

abstracts and souvenir

second annual convention

indian society for veterinary surgery

department of surgery and radiology
college of veterinary sciences
**g b pant university of
agriculture and technology**
pantnagar-263 145
dist. nainital, india

28-30 november 1978



COMMITTEES

I. Reception, lodging and transportation:

Dr. H. C. Joshi, Professor & Head, Medicine	<i>Chairman</i>
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Dr. S.V. Vednare, Asstt. Prof. Gynaecology	”
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Sri M.S.A. Siddiqui, Transport Officer	”
Dr. R.K. Chaudhary, P.G. Student	”
Dr. S.K. Singh, P. G. Student	”

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Dr. M.P. Saxena, Assoc. Director, C.C.	<i>Member</i>
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Dr. S.K. Garg, Assoc. Prof. Virology	”
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IV. Boarding and inter-session tea

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Sri S.K. Sharma, Clerk-typist	„

VI. Organizing and Co-ordination Committee

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Dr. S.S. Singh, Director, Communication Centre	<i>Member</i>
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Dr. H. C. Joshi, Professor & Head Medicine	„
Dr. Amresh Kumar, Assoc. Prof. Surgery	„
Dr. Harpal Singh, Prof. & Head, Surgery	Organizing Secretary

PROGRAMME

November, 28th 1978 (Tuesday)

9.00 Registration at the College of Veterinary Sciences

INAUGURAL FUNCTION (Room No. 107 B)

10.30 to 10.40 am	Welcome address	Dr. I.P. Singh, Dean, V. Sc.
10.40 to 10.50 a.m.	Vice-Chancellor's Address	Shri N.S. Mathur, I. A. S.
10.50 to 11.20 a.m.	Inaugural address	Dr. B.K. Soni, Dy. Director General I.C.A.R.-Chief Guest
11.20 to 11.30 a.m.	Vote of Thanks	Dr. H.P. Singh, Prof. & Head Deptt. of Surgery & Radiology
11.30 to 11.45 a.m.	TEA	

SYMPOSIUM (Room No. 107 B)

TITLE : Surgical Technology Vis-a-vis Animal Productivity in the face of Livestock Development Programmes.

Chairman : Dr. B.K. Soni
Rapporteur : Dr. J. M. Nigam

11.45 to 12.05 p.m.	Keynote address.	Dr. R.P.S. Tyagi
12.05 to 12.25 p.m.	Management of Veterinary Clinic for effective surgical training	Dr. S.S. Rathor
12.25 to 12.45 p.m.	Role of instructional technology in improving surgical teaching.	Dr. M.P. Saxena
12.45 to 1.00 p.m.	Large Animal Surgical research Vis-a-vis animal productivity	Dr. J. Mohanty
1.00 to 2.30 p.m.	Luncheon intermission	

- 2.50 to 3.10 p.m. Constraints and their remedies in implementation of surgical programmes in field conditions. Dr. M.N. Mannari
- 3.10 to 3.20 p.m. Concluding remarks by the chairman.
- 3.20 to 3.30 p.m. Tea Break

SMALL ANIMAL SURGERY (Room No. 107 B)

Chairman : Dr. A.K. Bhargava

Rapporteur : Dr. M.D. Narkhede

- 3.30 to 3.40 p.m. Intestinal wound healing following electro-surgery in Canine. Dr. N.K. Khianey
Dr. B. Prasad
- 3.40 to 3.50 p.m. The effect of induced myocardial infarction on certain chemical constituents of blood and erythrocyte sedimentation rate in dogs. Dr. K. Sukumaran
Dr. M.R. Patel
Dr. S.C. Singh
Dr. I.C. Datta
Dr. S.K. Saxena
- 3.50 to 4.00 p.m. Histiocytoma in dogs. Dr. S.K. Pandey
Dr. L. B. Sarkate
Dr. M.R. Patel
- 4.00 to 4.10 p.m. Enucleation of eye ball with extirpation of lacrimal gland in dog. Dr. P. V. Narayana
- 4.10 to 4.20 p.m. Fibrous osteoma of the frontal bone in dog. Dr. S.K. Pandey
Dr. L.B. Sarkate
Dr. M.R. Patel
- 4.20 to 4.30 p.m. Studies on some biochemical changes in experimental small intestinal obstruction. Dr. S. C. Ojha
Dr. N.N. Khanna
Dr. F.H. Sarkar
Miss Vandna Patel

4.40 to 4.50 p.m. Open reduction of mid-shaft femoral fractures in dogs by a new device-An experimental study. **Dr. B. N. Gurudev**

4.50 p.m. Concluding remarks by the Chairman

29th November, 1978 (Wednesday)

ANAESTHESIOLOGY (Room No. 107 B)

Chairman : Dr. M.N. Mannari

Ropporteur : Dr. V. Rama Kumar

9.00 to 9.10 a.m. Equithesin with and without xylazine premedication in buffaloes. **Dr. Amresh Kumar**
Dr. Harpal Singh

9.10 to 9.20 a.m. Studies on ketamine anaesthesia in bovine. **Dr. S. C. Pathak**
Dr. J.M. Nigam

9.20 to 9.30 a.m. Evaluation of Xylazine hydrochloride in Camelus dromedarius **Dr. J.M. Nigam**
Dr. P.K. Peshin
Dr. S.C. Singh
Dr. B.A. Robinson

9.30 to 9.40 a.m. Blood gas and pH determination in buffaloes under halothane and ether nitrous oxide anaesthesia with special reference to thoracic surgery. **Dr. A. S. Bose**
Dr. R.N. Kohli

9.40 to 9.50 a.m. Ketamine anaesthesia in rabbits **Dr. Rakesh Kumar**
Dr. Amresh Kumar
Dr. Harpal Singh

9.50 to 10.00 a.m. Concluding remarks by the Chairman

RADIOLOGY (Room No. 107 B)

10.10 to 10.20 a.m.	Angiographic pattern in large animal fracture healing	Dr. V. Ramakumar Dr. B. Prasad Dr. R.N. Kohli
10.20 to 10.30 a.m.	Histopathological and blood pressure changes following myelography in caprine	Dr. I. S. Chandna Dr. R.P.S. Tyagi
10.30 to 10.40 a.m.	Eosinophilic panosteitis in dog	Dr. Harpal Singh Dr. Amresh Kumar Dr. P.C. Chaudhary
10.40 to 10.50 a.m.	Retrograde parotid sialo- graphy	Dr. J. M. Nigam Dr. D. Krishnamurty Dr. V. Ramakumar Dr. D.N. Sharma Dr. P. K. Peshin
10.50 to 11.00 a.m.	Normal radiographic anatomy of caprine chest	Dr. Bharat Singh Dr. Harpal Singh Dr. Amresh Kumar Dr. V.K. Sharma
11.00 to 11.10 a.m.	Special Radiological pro- cedures with special refer- ence to spinal angiography- a new approach for evaluat- ing neurological disorders- Guest lecture	Dr. A. K. Bhargava
11.10 to 11.20 a.m.	Concluding remarks by the Chairman	
11.20 to 11.30 a.m.	Tea break	

LARGE ANIMAL SURGERY I (Room No. 107 B)

