimullah, B. V. Sc., Veterinary Officer, Veterinary Hospital,
(P.O.) Repalle, (D.T.) Guntur, (A. P.)

Two clinical cases of bilateral Conjunctival dermoids in two Ongole male calves have been reported. The dermoids were in the weight range of 1/2 G to 5 G with clinical symptoms of consistent profuse lacrimation and visual impairment. Surgical ablation coupled with chemical

cauterization of the dermoids under auriculo palpebral nerve block, retrobulbar nerve block and topical anaesthesia observing the conventional techniques and drugs resulted in an uneventful recovery and restoration of vision in a period of one week.



Muzzle Printography in Cattle

(S. N. Pandey)

Touring Veterinary Officer, Dhurwa, Ranchi

Muzzle prints of cattle have been studied graphically for identification of animals. Each muzzle-print of cattle has 4 to 5 ridges on either sides and a centrally located groove called valley. Drawing a base line along the lowest structures of the print and, a perpendicular drawn on it centrally along the valley, the print was divided into two halves (left and right) The elongated structure containing 6 beads or more and 6 mm or more in length was considered as a ridge. The distal and proximal endpoints (DEP and PEP, respectively) were

marked by a blue point with a ball pen. The location of both the ends of all the selected ridges of all the prints under experiment was ascertained with the help of a transparent graph paper and variance was worked out by Pythagoras Theorem. On the basis of 861 comparisons it was observed that average variance was more than 3.86 mm in 95% case of non-identical prints whereas it was less than 3.86 in 100% cases of identical prints. Thus the possible error was assessed at 5%. The error could easily be overcome by adopting two-ridge

method. This method was found most satisfactory for identifying animals and is needed most by a surgeon while issuing certificates.



Cystoprosthesis with preserved urinary bladder in buffalo calves

Dr. S.P. Sharma, Dr. D.P. Singh, Dr. J.G. Singh & Dr. K.B.P. Agarwal
Department of Surgery & Radiology, Rajendra Agricultural University, Patna, Bihar

The urinary bladders of male buffalocalves were taken on different dates and preserved in 10 per cent formalin solution for a period of 1 to 4 months. They were used as bladder prostheses in 16 apparently healthy partially cystectomised male buffalo calves. The operated animals were observed clinically for 30, 60, 90 and 120 postoperative days. The estimation of urea nitrogen in blood did not

indicate much variation beyond the normal range. All of the operated animals remained in normal habitus and good health even up to the last day of study. Gross and microscopic examination of the organ revealed that the prostheses acted as a temporary scaffold around which there was gradual regeneration of the urinary bladder.



An Experimental study on padicle skin graft in buffaloes [Bos-bubalis]

Dr. D.P. Singh, Dr. A.A. Khan, Dr. K.B.P. Agrawal & Dr. S.P. Sharma
Department of Surgery & Radiology, Rajendra Agricultural University, Bihar, Patna

In this study eight surgically prepared wound on the limbs of buffalo calves were grafted with pedicle graft technique of skin transplantation. The percentage of "take" obtained in this type of grafting was 100%. As the grafted skin received its nutrition through the attached pedicle its survival seemed to present no problem. All the grafts applied in this study healed well and offered sound, strong, and cosmetically

better result in all respects. Histologically the underlying dermis showed missive encroachment by the fibroblast cells ascending from underlying hypodermis at the line of Junction. Fair amount of leucocytic infiltration was noticed and the hair follicles with characteristic cells of epithelial and connective tissue were present. Collagen fibers were found to be more in connective tissue sheath



A rare case of Seminoma in a Horse

K. Sukumaran, DM Tadkod, RR Parsania, BM Jani and SB Thakur
College of Veterinary Science & Animal Husbandry, Anand

Seminoma is a tumour arising from the seminiferous epithelium of the tubules of testes. This condition is rare in domestic animals other than the dog. A case of Seminoma in a horse is presented.

A horse of 12 years old was admitted in the Veterinary College Hospital, Anand, on 4.3.82 with the history of oedema around the scrotum since 1½ months. On examination the left testicle was found to be enlarged and slightly hard on palpation whereas the right testicle appeared to be normal. Exploratory puncture along with other clinical examinations eliminated the possibilities of haematoma, abscess and hydrocoele. As the condition did not respond to treatment with antibiotics and infra-red irradiation it was decided to perform surgery.

