



**SEVENTEENTH ANNUAL CONGRESS OF  
INDIAN SOCIETY FOR VETERINARY SURGERY  
AND NATIONAL SYMPOSIUM ON  
'ADVANCES IN UDDER AND TEAT SURGERY IN RUMINANTS'**

February 17-19, 1994

**SOUVENIR & ABSTRACTS**



**DEPARTMENT OF SURGERY & RADIOLOGY  
COLLEGE OF VETERINARY SCIENCE & ANIMAL HUSBANDRY,  
C. S. AZAD UNIVERSITY OF AGRICULTURE & TECHNOLOGY,  
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is thankfully acknowledged.**

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Dr. S.S. MISRA

*Compiled and edited by*

Dr. R.P. PANDEY

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सन्देश

यह जानकार मुझे अत्यधिक प्रसन्नता हुई कि "इण्डियन सोसायटी फर वेटनरी सर्जरी" के सत्रहवें वार्षिक अधिवेशन एवं गोष्ठी का आयोजन दिनांक 17-19 फरवरी, 1994 को पशु चिकित्सा विज्ञान एवं पशुपालन महाविद्यालय, मथुरा प्रांगण मथुरा में किया जा रहा है। मुझे आशा है कि यह संस्थान पशुधन विज्ञान के उत्तरोत्तर विकास में योगदान देता रहेगा।

इस आयोजन की सफलता के लिए मैं अपनी हार्दिक शुभकामनायें प्रेषित करता हूँ।

मोतीलाल बोरा  
॥ मोतीलाल बोरा ॥

मनोहर लाल  
मंत्री,  
पशुधन एवं मत्स्य ।



विधान भवन,  
लखनऊ ।



--: संदेश :-

इण्डियन सोसायटी फार वेटनरी सर्जरी के सत्रहवें वार्षिक अधिवेशन एवं राष्ट्रीय गोष्ठी के पशु चिकित्सा विज्ञान एवं पशुपालन महाविद्यालय, मथुरा द्वारा आयोजन के अवसर पर मेरी शुभ कामनाएँ ।

मैं आशा करता हूँ कि राष्ट्रीय गोष्ठी में नवीनतम शल्य चिकित्सा विधियों पर चर्चा होगी जिससे पशुधन के स्वास्थ्य विकास तथा प्रदेश के आर्थिक विकास में भी निरन्तर बुद्धि होगी । देश की श्वेत तथा हरित क्रान्ति की सफलता बहुत कुछ पशुधन पर ही निर्भर करती है । अतः इस प्रकार के आयोजन हमें उस उत्कर्ष तक पहुँचाने की दिशा में महत्वपूर्ण कदम होते हैं, जहाँ पर हम पशुधन एवं उनके उत्पादों के सम्बन्ध में स्वालम्बी हो सकते हैं ।

इस अवसर पर प्रकाशित होने वाली स्मारिका की सफलता के लिए हार्दिक बधाई ।

। मनोहर लाल



डा० वी० पी० गुप्ता

एम०वी०एस०सी०, पी०एच०डी०  
निदेशक

पशुपालन विभाग, उ० प्र०

१४ फरवरी, १९६४

=: संदेश :-  
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अपार हर्ष का विषय है ' इण्डियन सोसायटी फर  
वेटरनरी सर्जरी ' का सत्रहवां वार्षिक अधिवेशन व राष्ट्रीय गोष्ठी  
का आयोजन इस वर्ष, प्रदेश में पशु चिकित्सा शिक्षा के अग्रणी केंद्र,  
पशु चिकित्सा विज्ञान एवं पशुपालन महाविद्यालय, मथुरा में किया  
जा रहा है ।

मुझे विश्वास है कि इस गोष्ठी में पशु चिकित्सा की नवीनतम  
प्रमात्रित विधियों पर चर्चा होगी जिससे प्रदेश के पशुधन के स्वास्थ्य  
एवं उत्पादकता में प्रत्यक्ष एवं परोक्ष रूप में वृद्धि होगी ।

इस आयोजन के अवसर पर मेरी हार्दिक शुभ कामनायें ।

( वी० पी० गुप्ता )  
निदेशक,  
पशुपालन विभाग,  
उ० प्र०, मथुरा ।



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**चन्द्रशेखर आजाद कृषि एवं प्रौद्योगिक  
विश्वविद्यालय, कानपुर-२०८ ००२**

दिनांक : 04-02-1994

सन्देश

यह बड़े हर्ष एवं गौरव का विषय है कि इस विश्वविद्यालय के मधुरा प्रांगण पर "इण्डियन सोसाईटी फार वेटेरिनरी सर्जरी" का सत्रहवाँ वार्षिक सम्मेलन एवं "एडवान्सेज इन अडर एण्ड सर्जरी इन रुमिनेन्ट" विषय पर राष्ट्रीय गोष्ठी का आयोजन किया जा रहा है।