Chairman : Dr. J. Mohanty
Rapporteur : Dr. S. C. Pathak

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|------------|-----------------------------|-----------------------------|
| 11.40 to | A study of the biochemical | Dr. K.L. Gera |
| 11.50 a.m. | constituents in the plasma | Dr. R.P.S. Tyagi |
| | and urine of normal and | Dr. J.M. Nigam |
| | stone former bovine | Dr. Sukh Bir Singh |
| 11.50 to | Seromucoid and glycopro- | Dr. Kuldip Singh |
| 12.00 p.m. | tein alterations in uroli- | Dr. K.L. Gera |
| | thiasis cases. | Dr. J. M. Nigam |
| 12.00 to | Bilateral ureteral obstruc- | Dr. S.S. Marudwar |
| 12.10 p.m. | tion due to calculi in a | Dr. M. D. Narkhede |
| | bullock | Dr. P.E. Kulkarni |
| 12.10 to | Surgical intervention in | Dr. P.V. Manek |
| 12.20 p.m. | abomasal displacement | |
| 12.20 to | Repair of diaphragmatic | Dr. D. Krishnamurthy |
| 12.30 p.m. | hernia in bovine-Trans- | Dr. K.S. Deshpande |
| | thoracic approach. | Dr. J.M. Nigam |
| | | Dr. P.K. Peshin |
| | | Dr. S.C. Singh |
| 12.30 to | Concluding remarks by | |
| 12.40 p.m. | the chairman | |
| 12.40 to | Lunch break | |
| 2.15 p.m. | | |

LARGE ANIMAL SURGERY II (Room No. 107 B)

Chairman : Dr. S.S. Rathor
Rapporteur : Dr. D. Krishnamurthy

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|-----------|----------------------------|---------------------------|
| 2.15 to | A new technique for | Dr. S. S. Marudwar |
| 2.25 p.m. | immobilization of bovine | Dr. P. E. Kulkarni |
| | limbs. | |
| 2.25 to | Use of methyl methacry- | Dr. Gajraj Singh ✓ |
| 2.35 p.m. | late (Technovit) as an ad- | Dr. A.P. Singh |
| | Juvent to intramedullary | Dr. A.K. Bhargawa |
| | fixation in goats. | Dr. R. Somvanshi |
| 2.35 to | Collagen extract in fra- | Dr. V. K. Sharma |

2.45 to	Problem of overgrowth	Dr. J. Lekharu
2.55 p.m.	on hooves in cattle	Dr. H.N. Sharma
2.55 to	The use of razor	Dr. S. Sahu
3.05 p.m.	dermatome	
3.05 to	Urinary calculi in	Dr. M. S. Deshmukh
3.15 p.m.	calves	
3.15 to	Concluding remarks by	
3.25 p.m.	the chairman.	
3.25 to	Visit to the University	
5.30 p.m.		

30th November, 1978 (Thursday)

LARGE ANIMAL SURGERY III (Room No. 107 B)

Chairman : Dr. J. M. Nigam
Rapporteur : Dr. O. Ramakrishna

9.00 to	Effect of partial method	Dr. Rakesh Kumar
9.10 a.m.	of castration on carcass	Dr. Amresh Kumar
	yield and quality of meat	Dr. Harpal Singh
	in goats	
9.10 to	Partial castration of bull	Dr. P.E. Kulkarni
0.20 a.m.	calves-A comparative	Dr. S.N. Patil
	study of different surgical	
	techniques.	
9.20 to	Perineal hernia in she-	Dr. M.N. Mannari
9.30 a.m.	buffaloes	Dr. R.R. Parsania
		Dr. K. Sukumaran
9.30 to	Scirrhus cord in bul-	Dr. V.R. Ashtekar
9.40 a.m.	locks	
9.40 to	A case of rectal leiomyoma	Dr. A.P. Bhokre
9 50 a.m.	in a bullock	Dr. B.B. Deshpande

LARGE ANIMAL SURGERY IV (Room No. 107 B)

Chairman : Dr. B. N. Patra

Rapporteur : Dr. G. David

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|------------|---|---|
| 10.10 to | Chronic tympany in cattle | Dr. J. Mohanty |
| 10.20 a.m. | associated with foreign
body | Dr. A.K. Mitra
Dr. K.B. Pande
Dr. A.K. Ray |
| 10.20 to | Constrictive pericarditis | Dr. O. Ramakrishna |
| 10.30 a.m. | in cows. | |
| 10.30 to | Esophageal fistula | Dr. B.P. Dandge |
| 10.40 a.m. | in sheep | Dr. S.S. Marudwar
Dr. P. E. Kulkarni |
| 10.40 to | Entero-anastomosis in | Dr. A.P. Singh |
| 10.50 p.m. | ruminants-a comparative
evaluation of six techniques | Dr. Gajraj Singh
Dr. A.K. Bhargava
Dr. R. Somvanshi |
| 10.50 to | Surgical treatment for | Dr. V. Rama Kumar |
| 11.00 p.m. | rupture of prepubic ten-
don in a buffalo | Dr. S.N. Sharma
Dr. B. Prasad
Dr. R. N. Kohli |
| 11.00 to | Clinical Surgery- | Dr. S.S. Rathor |
| 11.10 a.m. | Guest Lecture | |
| 11.10 to | Concluding remarks by | |
| 11.20 a.m. | the chairman | |
| 11.20 to | Tea break | |
| 11.30 a.m. | | |
| 11.30 to | Visit to the College of | |
| 1.00 p.m. | Veterinary Sciences | |
| 1.00 to | Luncheon intermission | |
| 2.30 p.m. | | |

PLENARY SESSION (Room No. 107 B)

Chairman : Dr. R.P.S. Tyagi

Rapporteur : Dr. Amresh Kumar

10:30 to 10:40	Constitutional	Dr. J. P. ...
10:40 to 10:50	...	...
10:50 to 11:00	...	...
11:00 to 11:10	...	...
11:10 to 11:20	...	...
11:20 to 11:30	...	...
11:30 to 11:40	...	...
11:40 to 11:50	...	...
11:50 to 12:00	...	...

SMALL ANIMAL SURGERY

1. Intestinal wound healing following electrosurgery in Canines

*N. K. Khianey and B. Prasad
P. A. U. Ludhiana*

Fourteen endson ileo-ileostomies in dogs were performed after electrosurgical and scalpel resection. The animals were sacrificed after 4 days to 90 days for gross, angiographic and histo-pathological studies. There was stenosis, peritoneal reaction and adhesions during early stages. Angiographic pictures were comparable to those of scalpel surgery apart from the slightly aggravated inflammatory changes at the early stages. Microscopically, epithelial regeneration was not complete till 30 days. Inflammatory reaction was more pronounced in the initial stage. Alkaline phosphatase activity was very low and became evident only at 15 days. Electrosurgical resection caused an initial delay in healing in different layers.

2. The effect of induced myocardial infarction on certain chemical constituents of blood and erythrocyte sedimentation rate in dogs

*M. R. Patel, S. C. Singh,
I. C. Datta and S. K. Saxena
College of Veterinary Sciences
& Animal Husbandry,
Jabalpur*

This study was aimed at exploring the possibilities of detecting the myocardial infarction at an early stage by producing the myocardial infarction experimentally and then estimating the levels of serum glutamic oxalacetic (SGOT) serum glutamic pyruvic transaminase

ding the changes in the erythrocyte sedimentation rate (ESR).

Fourteen apparently healthy dogs were selected and divided in to two groups-the control group and the experimental group. The dogs were divided into seven batches, each batch with a control and an experimental dog.

Under the strict aseptic precautions thoracotomy was performed through the 5th intercostal space on the left side and the anterior descending branch of the left coronary artery was ligated about 1.5 cm from its origin and distal to the exit of its first major branch, using silk thread, in all the dogs in the experimental group. The dogs in the control group also underwent similar operation except that in these dogs the silk thread was simply passed around the vessel but not ligated (sham operation). Venous blood from the cephalic vein was collected before operation from all the dogs and then at 0 hours, 4 hours, 8 hours, 12 hours, 16 hours, 20 hours, and 24 hours, respectively, from the batches, I, II, III, IV, V, VI and VII, after operation.