The animal was operated on 16.3.1982. The surgery was performed under general anaesthesia. Both the testicles were removed by open method of castration taking all routine precautions.

The left testicle weighed about 26 kg while the right testicle which appeared apparently normal weighed only 200 gms.

Histopathological examinations of the left testicle revealed the condition to be seminoma.

Post-operative treatment was given and the animal was discharged as cured on 4.5.1982.

No complication has been reported so far.



Exploratory exposure of the Brain in Experimental Calves

S. Nayak, J. Mohanty and S. C. Ojha

Considering the importance of opening the cranial cavity for proper examination of the brain in various surgical disorders, exploratory exposure of the brain was attempted experimentally in calves in the present study. Twelve calves were selected and randomly assigned into four groups with three animals in each. The four approaches for the

exploratory craniotomy were (i) Bilateral frontal craniotomy (ii) Unilateral frontal craniotomy with attached bone flap (iii) Craniectomy through the frontal sinus after amputation of horn and (iv) Occipital craniectomy. Surgical technique,

approximate positioning of the trephine points, use of isolated bone flaps and muscle-bone (hinged) flaps were attempted with a fair degree of success. Portions of the brain exposed in each of the above techniques were also outlined.



Role of tracheotomy in the treatment of eversion of uterus in a cow

P. O. George, and C. Abraham Varkey

Department of Surgery, College of Veterinary and Animal Sciences, Mannuthy, Trichur,

A cow had prolapse of the vagina and cervix at the eighth month of pregnancy. The prolapse was reduced and vulval sutures were inserted. Due to straining the vaginal wall was torn with recurrence of prolapse. The animal calved normally, but eversion of uterus took place at the time of expulsion of placenta. The eversion was corrected and sutures were reapplied under epidural anaesthesia. Eversion of uterus recurred a few hours later, when the effects of epidural anaes-

thesia had waned away. Tracheotomy, on the left side of the neck was done and a tracheotomy tube inserted to prevent straining. Eversion was corrected afterwards. Subsequently the animal developed metritis and ketosis. The tracheotomy tube was removed on the 17th day of operation, when the symptoms of metritis had subsided. Insertion of the tracheotomy tube during the period of treatment effectively prevented straining.



A modified site for caesariotomy to remove four month old mummified foetus

J. Mohanty, A. K. Mitra, V. S. C. Bose, S. C. Ojha and A. K. Roy

Department of Surgery, Veterinary College, Bhubaneswar

A cow was presented with mummification of foetus, which did not respond to stilbesterol treatment

for 3 days. The size of the enlarged portion of uterus was about 20cm. and with a width of about 8 cm.

Since the uterus was lying on the pelvic brim, a modified site was preferred for better approach. A vertical incision of about 25 cm was given just anterior to the left stifle joint. In view of the smaller size of the uterus, the enlarged uterine horn could not be exteriorised hence caesareotomy was resorted to remove the mummified foetus. Putriferous changes in the mummified foetus were absent.



Testicular Tumour in a Bullock

Abdul Ghani and P. E. Kulkarni

Government Veterinary Polyclinic Solapur and Punjabrao Krishi Vidyapeeth, Akola

A case of testicular tumour bullock is reported. Successful weighing 5.12 kg consequent to surgical procedure is described. castration with Burdizzo clamp in a



Modified Outrigger Method in the Treatment of Fracture

Abdul Ghani, P. E. Kulkarni and M. S. Dhakate

Govt. Vety. Polyclinic Akola, Solapur and Punjabrao Krishi Vidyapeeth, Akola

A modification in the outrigger method is described. Instead of using the pins and passing them through & through, in the present technique screws of sufficient length were used. Two or three screws were driven in either side of each of the fragment of the fractured bone. The method was successfully tried in two case each of fractured metacarpus & meta tarsus of three calves & a bull of two and half years of age.