The estimations of the various parameters were carried out. It was found that SGOT, SGPT and LDH levels increased significantly above normal before 24 hours after the coronary artery ligation. The lactic acid, pyruvic and ESR did not show any significant increase within 24 hours following coronary artery ligation.

It was concluded that the myocardial infarction could be detected as early as 16 hours after the complete occlusion of the anterior descending branch of the left coronary artery when the LDH level suddenly increased above normal, supported by the increased SGOT level above 60 units which is suggestive of tissue necrosis. This conclusion could be confirmed at 24 hours when the SGPT level also increased significantly above 60 units.

Macroscopic appearance of the heart below the level

3. Histiocytoma in dog

*S. K. Pandey, L. B. Sarkate
and M. R. Patel
College of Veterinary Sciences
& Animal Husbandry,
Jabalpur*

A mongrel dog aged 4 years was presented with a growth on the prepubic region for last 8 months. The growth was noticed initially in a nodular form and tended to increase in size and was pedunculated, firmly adhered to the overlying skin and was ulcerated. The growth was removed by surgical excision under spinal anaesthesia. The growth was greyish red, rather soft in consistency and had uneven surfaces. The weight of the excised growth was 225 gms and measured 27×23 cms in length and width.

Microscopic examination revealed identical neoplastic cells in all the growth. The growth was present subcutaneously and there was no connective tissue capsule surrounding the infiltrative growth. Necrotic changes were present in the neoplastic tissue in the vicinity of the ulcer on the growth. Although neoplastic cells revealed slightly pleomorphism, they appeared rather uniform in size and shape. The cells showed a moderate to heavy infiltration and were round and polyhedral. The area of heavy infiltration appeared as compact cellular masses. The nuclei of the neoplastic cells were vesiculated, round or oval and solitary nucleoli were prominent. Fine granular chromatin was seen evenly dispersed in nuclei. The cytoplasm was plentiful and acidophilic in character. Mitotic figures were frequently present.

4. Enucleation of Eye ball with extraction of lacrimal gland in dogs

*P. Venkat Narayana
Veterinary Hospital,
Narayanguda, Hyderabad*

ssary to locate the lacrimal gland and extract the same along with the muscles of the eye ball. The operation should be done as quickly as possible and the cut edges are sutured by simple interrupted sutures without leaving any gauze packing in the orbit to remove it the next day. The bleeding will be stopped automatically after a few minutes. The blood collected in the orbit would be clotted and reorganized into granulation tissue. If the operation is done under strict aseptic conditions no complications are noticed and the sutured wound heals by first intension. The sutures can be removed after 7 days.

5. Fibrous osteoma of the frontal bone in dog

*S. K. Pandey, L. B. Sarkate
and M. R. Patel
College of Veterinary Science
& Animal Husbandry,
Jabalpur*

A mongrel dog nearly 6 years of age was brought to the Veterinary College Hospital, Jabalpur with a history of spontaneously developing hard swelling of midfrontal crest extending rostrally towards the fore-head. The swelling continued to increase gradually which resulted into constant shaking of head. The radiological examination revealed a dense radiopaque shadow.

The growth was removed by surgical excision under general anaesthesia. The growth was encapsulated with fibrous tissue and was attached to the upper third of the frontal bone. The attached portion of the frontal bone was almost absorbed and the pia-arachnoid and cerebrum was palpable after the removal of the growth. The weight of the excised growth was 405 gms and its long diameter was 29 cms and short diameter was 21 cms.

The microscopical appearance of the growth tissue stained with H. E. revealed it to be fibrous osteoma. The proportion of fibrous and osseous components differed in

different direction enclosed irregular spaces of varying sizes, containing bony plates within. Fibrous capsular part surrounding the bony plates showed fibrillar arrangement and was more cellular and stained darker with eosin than the lighter stained homogenous and less fibrillar centre of the stromal trabeculae. At places, smaller and narrower secondary fibrous strand extended from thick stromal septa and surrounded smaller bony plates.

In certain areas the proportion of the fibrous and osseous tissue was almost same. The fibrous stromal septa formed an irregular network and surrounded the bony plates developing within the spaces. In most of the cavities thin connective tissue formed the zone of transits between bony plates and fibrous capsule.

6. Studies on some biochemical changes in experimental small intestinal obstruction in dogs

*S. C. Ojha, N. N. Khanna,
F. H. Sarkar and
Miss Vandena Patel
Orissa Veterinary College,
Bhubbeswar and B.H.U.
Varanasi*

In view of the contribution by multiple factors in the fatality of intestinal obstructions, it was sought to determine the blood level of certain biogenic amines, plasma cortisol and the activity of certain enzymes, in order to correlate their significance in the disease condition. For this, two groups of adult mongrel dogs were subjected to open loop strangulation intestinal obstruction, out of which one received antibiotic treatment while the other did not receive any such treatment. In another group of dogs, simple intestinal obstruction was produced.

Plasma adrenaline level increased to a maximum of 46.93% in untreated and 71.12% in the treated group of strangulation obstruction at six hour interval. Its peak rise was only 33.33% at 24 hour interval in simple obstruc-

respectively at six hour interval, while it was increased by 55.86% only at 24 hour interval in simple obstruction group. Erythrocyte acetylcholine was increased to 32.28%, 74.12% and 83.87% in the untreated, treated and simple obstruction groups respectively before death. Blood histamine level showed a peak rise of 148.86% before death in the untreated group. In the treated group its peak rise was 96.79% at 36 hour interval and 164.92% before death in simple obstruction group. Serotonin also demonstrated a maximum rise of 52.65% and 60.33% in untreated and treated groups respectively where as it was increased to 111.21% before death in simple obstruction group. Like catecholamines, plasma cortisol also increased promptly upto 92.98% and 87.28% at 18 hour interval and six hour interval in untreated and treated groups respectively. Its maximum rise was 70.53% at 48 hour interval in simple obstruction group. SGOT activity was increased to a maximum of 129.21% in the untreated group, 86.22% in the treated group and 77.44% in simple obstruction group. Similarly, SGPT activity was also raised to 53.11% and 65.03% in the untreated and treated groups respectively and 23.93% in the simple obstruction group. Increase in alkaline phosphatase activity was observed to be 65.06%, 83.68% and 59.93% in the untreated, treated and simple obstruction groups, respectively.

7. After effects of spaying in bitches and cats

*Godfery David
Madras Veterinary College,
TAU, Vepery*

During the past five years the number of bitches and cats spayed is as follows :

	<i>Bitches</i>	<i>Cats</i>	<i>Total</i>
1. 1973-1974	46	46	92
2. 1974-1975	59	51	110

Spaying in the above cases was performed under barbiturate anaesthesia except in debilitated cases where gaseous anaesthetics were used. Oophorectomy was performed by the right flank single incision, muscle separation technique. The age group of animals spayed varied from 9 months to about six years. Animals of different breeds were brought for the operation.

A follow up and observation of most of the cases after operation revealed the following after effects. 1) Obesity, 2) Serosanguineous discharge at the time of oestrous in some cases, 3) Urinary incontinence. The paper deals with the discussion of the above after effects and the line of treatment.