A Porcine model for Experimental Extracorporeal Circuit

G. Arthur Vijayan Lal, B. Mohanachandran
G. S. Bhuvaneshwar, M. S. Valiathan

Sree Chitra Tirunal Institute for Medical Sciences & Technology, Biomedical Technology Wing,
Poojapura, Trivandrum-695 012

Various animal models are in use for experimental extracorporeal circulation for conducting open-heart surgery. For the first time, pig has been used as an experimental animal model for the evaluation of prosthe-

tic heart valves. Initial experiments conducted in our institute showed promising results. Details of the anesthetic techniques and the extracorporeal circuit used are described in this paper.



Experimental studies on duodenal bypass in relation to lean meat production and an animal model for gastric ulcers.

A. K. Bhargava, G. R. Singh, A. P. Singh I. V. Mogha, O. P. Paliwal, K. Charan
and G. S. Padda

Division of Experimental Medicine & Surgery
Indian Veterinary Research Institute, Izatnagar, U. P. 243122

Interaction of gastro-intestinal secretions containing vital substances with ingesta is one of the main important factors in maintaining digestibility. Change in the direction of flow of the biological fluids particularly alters the digestion and absorption of fat. Gastro-duodenal anastomosis and various ilio-jejunal shunt have been reported in human literature to reduce adiposity in the management of hypercholesteraemia and reversible atherosclerosis,

Duodenal contents are rich in enzymes, bile and histamin. It has been documented that duodenal content when injected into abomasum increases digestible secretions. In veterinary literature it has been reported in the treatment of abomasal atony. On the other hand reflux of bile into stomach from duodenum has been reported as one of the main etiological factors for inducing gastric ulcers.

Preliminary trials on 6 pigs, 3 calves, and 10 goats indicated that animals can stand the operation without danger to their life. The first two groups of study revealed that the procedure helped in the production of meat with less fat content. Interesting enough to note that animals with shunt demonstrated varying degree of gastritis and even the

formation of gastric ulcers. The study on goats is still under progress.

The present study was conducted to evaluate if partial bypass of duodenum can help in the production of lean meat or if it can help in the establishment of an animal model for inducing gastric ulcers on the basis of the hypothesis that bile predisposes gastric mucosa to form ulcers.



Metabolism of Glycoprotein during Wound Healing

V. P. Chandrapuria, S. K. Pandey and H. S. Kushwah

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

Influence of different local medicaments on the metabolism of glycoprotein (Free and bound hexosamine) was studied at various stages of wound healing on 25 male cow calves. The calves were randomly divided into five groups consisting of five animals in each group. Four deep rectangular cutaneous wounds of size 2.5 x 5 cm, were surgically produced on either side of the median dorsal plane of thoracolumbar region of the body, under the influence of anterior epidural anaesthesia using 2 per cent lidocaine hydrochloride solution. The wounds were numbered in sequence from one to four cranio-caudally and three wounds of either side were treated with Himax, Spectrocin-vet and Furacin-vet ointments respectively while the fourth wound was

kept as control and dressed with normal saline only,

The granulation tissues from these wounds were collected on 3rd, 6th, 9th, 12th, and 5th day from animals of group I, II, III, IV and V respectively. Ten percent tissue homogenate was prepared and free and bound tissue hexosamines were estimated.

An inverse reciprocal relationship was recorded between free and bound tissue hexosamines.

Low level of free tissue hexosamine was observed at early periods of healing which showed rise in later stages and revealed its non-utilization in later periods of healing process while a reverse trend was observed

with bound form. The high concentration of bound hexosamine at initial stages indicated increased secretion of mucopolysaccharide at early phase of healing.

It may be concluded that healing is proportional with the level of free hexosamine but reverse is true for the bound form.



Partial pneumonectomy in sheep under costal nerve blocks

Dr. S.S. Misra. M.V. Sc., Ph.D., and Dr. S J. Angelo, M.S, Ph.D., M R C.V.S.

Department of Surgery & Radiology, College of Veterinary Science, and Animal Husbandry, C.S. Azad University of Agriculture and Technology. Mathura-Campus, MATHURA-281002 (U.P.)

Selective ablation of a portion of a lung or lungs is occasionally a clinical indication and frequently may be very helpful in pathological or bacteriological examination of the tissue. This procedure may be well utilized for an antemortem diagnostic purpose in large herds of sheep for a disease or an outbreak.