8. Open reduction of midshaft femoral fractures in dogs by a new device—An experimental study

*B. N. Gurudev
Deptt. of Animal Husbandary
and Veterinary Sciences,
Karnataka*

The fractures of thigh bones due to severe crushing trauma sometimes end up in cosmetic disfiguration or euthanasia. Improved technique, involving prosthetic devices, suggest the feasibility of a new approach to this problem.

The surgical implantation of the prosthesis is very simple and whole operation takes about 90 minutes.

The salient feature of the prosthesis include early weight bearing, minimum chances of infection, absolute rigidity to the fractured ends, absence of external splintages and short hospitalization time.

The design, development, surgical implantation and evaluation of prosthesis are discussed in the paper.

The prosthesis is not claimed as a panacea for treating all bone fractures, however, its application to selected cases of fractures of other animals is worthy of

ANAESTHESIOLOGY

9. Equithesin with and without xylazine premedication in buffaloes

*Amresh Kumar and
Harpal Singh
G.B.P.U.A & T., Pantnagar*

Twelve healthy buffalo calves were randomly divided into three groups. Animals of the 3 groups received equithesin (chloral hydrate 28 gms, mag sulph. 14 gms; pentobarbitone sodium 3.25 gm and distt. water 500 ml) intravenously, equithesin plus atropine sulphate @0.04 mg/kg I.M. and equithesin, atropine plus xylazine @0.15 mg/kg I.M. respectively.

Equithesin decreased the heart rate, arterial blood pressure, respiratory rate and rectal temperature. The preadministration of xylazine caused a further decrease in the values of these parameters, however increased the duration of anaesthesia and recovery time significantly. The mean dose of equithesin in first group of animals was 115.45 ± 18.25 ml. This dose level was significantly reduced by xylazine preadministration.

Electrocardiographic abnormalities in both the groups included first degree A.V. block, sinus arrhythmia, wandering pace maker in S.A. node and S.A. block.

A slight decrease in total erythrocyte, leucocyte, haemoglobin and packed cell volume was observed one hour after equithesin administration. A significant increase in blood glucose, and a slight decrease in chloride and sodium and an increase in potassium followed equithesin administration. Changes in acidbase status included a significant increase in PaCO_2 and a decrease in pH and a

and a negative base excess.

The duration of anaesthesia varied from 35 to 110 minutes and recovery occurred in 2 to 5 hours in different groups. The muscle relaxation was rated good in all the animals. The preadministration of atropine decreased the amount of salivation observed in animals given equithesin alone.

10. Studies on ketamine anaesthesia in bovines

*S.C. Pathak and J.M. Nigam
H. A. U. Hissar*

Ketamine Hcl with and without premedication was evaluated in 60 male buffalo calves. Ketamine at the dosage rate of 2 mg/kg body weight i.v. produced rapid anaesthetic effect for short duration. Higher doses of 5 mg and 10 mg/kg. body weight i.v. aggravated the apneustic pattern of breathing, muscular tremors, rigidity of the limbs and was not found advantageous. All the protective reflexes were preserved. In animals given chlorpromazine plus ketamine, the above signs were reduced and the degree of muscular relaxation increased and the animals appeared comfortable, though the standing and recovery time was prolonged. Respiration decreased, heart beat and cardiac out-put increased, however, no change was noted in peripheral vascular resistance. There was transient neutrophilia and lymphopenia. Arterial blood pH dropped in chlorpromazine pretreated animals. Hyperglycaemia, increased activity of transaminases, alkaline phosphatase and LDH were observed from 24-48 hours after recovery, which returned to normal after 72 hours. There was no salivation and regurgitation in any animals. ECG changes were elevation and depression of S-T segments, T-wave changes and wandering pace makers. Sinus tachycardia was the commonest feature.

11. Evaluation of xylazine hydrochloride in Camelus dromedarius

Xylazine hydrochloride (Rompun) was given intramuscularly in twelve adult camels at the dose rate of 0.4 mg/kg body weight. Animals showed onset of weak time, down time, and complete recovery time in 8.571 ± 1.088 , 10.50 ± 0.632 and 150 ± 56.920 minutes respectively. Mild salivation was observed 15.25 ± 4.870 minutes after xylazine administration. Dropping of lips and kink of neck were observed after 11 ± 1.683 and 22.66 ± 3.930 minutes of xylazine administration. Xylazine produced excellent cutaneous analgesia for 60 to 90 minutes and complete relaxation of tail and anal sphincters for 45 to 90 minutes. There was decrease by 6.48%, 4.87%, 8.92% and 13.75% in red blood cells count, white blood cell count, haemoglobin percentage and packed cell volume, respectively in thirty minutes; although these decreases were not statistically significant. Neutropenia, lymphocytopenia and eosinophilia were also observed. Marked hyperglycemic effect of xylazine was also recorded. Respiratory rate and rectal temperature was not affected during period of investigation. Heart rate was decreased by 24.11% at 15 minutes interval which was followed by an increase till the end of the experiment i.e. 105 minutes. Central venous pressure was significantly high at 15 minutes interval and then showed tendency to fall, while mean arterial blood pressure significantly remained lowered during periods between 30 to 60 minutes and later showed tendency to rise. Electrocardiographic studies revealed; transient mild 1st degree A. V. Block and increase in duration of electrical systole followed by decrease. Ventricular depolarization and repolarization time was not affected. In four animals sinus arrhythmia, primary T-wave changes and wandering pacemaker in S.A. node were observed. S.A. Block with ectopic beats was recorded in three animals.

Xylazine hydrochloride at the same dose rate was also used as sole sedative and analgesic in eight clinical cases for following surgical interventions lasting for 25 to 50 minutes.

(1) Reduction and immobilization of mandibular

Xylazine provided an excellent sedation and analgesia in all the cases. Recovery was quick and uneventful.

12. **Blood gas and pH determinations in buffaloes under halothane and ether nitrous oxide anaesthesia with special reference to thoracic surgery**

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Tirupati & P.A.U. Ludhiana*

The present paper details a study on blood gases and pH determinations during halothane and ether nitrous oxide anaesthesia in buffaloes with or without thoracic surgery.

The work was undertaken in twenty buffaloes which were divided into :

- Group - I : Halothane Anaesthesia
- Group - I A : Anaesthesia maintained for $2\frac{1}{2}$ hours in six animals.
- Group - I B : Thoracotomy and/or pericardiectomy done in four animals.
- Group - II : Ether and nitrous oxide anaesthesia.
- Group - II A : Anaesthesia maintained for $2\frac{1}{2}$ hours in six animals.
- Group - II B : Thoracotomy and/or pericardiectomy was performed in four animals.

Induction was one by thiopental sodium. After intubation anaesthesia was maintained for $2\frac{1}{2}$ hours by using a closed circuite of Boyle's anaesthetic apparatus. Thoracotomy was done by giving positive pressure with ventilator in Group-I animals. In group-II animals positive pressure was maintained by compression of rebreathing of Boyle's apparatus. Blood samples were drawn anaerobically at half an hour intervals and analysed by using

thane and ether nitrous oxide anaesthesia with and without thoracic surgery was done in buffaloes. The blood Po_2 and PCo_2 tend to increase and pH to decrease during anaesthesia in both the groups. However, in those animals where positive pressure was maintained during thoracic surgery the blood Po_2 values and pH increased significantly and the PCo_2 values decreased. Animals which received positive pressure ventilation with ventilator during thoracic surgery showed well maintenance of blood oxygenation. On the contrary the oxygenation of blood was not effective in the animals which received positive pressure by manual compression of rebreathing bag.

13. Ketamine anaesthesia in rabbits

*Rakesh Kumar, Amresh Kumar
and Harpal Singh
G.B.P.U.A. & T. Pantnagar*

Intramuscular administration of ketamine hydrochloride @ 50 mg/kg immobilized the rabbits for 10-12 minutes. The preadministration of chlorpromazine or triflupromazine intramuscularly @ 2 mg/kg increased the duration of anaesthesia significantly. Inadequate muscle relaxation observed in ketamine alone was overcome by preadministration of chlorpromazine or triflupromazine. Ketamine produced a slight increase in heart rate, decrease in respiration and rectal temperature. Chlorpromazine or triflupromazine preadministration was followed by a decrease in heart rate and a further drop in rectal temperature and respiratory rate. Supplemental increments with ketamine @ 10 mg/kg increased the duration of anaesthesia and permitted the successful completion of surgical operations lasting for 60 to 75 minutes. Recovery in all the animals was smooth and uncomplicated.

RADIOLOGY

14. Angiographic patterns in large animal fracture healing

*Rama Kumar, B. Prasad and
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P.A.U. Ludhiana*

Angiographic pattern of fracture healing was studied on 36 clinically healthy buffalo calves. Uniform transverse fractures were created on the mid shaft of humerus and femur and repaired by intramedullary pinning. Vascular proliferation was apparent from 48 hours onwards. There was decrease in the remification resulting in obliteration of minute arterioles at the end of second week. The intensity of distribution of fine arterioles decreased further by third week. The remifying arterioles retreated to the periphery while the streaks of calcification (Lipping) were active from either side of the fracture line by 6th week. Arterioles surrounded the pouches of infection in the event of osteomyelitis.

15. Histopathological and Blood Pressure changes following Myelography in caprines

*I.S.Chandna and R.P.S.Tyagi
H.A.U. Hissar*

Radiological examination is an important aid in the diagnosis of conditions causing neurological locomotory impairment and spinal lesions. Plain radiography may be helpful in the diagnosis of fractures and dislocation of vertebral column, but the spinal cord compression and related changes are not diagnosed unless myelography is resorted to.

The myelographic agents cause slight effect immediately on the meninges but severe inflammation of the leptomeninges

In case of suboccipital myelography with Myodil, animals were slaughtered after one month and in lumbar myelography using Diaginol viscus the animals were sacrificed on 7th day to collect spinal cord segments for histopathological examination.

Myodil group sections showed the duramater thickened due to the presence of collagen fibers. In the ventral horn of graymatter the capillaris were congested and containing neutrophils in their lumen indicating the beginning of the inflammatory condition. The above changes were seen in cervical and thoracic region of the spinal cord but the lumbar region congestion and presence of neutrophils in the blood vessels.

Diaginol viscus group showed congestion of the blood vessels of the median septum. Small haemorrhages were seen just below the piamater. Duramater and arachnoid were normal.

The blood pressure changes following myelography were recommended by mercury manometer from the carotid artery. The recording with the injection of 'Lipiodal ultrafluid in subarachnoid space at the cisterna magna site showed an initial fall of blood pressure to 60 mm of mercury from a normal of 80 mm of mercury. This was followed by a gradual rise to 92 mm of mercury up to a period of 15 minutes. This rise upto 15 minutes was followed by a gradual fall and stabilization of pressure within a period of 40 minutes when it returned to near normal i.e. 78 mm of mercury.

Diaginol viscus group : The blood pressure recording from carotid artery after lumbar subarachnoid injection of Diaginol viscus and 1% Xylocain was similarly observed upto 40 minutes, when the blood pressure returned to almost normal. There was fall in blood pressure which was more marked upto 20 minutes. It dropped down

16. Eosinophilic panosteitis in the dog

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& P. C. Chaudhary
G.B.P.U.A. & T., Pantnagar*

Eosinophilic panosteitis, a disease of unknown etiology, affects the large breeds of dog mainly males in the age group of 5 to 24 months. It appears that the disease has not been reported in India so far. A case of eosinophilic panosteitis in a Great Dane dog is reported. An eleven month old male Great Dane dog with a complaint of shifting leg lameness of sudden onset was handled at the clinic in 1976. The clinical and laboratory findings were within normal limits except eosinophilia (16%) and relative lymphocytopenia (14%). Radiographic findings in all the long bones included irregular or patchy, ill-defined circumscribed sclerotic changes in the medullary canal, being more marked in diaphyseal region. The lameness subsided in about 10 days after treatment which included rest and intramuscular injection of 3 ml of Hostacortin (Hoechst) on first day followed by 2 ml per day for another 5 days. The follow up radiographic examination conducted 7 months later discerned the regression of medullary changes, however, the periosteal proliferation was found to be more distinct.

17. Retrograde parotid Sialography

*J.M.Nigam, D.Krishnamurthy,
V. Rama Kumar, D. N.
Sharma and P. K. Peshin
H.A.U. Hissar*

Retrograde parotid sialography by cannulating the parotid duct with a polyethylene catheter has been evaluated in cattle, buffalo, goat, sheep and donkey. The injection of 3 to 15 ml of sodium iothalamate was found to be adequate for visualization of glandular organisation.

detail. Occurrence of accessory parotid gland along with a separate duct in cattle has been reported for the first time.

18. Normal Radiographic anatomy of caprine chest

*Bharat Singh, Harpal Singh,
Amresh Kumar and
V. K. Sharma,
G.B.P.U.A & T., Pantnagar*

Normal radiographic Anatomy of the caprine chest was studied at the age of 4, 8 and 12 months in nine normal male kids of Berberi breed divided into three groups. Right lateral and dorsoventral radiographs of the thorax at the end of expiration were taken. Various parameters viz. thickness of thorax, length of heart, maximum width of heart in dorsal and lateral planes, distance between cardiac center and left and right thoracic wall, distance between cardiac apex and left and right thoracic wall, distance between cardiac base and right and left thoracic wall and anatomical position of heart were measured. The cardiac thoracic ratio was calculated by applying the following formula :

$$\text{Cardiac thoracic ratio} = \frac{\text{Maximum width of Heart}}{\text{Maximum width of thorax}} \times 100$$

The cardiac thoracic ratio ranges from 71.97% to 86.40% in different age groups of animals being highest in 4 month old group. The cardiac silhouette in the dorsoventral radiographs extended from the 2nd or 3rd intercostal space to 6th or 7th inter costal space more towards the left side from the midlines. In lateral radiographs the cardiac silhouette extended from the 2nd or 3rd intercostal space to the 6th or 7th sterna cartilage with the axis of the heart extending craniad and dorsad from the

19. Special Radiological procedures with special reference to Spinal angiography—A new approach for evaluating neurological disorders

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I.V.R.I. Izatnagar*

The failures in correct diagnosis of neurological disorders at early stages when the changes are still reversible limits for the success of surgical intervention and supportive therapy. In vertebral fractures, dislocations and even herniation of disc material, the extent of vascular involvement in such conditions has so far remained under-assessed.

The only means of differential diagnosis when plain radiography fails to reveal the pathological conditions is myelography. Because of the fact that contrast medium remains in meningeal spaces for a prolonged period and induces irreversible fibrotic changes, the procedure is being replaced by aqueous contrast media in combination with local anaesthetic which makes the procedure less pathogenic and time consuming. It also avoids the hazards associated with the use of iodinated salts. Efforts have also been made to replace myelography by intra osseous venography which helps in the evaluation of anatomical variations in intervertebral disc disease, spondylitis and dislocation of vertebrae.