In an experimental study on 12 rams, aged between 1 to 1½ year, cardiac lobectomy was done. In 6, it was done on the right cardiac lobe whereas in the other 6 on the contralateral lung. The parameters indicating physiological status of the animal were evaluated prior to surgical intervention. All the animals acted as controls in their pre-operative stages for the purpose of evaluation of the stress etc.

Each ram was administered anthisan 50 mg intramuscularly 20

minutes prior to surgery and Trifluorpromazine @ 1 mg per 5 kg body weight. The entire surgery was accomplished in the standing posture. On an extensively prepared thoracic wall for surgery, 4th, 5th and 6th costal nerves were blocked employing conventional techniques and those adopted by other workers in thoracotomies in buffalo calves. A linear infiltration with the anaesthetic on the proposed line of incision was also made. The line of incision extended anteroposteriorly from the rib 4th to rib 6th in a semilunar shape thus exposing the subcutaneous tissue, muscles and the ribs. The 5th rib was transected by means of a bone cutter and pulled apart. The cardiac lobe was exteriorised and held with a wet sponge and the relevant bronchus was ligated using a ligature right from its base and thereafter, ablated *en-masse*. Serial repair was done to

close the chest cavity. The transected rib was repaired with periostium against periostum by vetafil suture

material. Post-operatively, the animal received adequate dosage of antibiotic and antihistaminics till recovery.



Extraneous proctopexy technique for the management of rectal prolapse in animals

Dr. S. S. Misra and Dr. S. J. Angelo

Department of Surgery & Radiology, College of Veterinary Science and Animal Husbandry, C. S. Azad University of Agriculture and Technology, Mathura-Campus, Mathura-281002, U.P.

Rectal prolapse is probably one of the commonest encountered proctopathy of almost all species of animals. Slackening of the attachments of the rectal serosa with the perirectal tissue, seems to be the culminating factor in causing the condition

In contrast to the conventional surgical methods of management of rectal prolapse in various species by application of purse-string sutures, an extraneous rectopexy technique employing common surgical sundries was evaluated in bovines, equines, caprines, ovines and canines and was

found to be exemplary to immobilize the rectum *in-situ* and at the same time, obviating most of the complications and precautions inherent to the conventional techniques.

The technique essentially consists of application of a set or sets of specialized 'U' sutures, usually bilaterally dorsolateral and ventro lateral in direction. A quarter or half curved suturing needle of adequate size depending on the species and size of the animal and vetafil suturing material were the essential requirements together with small lengths of polyethylene tube.



Effect of partial castration on growth rate and meat quality in Goats

I. V. Mogha, A. K. Bhargava and G. R. Singh

Division of Experimental Medicine & Surgery, Indian Veterinary Research Institute, Izatnagar-243122, U.P.

The study was conducted on 23 Barbari male goats divided into three groups. Ten, 8 and 5 goats were utilized for bilateral partial castration, unilateral partial castration and control respectively. The animals were castrated by squeezing and removing the testicular pulp at the age of 7 to 10 days. The observation included total growth rate, epiphyseal union and carcass yield in terms of meat quality. The animals were slaughtered at the age of six months.

The results regarding dressing % and chemical composition were encouraging. All the chemical components increased in animals subjected for partial castration except

fat, which decreased in these animals as compared to control ones.

Monthly radiographs were taken in all the animals to assess the osseous development in relation to growth of the animals. The results showed faster growth in animals subjected for bilateral partial castration followed by unilateral partial castration and control group. The difference in growth rate among three groups was more in first three months than subsequent periods of observation. On the basis of these observations it may be concluded that partially castrated goats are more economical if they are utilized at the age of six months. The meat quality was also better in these animals as compared to non-castrated animals.



Experimental studies on intestinal obstruction in Sheep

Purohit, R. K. and Chouhan, D. S.

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

Experimental simple high and low intestinal obstruction was created in twenty animals. Blood samples were collected for haematological and biochemical estimations at 24 hour

intervals upto 96 hour. At 96 hours obstruction was released and follow up study was done for another 96 hours. Clinical symptoms were also observed during this period.