The need of aortography either through carotid or femoral catheterization has been stressed for the diagnosis of embolism, aneurysm, parasitic nodules, renal disorders alongwith mesentric vascular anatomical studies, however, survey radiography of vertebral branches of aorta supplying on either side of vertebra has not been reported for evaluating pathological changes in bone and soft tissues of spinal region.

Observations are based on the evaluation of nintysix angiograms of cerebral, thoracic and abdominal regions obtained in six goats, ten rabbits, eight pigs and eight

Arteriography demonstrated clearly the major arteries emerging from aorta, common carotid on either side of spine traversing dorsally and terminating in most minute tributaries. Course and intervertebral spaces were practically identically parallel to anatomical relationships of spinal vertebrae. For each vertebral space a pair (on either side) of arterial supply was demonstrated. Emerging vessels made 'S' shaped curves extending dorsally and caudally before bifurcation and terminating in peripheral branches.

Visualization of arterial architecture in dorsal spinal region prompted us to believe that this might replace many of the complicated techniques like myelography or intraosseous venography for indirect evaluation of periarticular diseases/affection by demonstrating abnormalities in anatomical relationships of vertebral and arterial supply. The technique is relatively simple and convenient; and can be undertaken just under local infiltration and sedation required for exteriorisation of vessel.

LARGE ANIMAL SURGERY

20. Demineralization/Mineralization of urinary stones *in-vitro*

*R. P. S. Tyagi, K. L. Gera
and J. M. Nigam
H. A. U. Hissar*

Urinary stones removed from clinical cases of urolithiasis were incubated in a metabolic shaker for 10 days using normal urine and urine with different concentrations of calcium and magnesium. The role of different concentrations of calcium, magnesium and pH was studied. It was observed that percentage of demineralization was highest in the group in which calcium phosphate ratio was 1:1 and magnesium contents were double than normal. The demineralization was lowest in the group in which calcium-phosphate ratio was 1/2 : 1 and magnesium was double. In IIInd group for demineralization the calcium value has been increased so that the calcium phosphate ratio became 2:1 in the urine. In the other groups for decreasing demineralization, calcium phosphate in the ratio of 1:1 with doubled level of magnesium were added to normal urine.

The effect of pH of mineralization/demineralization was also studied using urine and distilled water. The pH was adjusted at 6.00 and 7.00. The maximum demineralization was in a group in which the pH of the urine was adjusted at 6.00, followed by the distilled water group whose pH was adjusted at 6.00. There was also demineralization in the distilled water with pH 7.00. Mineralization

21. A study of the biochemical constituents in the plasma and urine of normal and stone prone bovines

*K. L. Gera, R. P. S. Tyagi,
J. M. Nigam and
Sukhbir Singh,
H.A.U. Hissar*

Urine from the apparently healthy bullocks and stone formers was collected in the morning and evening and was pooled and analysed for calcium, inorganic phosphate, magnesium, creatinine sodium and potassium. It was observed that normal urine has more calcium but no calculi formation whereas stone formers has less percentage of calcium. It can be inferred that calciuria may not lead to calculus. There seems to be some role played by the concentration of magnesium in the urine, as the value of magnesium was comparatively less in the stone former. The excretion of phosphate was more in stone formers than normals. The excretion of potassium was found to be too less in the case of stone former urine and potassium may have same role for calculi formation.

Blood was collected in heparinized vials for plasma separation. The calcium content in the plasma was found to be less in the stone formers as compared to normal plasma. The magnesium and phosphate contents were found higher in stone formers than the normals. The sodium and potassium levels were more or less the same in both the categories of animals. The creatinine level was more in stone formers urine and may be as a result of retention of urine.

22. Seromucoid and Glycoprotein alterations in urolithiasis cases

*Kuldip Singh, K.L. Gera
and J.M. Nigam
H.A.U. Hissar*

The presence of organic matrix in renal concretions has been well established. This organic matrix is composed of combination of mucoproteins and mucopoly-
... .. initiates stone formation. Seroglyco

protein, mucoprotein and glycoprotein which include Hexose, Fucose, Hexosamine was undertaken in normal and urolithiasis cases.

Analysis of protein carbohydrates in plasma showed elevated levels of hexose, fucose and hexosamine levels while no significant differences in level of total protein and mucoprotein level. Tissue inflammatory and destructive processes associated with major changes in glycoprotein, regulatory function of liver may be contributory to variations observed.

23. Bilateral ureteral obstruction due to calculi in a bullock

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Narkhede and P.E. Kulkarni
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A case of bilateral ureteral obstruction in a 9 years old non-descript bullock was diagnosed on clinical examination. Anuria for last 10 days preceded by oliguria and frequent micturition was reported. The clinical syndrome included ruffled body coat, dullness, pale mucous membrane, body temperature 38.5°C, empty urinary bladder and non-distended abdomen.

Anuria, empty urinary bladder and absence of distension of abdomen due to accumulated urine were suggestive of bilateral ureteral obstruction. The diagnosis was confirmed on necropsy findings in which atrophy of left kidney and enlarged right kidney were seen. Both the ureters were completely obstructed at their middle third with groundnut seed sized calculi.

24. Surgical intervention in abomasal displacement

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Abomasal displacement was diagnosed in two buffaloes and one cow. One of the buffaloes having left side dis-

after 24 hours and she delivered a live calf, however, the animal died 8 hours post parturition. Right side abomasal displacement was observed in the second buffalo. Under local anaesthesia, right laparotomy was performed and the organ was repositioned after abomasocentesis. The condition occurred after 60 days and abomasopexy was performed. The recovery was uneventful. Left side displacement was observed in the cow and the animal was driven on rough road after loading in a truck. The animal recovered completely. The therapeutic regimen is discussed in detail.

25. Repair of Diaphragmatic hernia in bovines- Trans-thoracic approach

*D. Krishnamurthy, K.S.
Deshpande, J.M. Nigam,
P.K. Peshin and S.C. Singh,
H.A.U. Hissar*

Fifteen cases of diaphragmatic hernia in she buffaloes were treated successfully by thoracic approach. Resection of 6th rib was found to be ideal for repairing the rent in the diaphragm. However, in two cases the extent of herniation and severe adhesions demanded the resection of 5th rib also. No post-operative complications except transient signs of radial paresis for a very short period in almost all the cases were recorded in this approach. Combination of 6% chloral hydrate and 5% thiopentone sodium provided good anaesthesia for thoracotomy.

26. A new technique for immobilization of bovine limbs

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Krishi Vidyapeeth,
Krishinagar, Akola*

Restricting or preventing limb movements is important in treatment of fractures of bones, joint affections, and other such affections of limbs. Thomas

surgery. Inconvenience caused to the animal, total cost of treatment and interference in the treatment at the site of operation are the disadvantages of these methods. A new method is therefore felt necessary.

In this new method a hole is drilled through the insensitive horn of each claw. A strong wire is passed through the holes and the free ends of the wire are tied. The limb is flexed in all its joints. A cotton rope of $\frac{1}{2}$ inch diameter is passed through the wire loop and a sort of body truss is prepared. For the fore limb the rope is passed round the girth and tied fast so as to keep the limb in flexed position. For the hind limb the ropes pass from behind the point of hock, on either side of root of tail, over croup and lumbar. At this region they are crossed, passed on either side of flank, forward to inside of shoulder at point of elbow and then over the neck where the loose ends of the rope are tied in such a way as to keep in flexed position.

The new method has been tried in 30 different cases (Fracture of humerus-3; Luxation of shoulder joint-3; Ruptured flexor tendon-12; Fracture of Radius-2; Fracture of Metacarpus-4; Fracture of Femur-2; Luxation of hip joint-4).