Biochemical studies showed that there were significant decrease in chloride and increase in blood urea nitrogen and total serum protein. Some changes were also observed in sodium, potassium, calcium and phosphorus. Haematological changes revealed significant increase in packed cell volume and haemoglobin in both the cases. Other blood parameters remained unaffected significantly e.g. total R. B. C. count, W. B. C., differential leucocytic count etc.



Chemical composition of buffalo uroliths and some observations of their occurrence in Andhra Pradesh.

K. Bhaskar Singh, S. Venkatasubaiah, Miss Nishat mukhlis and
I. V. Subarao

Veterinary Hospital, Nidubrolu Guntur district and Rudra Treer chemistry Lab.
Agricultural Res. Institute A. P. A. U. Rajendranagar, Hyderabad-30
Andhra Pradesh.

Observations were made in 42 male buffaloes in Guntur district of Andhra Pradesh from 1968 to 1974 which were suffering from obstructive urolithiasis. Fifty five percent of the animals belonged to 5 to 8 years of age group. Highest incidence of 19.06% was recorded during the month of December. 52.38% of the uroliths were lodged in glans penis. The weight of the calculi ranged from 140 mg. to 1150 mg.

The chemical composition of 20 uroliths were made and it was found out that all of them were positive for carbonates, calcium, oxalates, magnesium and phosphates. On an average the carbonates were 64.01%, calcium 28.6 %, magnesium 3.82% oxalic acid 0.349% and phosphorus 0.1630%. The remaining 3.058% may be moisture and other constituents.



Blood histamine and serotonin levels in limbs under tourniquet control in goats

A preliminary study

Gaj Raj Singh, U. S. Singh, I. V. Mogha and A. K. Bhargava

Division of Experimental Medicine & Surgery, Indian Veterinary Research Institute,
Izatnagar-243122 (U. P.)

Earlier, we observed a significant decrease in blood pH and increase in PCO_2 values in the extremity under tourniquet control in calves which suggests that buffer system of blood is disturbed in the involved extremity. Since histidine plays an important role as a buffer in maintaining blood pH, therefore, we evaluated blood histamine levels, which is derived from histidine by decarboxylation. Blood serotonin levels were also estimated simultaneously.

The study was conducted in six healthy adult goats. A rubber tourniquet was applied tightly above the elbow and stifle joints in fore and hind limbs respectively. Disappearance of pulse distal to tourniquet was taken as indication for the tightness of tourniquet. Venous blood samples were collected from the involved

extremity just before the application of tourniquet and at one hour and two hours after tourniquet application. Blood samples were also collected just after and 24 hours after tourniquet release. These samples were pooled with that of respective intervals and estimation for histamine and serotonin were done according to fluorimetric methods.

The results showed a significant gradual increase in the histamine levels after tourniquet application. A sudden fall in histamine level was noticed just after the release of tourniquet but thereafter blood histamine levels remained high upto 24 hours. No significant change was observed in blood serotonin levels in the extremity under tourniquet control.



Observations on the Effects of Graded Uraemia in Ruminants-Experimental Studies in Sheep

Jit Singh, A. P. Singh, P. K. Peshin, K. N. M. Nayer, Mohinder Singh Sandeep Sharma, and J. Lakharu,

Department of Veterinary Surgery & Radiology, College of Veterinary Sciences, Haryana Agricultural University, Hissar-125 004, Haryana

Pathophysiology of uraemia in ruminants is not understood so far. We have been conducting studies in sheep to investigate the effects of graded uraemia. The results of these studies are discussed.

Total nephrectomy in sheep caused metabolic alkalosis in the early stages followed by severe metabolic acidosis in the later stages. Slight decrease in paO_2 was accompanied by increased pvO_2 . The rise in blood urea nitrogen was of the order of 56 mg/100 ml/day. Creatinine increased significantly at all stages of observation. One of the interesting effects of total nephrectomy was the simultaneous fall in plasma calcium and inorganic phosphorus values. Undulating levels of plasma sodium were associated with hyperkalaemia and hypochloraemia. The fall in total proteins in the later stages of uraemia was due to hypoalbuminaemia.

The prominent features of uraemia due to urater ligation were

metabolic alkalosis at all stages of observation, unaffected paO_2 , significantly increased pvO_2 , decreased calcium and inorganic phosphorus levels, hyperkalaemia and unaffected sodium levels.

Urine-peritoneum created by reapture of urinary bladder resulted in metabolic alkalosis at all stages of uraemia, hyperkalaemia in later stages, hypochloraemia and non-significant decrease in plasma calcium levels. The plasma sodium and inorganic phosphorous values were not affected.

The results of these investigations showed marked species variations in response to uraemia. Further, it was seen that the site of cause of uraemia affected the pathophysiological changes. These results also showed that total nephrectomy was not a good model to study the changes during uraemia due to post-renal affections in ruminants.



Effects of Jejunal Strangulation Obstruction in Sheep dilemma of Metabolic Alkalosis in Ruminants

A. P. Singh, Jit Singh, P. K. Peshin, N. Venakataravannappa and Rishi Tayal,

Department of Vety. Surgery & Radiology, College of Veterinary Sciences, Haryana Agricultural University, Hissar-125 004, Haryana

Strangulation obstruction of jejunum was experimentally created in six adult sheep. Shock due to the strangulated bowel was associated with significant increases in arterial pH, HCO_3 and base excess. Arterial pCO_2 and pO_2 values were not significantly affected. Venous pO_2 values increased significantly intially but were unaffected later on. No

significant change was seen in plasma sodium and potassium concentrations. The fall in plasma chloride was not marked. The results of this study indicated that development of metabolic alkalosis in ruminants is far complex than supposed so far due to secretion of hydrochloric acid from abomasum.



Traumatic Lesions in the Teat and their repair in Experimental Goats

Th. N. K. Singh, J. Mohanty & A. K. Mitra

Department of Surgery, Orissa University of Agri. & Technology, Bhubaneswar

Experimentally created wounds and fistulae of 15 lactating she goats were successfully treated by using different techniques i. e., three layers of suturing using chromic catgut 3/0, immediate tubed pedicle grafting after repairing the musculovascular layer, immediate tubed pedicle grafting without repairing the musculovascular layer, pinch grafting after repairing the musculovascular layer and electrocautery of the tip of the teat. Drainage of milk from the teats

on alternate days through polythene tubes was done for all the groups and was continued upto the tenth postoperative day. The pedicle flaps measuring from 50 mm, to 60 mm, were prepared from the lateral aspect of the udder. In pinch grafting the small grafts measuring 3 mm diameter were obtained from the hairless concave surface of the pina. In case of immediate tubed pedicle grafting after repair of musculovascular layer one graft was rejected on the fifteenth postopera-

tive day. In pinch grafting all the grafts had taken except one which came off the bed along with the bandage. Islands of new epithelization were seen on the recipient beds on the twentieth postoperative day. In pinch grafting, biopsy materials were collected on the twenty-first day

whereas, in case of other remaining animals, biopsy materials were collected on the seventeenth day. Following electrocautery all the wounds at the tips of the teats were found to have complete healing on the tenth postoperative day.



Tensiometer for studying mechanical properties of linear skin wounds in dogs and buffaloes

Amresh Kumar, P.N. Kapoor and A.K. Sharma

Department of Surgery and Radiology, College of Veterinary Sciences,
Pantnagar, Nainital (U.P.)

A tensiometric technique was devised for the measurement of breaking and tensile strengths, extensibility and energy absorption of healing linear skin wounds in dogs and buffaloes. It is simple to operate and could be easily used in animals. The precision of equipment was evaluated on skin wounds made on the flank and neck regions, 7, 15 and 30 days after surgical procedure. The wounds were sutured with linen

thread and steel staples. There was a significant increase in breaking and tensile strength and extensibility and energy absorption at 15 and 30 days as compared to 7 days interval ($P < 0.05$). The values of these parameters was significantly greater in buffaloes than dogs at respective intervals. No significant difference in the mechanical properties of wounds sutured with staples and linen thread could be observed.



Venereal granuloma in a dog-Complete amputation of penis along with prepuce, Scrotum and testes

Dr. G.R. Patel, Dr. B.M. Jani and Dr. M.N. Mannari

Gujarat Veterinary College, Anand

An alsatian male dog of 3 years age was admitted to college hospital with a history of swelling on the serotum since last six months. Clinical examination revealed a large, nodular, ulcerated mass involving complete prepuce and glans penis. However testes were normal. The tumour mass which was about small coconut size was bleeding at places and maggot invasion had taken place. The animal showed signs of anorexia and cachexia. It was decided to perform complete amputation of penis along with prepuce, scrotum and testes followed by perineal urethrostomy.