Experience shows that the method is efficiently useful and highly economic and hence deserves wide trials.

27. Use of methylmethacrylate (Technovit) as an adjunct to intramedullary fixation- An experimental study in goats.

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A. K. Bhargava and
R. Somvanshi,
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Eighteen animals, divided equally in two groups, were used in the present experiment to evaluate the use of methylmethacrylate as an adjunct to intramedullary

as in second group the medullary cavity of the distal fragment was filled with freshly prepared methylmethacrylate dough before finally immobilizing it with K-Nail. No external immobilization was provided. Clinical, radiological and histopathological observations were made upto 75 days.

The results with the use of methylmethacrylate alongwith K-Nail were encouraging in the present investigation. The clinical symptoms showed no adverse reaction such as swelling or infection in both the groups, however, the normal functional status of the limb restored earlier in second group in which Technovit was used alongwith K-Nail. The radiographs taken at different intervals revealed periosteal proliferation as early as 15th post-operative day in both the groups. The subsequent radiographs demonstrated a large irregular callous with delayed union in first group, whereas in second group the callus was small and well organized. The deviation of nail from its original position was minimal in the animals where the acrylic cement was used along with K-Nail, whereas the nail remained constantly in motion throughout the period of observation in first group. The angiograms of different intervals showed no marked difference in the pattern of vascularity at the site of fracture in both the groups.

It was further observed that synthetic material did not induce any foreign body reaction which was also confirmed by the histopathological examination of prefemoral lymph nodes.

28. Effect of collagen extract on fracture healing in buffaloes

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Bharat Singh and
Amresh Kumar
G.B.P.A.U. & T., Pantnagar*

The applicability of collagen extract was evaluated in

ligamentum nuchii was injected at fracture site while the other three animals served as control. Fractures were immobilized with plaster cast incorporating with aluminium strips.

It was observed that clinical and roentgenological union of callous was better in animals carrying collagen extract which enabled the removal of fixation device on 6th week as compared to control animals where the cast was kept up to 10th week.

It appears that homogenous collagen extract has the potential to enhance osteogenic activity. Further investigation are being carried out.

29. Problem of overgrowth on Hooves in cattle

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Examination of 617 animals involving 50 cattle sheds revealed 363 animals affected with overgrowth of hooves, the percentage of incidence being 58.83%. The incidence of the disease was more in Jersey cross and other cross bred animals. Mostly aged animals were affected. The occurrence of the disease was higher in the fore limbs. All the animals were stall fed. Scissors feet, cork screw, stall claw and beak claw types of overgrowths were observed.

After trimming the overgrowth, one group of animals were maintained on the same type of floor as was before and without exercise, while the other group of animals were put to regular mild exercise and the animals were shifted to kacha floor. Recurrence within 2 and 3 months did not occur in the second group.

30. The use of a razor dermatome

*S. Sahu,
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of razor, the dermatome can be either of fixed type or adjustable one. An ordinary shaving blade, sterilised in 70% alcohol, serves to obtain split thickness skin grafts of about 3.5 cm in width containing epidermis and a portion of dermis.

This type of dermatome serves well in clinical practice and dispenses with costly dermatomes.

31. Urinary calculi in calves

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Occurrence of urinary calculi is one of the common surgical problems of both young and adult animals. Observations on urinary calculi in calves have been presented here. Symptoms of retention of urine in calves were dullness, straining, attempts to pass urine, struggling, violent movements of hind limbs, kicking at the belly, anuria, occasional rolling, grunting, partial rectal prolapse, twitching of penis and shaking of prepuse etc. Surgical and medical treatments have been resorted successfully. Following preventive measures were resorted to (1) provision of adequate fresh silica free water (free from calcium oxalates and phosphates) (2) avoiding of cotton seed feeding, giving less concentrate to discontinuance of protein (3) inclusion of 10% sodium chloride in ration (4) adding of broad spectrum antibiotics (tetracycline) in ration (5) prepalin 1 ml per day for a week followed by (6) Vita cod liver oil @ 2 dm/day orally for a week and (7) ammonium chloride @ one dm/day orally. Ailing calves were given sodium phosphate (mono-basic) orally and injection of pancreatic extract @ 5 ml I/V, successfully. The calculi consisted of calcium oxalate 15.64%, magnesium oxide 2.2% and remaining was organic matter. One calculi was found in ureter. Calcium content in consumed water was 100 mg/litre. Total hardness was 128 and permanent hardness being 95. Total solids were

calcium, magnesium, ammonium carbonate oxalate and phosphate. The concentrate consisted 0.3% phosphate, 0.9% oxalate, 1.5% calcium and 0.6% magnese. No greens were fed. Calves suckled their dams. One needs to be watchful regarding this malady.

32. Effect of partial method of castration on carcass yield and quality of meat in goats

*Rakesh Kumar, Amresh Kumar
and Harpal Singh
G.B.P.U.A. & T.Pantnagar*

Partial method of castration was performed in 12 Barberi male goats at the age of fifteen days, one month, two months and three months and the results were compared with three entire animals. The monthly body weight gain was more in one month partial castrates as compared with the other groups. The carcass yield was highest in animals castrated at one month, intermediate in three months partial castrates and lowest in entire animals. The weight of endocrine glands viz thyroid, adrenals and pituitary was highest in partial castrates.

The ash and protein contents were slightly higher and pH values lower in the muscles of partial castrates than entires. There was no appreciable difference in fat contents of various muscle samples in partial castrates and entire animals.

Aroma and flavour ranked good to poor in the order of one month partial castrates, two months partial castrates, entires, fifteen days partial castrates and 3 months partial castrates. The meat of one month and two months partial castrates was comparatively more tender, intermediate in entires and lowest in 15 days and three month partial castrates. Juiciness also ranked in the order of, one month partial castrates, two months partial castrates, entires, fifteen days and three months partial castrates. Overall palatability scores were the highest in one month

33. Partial castration of bull-calves-A comparative study of different surgical techniques

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Three techniques viz. Baiburtcjan's method, caudectomy and induced cryptorchidism were tried in 10 bull calves each. The Baiburtcjan's technique and caudectomy were performed as described by Baiburtcjan (1963) and Rosenberger and Krause (1959) but while inducing cryptorchidism it was experienced that the method described by Hudson et al (1968) required modification. Instead of placing two elastrators which slipped in calves, two mattress sutures with strong silk were placed 5 cms above the neck of the scrotum.

The techniques were compared for the quantity of local-analgesic required, time for surgical intervention and post operative complications.

It was observed that the technique of caudectomy described by Rosenberger and Krause (1959) surpassed the remaining two techniques in respect of simplicity and utility. It required least time with no post-operative complications.

34. Perineal hernia in she buffaloes

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Science and Animal
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Perineal hernia in she buffaloes has been reported for the first time in buffaloes. The herniation of fatty tissue occurs as a result of increased intra-abdominal pressure during last-trimester of pregnancy or around parturition. The four cases in which it has been reported, the content of the hernia was fatty tissue and the condition was seen

ted that as a result of increased intra abdominal pressure, there is over stretching of the pelvic pouch and atrophy of retractor ani muscle, consequent to this condition. Pelvic diaphragm gives way, as a result of which areolar tissue is being pushed out and is accumulated in the beginning lateral to the anus which gradually descends due to gravity and found lateral to the vulvar lips.

35. Scirrhus cord in a bullock

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A seven years old bullock, having swelling of right testes was reported for examination and treatment at veterinary polyclinic, Nanded.

The bullock was castrated at the age of five years and was in emaciated condition. The swelling persisted since one and half years. The animal was unable to work and completely lame. Per-rectal examination revealed small, round and hard numerous swellings at inguinal region. The case was diagnosed as "scirrhus cord".

The animal was operated with local infiltration of 2% xylocaine solution in lateral recumbancy. The scirrhus cord was fibrosed and calcified. The cord was ligated with chromic gut No. '2'. Excision of the scirrhus cord was done with the help of emasculator just below the ligated portion. The wound was treated as open wound. Daily dressing of the wound was carried out with the terramycine ointment and parenterally dicrystacine 2.5 gm was administered for five days. The animal made an uneven full recovery within one month after operation.

36. A case of Rectal leiomyoma in a bullock

A.P.Bhokre and B.B.Deshpande
M. A. U. Parbhani

rectal prolapse with ulceration. The animal was passing little quantity of faeces with tenesmus. The location of the tumour was eight inches inside the dorsum wall of rectum and below the sacrum. Surgical excision was carried out under epidural anaesthesia. The rectal wall was sutured with mattress sutures of chromic catgut No. 1/0. The animal made uneventful recovery. Histopathologically the tumour was confirmed as leiomyoma and weighed 283 gms.

37. Chronic tympany in cattle associated with foreign body

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Sixteen crossbred Jersey cows, one desi small sized good yielder cow, and one buffalo-cow were suffering from chronic tympany for more than a month. Treatment with antizymoties, stomachic, calcium and liver extract with vitamin B Complex was of no avail. The patients when subjected to metal detector reacted positively. Rumeno-tomy was performed in all. Most of the ruminal contents were removed. Varieties of metallic objects, sand and other materials were removed from the reticulum. Many were offending where as quite a number were not pointed. From two cows a tar mass and a mass of skin and intestines of a kid were brought out. In one cow a needle could be removed from the peritoneal cavity. During the post-operative period some of the patients were given a course of neurobion and tonophosphan. All the animals recovered completely.

38. Constrictive pericarditis-A report of three cases in cows

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perature, accelerated pulse and respiration, distended jugular veins, oedema of dependant parts, and increased area of cardiac dullness on auscultation of heart. Haemogram revealed anaemia, neutrophilia with regenerative shift to the left and lymphopaenia. Decreased total proteins, increased globulin, decreased albumin, and increased SGOT without much variation in SGOT and Alkaline phosphatase were the major biochemical changes observed. Skiagrams showed increased area of cardiac silhouette, and non-differentiation of heart, lungs and diaphragm.

Thoracotomy was performed by resecting the left 5th rib. The pericardium was fibrous and could not be lifted by tissue forceps. A 7 cms by 3 cms window was made in the pericardium below the left phrenic nerve. The pericardial sac was explored by digital manipulation and irrigated the sac with physiological saline with an antibiotic. The thoracotomy wound was closed by standard procedure. Two animals recovered uneventfully, while one animal died 14 hours post-operation.

39. Oesophageal fistula in sheep

*B.D.Bandge, S.S.Marudwar
and P. E. Kulkarni
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Surgical technology in the form of fistulation is widely employed in production studies. The main drawback in rumen fistula are comparatively large size of fistula and stabilization period allowed for return of ruminal function to near normal stage.

Oesophageal fistula has been used in sheep for different purposes in different countries. A heavy mortality in experimental animals has been reported. It was, therefore, thought to undertake further work in this area.

Canulae of three diameters (16 mm, 22 mm and 24 mm) with flanges of 6 cm and 7 cm length were used. It was

period of observation of 4 weeks. The sizes of the canulae were considerably bigger than the diameters reported earlier.

It was concluded that too small a size of the canula might be interfering with the passage of food and that the food accumulated between the canula and oesophageal mucosa might be pressing the suture line thus causing leakage and further complication. Through the oesophageal fistula the ruminal ingesta could be collected in quantities sufficient for rumen function tests in laboratories. The surgical trauma comparatively being small and the disturbances in ruminal environment being absent it is thought that the oesophageal fistula may replace the ruminal fistula in future.

40. Enteroanastomosis in ruminants-A comparative evaluation of six techniques

*A. P. Singh, G. R. Singh,
A. K. Bhargava and
R. Somvanshi,
I.V.R.I. Izatnagar*

Total of 456 enteroanastomoses were performed in equal number by single layer inversion (Connell suture and continuous lock stitch sutures), double layer inversion, Gambee's; and single layer and double layer eversion techniques in 30 male cow calves, at the rate of 10 anastomoses per animal using black silk No. 3/0. Six anastomoses of each technique were also performed for zero hour observations. The intestinal biopsy materials were collected on 1st, 3rd, 7th, 15th, 21st, 28th & 150th post-operative days. The evaluation of results with each technique was done on the basis of operative time, gross observations, luminal stenosis, bursting pressure, histologic examination and angiographic observations.

The results revealed that Gambee's pattern of anastomoses was the best among the techniques used in the present

and mucosal alignments with least fibrous tissue reaction. The resistance to disruption of anastomoses was also comparatively higher for Gambee's technique in comparison to others. Comparative evaluations showed the rating of different techniques of anastomosis on the basis of their merits in decreasing order as Gambee's single layer inversion (CLS), single layer inversion (Connell sutures), double layer inversion, double layer eversion and lastly single layer eversion. The single layer eversion technique was associated with marked adhesion formation, higher percentage of post-operative complications and maximum luminal stenosis with minimum bursting resistance. The healing of eversion anastomoses was also delayed as evident from incomplete restoration of muscularis and mucosal alignments with marked fibrous tissue reactions.

The long term macroscopic and microscopic observations revealed almost similar performance with all the techniques of anastomosis. However, the double layer inversion technique was associated with constriction of bowel lumen, while it was least in Gambee's technique.

41. Surgical treatment for rupture of prepubic tendon in a buffalo

*V Rama Kumar,
S. N. Sharma, B. Prasad and
R.N. Kohli, P.A.U. Ludhiana*

A case of unilateral (left) rupture of pre-pubic tendon in a 7 year old she-buffalo was recorded. The rupture was observed during the later stage of pregnancy. An 18" long irregular rent extending from the left inguinal region anteriorly was repaired under general anaesthesia in dorsal recumbancy. The postoperative complications and management are discussed.

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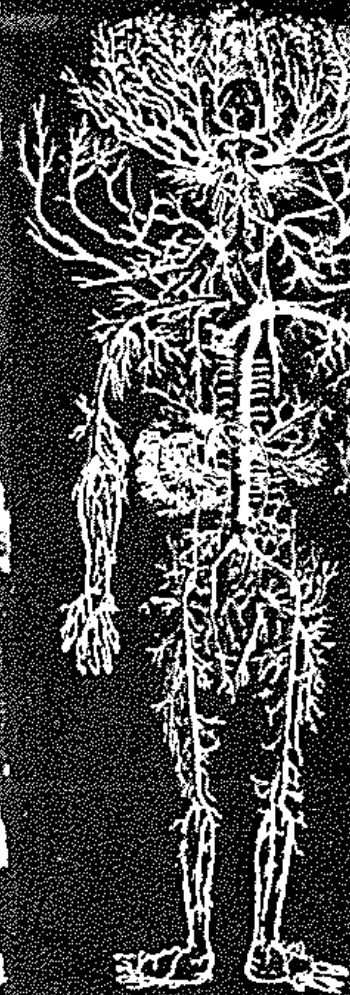
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