The operation was performed under general anaesthesia with 6.5% Pentobarbitone sodium after premedication with largactil and atropine. Site right from umbilicus upto the perineum was prepared for aseptic surgery. A metal probe was passed all along the urethra. A skin incision

was made on the ventral midline beginning cranial to the prepuce and extending caudally along each side of the propuce, and scrotum to meet in the midline behind the scrotum. The prepuce and penis were then dissected from the abdominal wall. The spermatic cords were ligated and divided during the course of dissection. Before amputating penis blood vessels were ligated. The penis was then excised and bleeding from erectile tissues was controlled, by taking interrupted stitches using silk. A polythene tube was passed upto the bladder and was retained for a few days. The remaining skin incision was closed as usual. Routine post-operative care was taken especially to avoid excretion at the urethrostomy site. Skin sutures were removed after 10 days and animal was discharged. The histopathology of the tissues revealed transmissible venereal granuloma.



Unusual coprosthesis and megacolon in an Apso

P.N. Sahay, A.A. Khan, U.K. Deokiouliyar and L.L. Dass

Department of Surgery, Ranchi Veterinary College : Birsa Agricultural University,
Ranchi-834007. (Bihar)

A six and half year old Apso bitch was presented with history of intermittent spell of transient constipation and frequent anorexia. Medicinal treatment in the past week was of no avail. Sacral discomfort, straddled gait, abdominal tenderness on palpation and hard swollen mass in the middle and posterior abdomen were features on the day of examination. Scout radiographs revealed congregated faecal mass with bone splinters in the colon which was significantly dilated in its transverse and descending segments. Viability of colonic segment prompted colotomy with precautions to preclude perforation while removing the impaction. Clinical evaluation on 10th post-operative day indicated that recovery had proceeded uneventfully.



The Polyclinic Concept

Ballav Narayan Patro

Retired Director of Animal Husbandry & Vety. Services, Orissa, Cuttack

Sir Thomas Dalling, the then President of the Royal College of Veterinary Surgeons, in an investiture had advised 'Gentlemen, you have entered a noble and exalted profession. You will be famous, but do not expect to be rich.' The wheel of fortune of the profession has turned many times now and in the U. S. A. as in many European countries, the Veterinarian is looked upon as having joined one of the most paying profession.

The productive capacity of animals are constantly rising as also the monetary value. Due to intensive specialisation and introduction of sophisticated techniques, veterinary aid to ailing productive animals is increasing in efficiency and costs. Paying ability of animal owners is also rising. Better transport facilities enable owners to present animals in high technique infrastructured hospitals or hire mobile units to their doorstep.

The Polyclinic concept of reorganisation of veterinary hospitals is the answer to cater for this neo-requirement.

ORGANISATION

The Polyclinic should consist of specialised cells of veterinary Surgery, Medicine and Genital diseases. Investigation cell (Pathology, Parasitology, Bacteriology and allied specialisations) and also a specific cell for advice to animal owners in matters of feeding, breeding, organisation and available financial help from banking institutions for animal industry.

COORDINATION WITH GENERAL FIELD VETERINARIANS

Polyclinics shall work as the specialised arm of all general veteri-

nary dispensaries and hospitals in the predetermined neighbourhood. Technical informations, guidance etc are to be made available to the veterinarians in the field through technical seminars, workshops etc from time to time. Polyclinic staff are to ensure that the veterinarians within their jurisdiction of work are really getting themselves fully involved in the work of the polyclinic to give the best possible veterinary aid to the animal owner. The polyclinic shall be the forum where, through seminars, discussions, workshops etc there is exchange of informations between the field veterinarians, polyclinic staff and also the higher level specialists from the colleges, department, and all India research, extension or teaching institutions or organisations.



With best compliments from :

RABINDRA MEDICAL HALL

Centre for Human and Veterinary drugs

BAPUJI NAGAR, BHUBANESWAR