मुझे पूर्ण विश्वास है कि इस अवसर पर पशु चिकित्सा के क्षेत्र में कुछ नये तथ्य उभर कर सामने आयेगे व कुछ अनुत्तरित प्रश्नों का भी समाधान हो सकेगा जिससे प्रदेश व देश के पशुधर्म के विकास में सहायता मिलेगी एवं पशुमालक लाभान्वित हो सकेगे।

इस विश्वविद्यालय की ओर से आयोजन के अवसर पर मेरी हार्दिक शुभकामनाएँ हैं।

॥ डी० सी० कुलश्रेष्ठ ॥  
कुलपति



## ORGANIZING SECRETARY WRITES....

Dear colleagues, guests and friends,

I feel elated to welcome you on the grand occasion of the 17th Congress of Indian Society for Veterinary Surgery and National Symposium on 'Advances in udder and teat surgery in ruminants' beginning this 17th day of February, 1994 at the College of Veterinary Science & Animal Husbandry, C.S.Azad University of Agriculture and Technology at Mathura-Campus.

The erstwhile U.P. College of Veterinary Science and Animal Husbandry, Mathura was established in the year 1947. Consequent to the formation of C.S.Azad University of Agriculture & Technology, Kanpur in the year 1975, the College of Veterinary Science & Animal Husbandry, became the Veterinary Campus of this University. The college campus is spread over a land area of 784 acres. The District Dairy Demonstration farm and Madhurikund farm are the components of the University at this campus.

The College of Veterinary Science, Mathura has been one of the first veterinary colleges in the country to institute combined course of veterinary science and animal husbandry at the degree level leading to the award of B.V.Sc & A.H. degree. The college also pioneered the introduction of post graduate education in many veterinary science subjects. The college, at present, comprises of 20 departments most to these are recognized for post graduate studies.

The Department of Surgery & Radiology came into existence w.e.f. 1951 and has been headed by eminent surgeons such as late Dr. C.V.G.Choudary; and late professor S.J.Angelo. The department has the distinction in that, the eminent administrators viz. Dr. R.P.S. Tyagi, Vice-Chancellor, Himachal Pradesh Krishi Vishwavidyalaya, Palampur, Dr. D.C. Kulshreshtha, Vice-Chancellor, C.S.Azad University of Agriculture & Technology Kanpur and Dr. J.N. Dwivedi, Dean of this college had been on the staff in this department.

The department commenced post graduate course in the year 1968; so far 1 M.V.Sc.s and three Ph.D.s have been awarded and further three Ph.D.s and seven M.V.Sc.s are enrolled at present. The department rendered clinical oriented research and some 200 papers have so far been published. Two such papers received Rao Bahadur Swaminatha Memorial Award for the best clinical article. The department conducted organized research on urolithiasis, traumatic pericarditis, horn cancer and utero vaginal prolaps. Misra's vaginopexy instrument and a sinus probe

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have received patent permission. The department is more or less a centre for applied clinical research.

I am grateful for the praiseworthy response allthrough from my colleagues in the country after fixation of the venue of the congress at Mathura during Calcutta conference, and this is how I could endeavour to do so. Excellent support and directions from the Vice-Chancellor, C.S.Azad University, Kanpur; the Dean, College of Veterinary Sc.& A.H., Mathura and my colleguas at this campus led us to hold this great congress and symposium at Mathura.

Limitations with us are well known to the fellow delegates and despite these and many odds we have assembled at this forum, goes to extend a great favour to me. I will remain apologetic for inconvenience to the delegates during their stay at Mathura.

I repeat to extend a very warm welcome to you all on this occasion.

**Prof. S.S. MISRA**  
Organizing Secretary

Mathura Feb. 14th, 1994

## THEME SESSION

(Session Sponsored by Sarabhai Chemical)

Chairman : **Dr. P.E. Kulkarni**

Rapporteur : **Dr. S.K. Chawla.**

Theme Paper : 'Economics of udder and teat surgery in bovines'

- Dr. J.M. Nigam

			Chairman
			LAS 1-
			LAS 2-
TS 1-	Successful surgical management of an unusual growth on the surface of teat in buffalo <i>S.N.Sharma; N.S.Saini and P.S.Simarn</i>	1	LAS 3-
TS 2-	Osteogenic sarcoma of udder in a crossbred cow- A case report <i>A.K.Ray; I.Nath and H.K.Mohapatra</i>	1	LAS 4-
TS 3-	An unusual foreign body in the teat canal of a goat <i>V.D.Aher; A.P.Bhokre and V.M.Solunke</i>	1	LAS 5-
TS 4-	Udder engorgement in a she goat <i>Ravisunder George; R.Srijayanath; S.Ayyappan; B.Balasubramanian; S.Thilagar and P.Dhanapalan</i>	2	LAS 6-
TS 5-	Bloodless surgery in blocked teat with the help of Lamlier tent <i>K.R.Patil and S.J.Bavishkar</i>	2	LAS 7-
TS 6-	Incidence of teat affections and their management in bovine and caprine <i>Mohinder singh; S.K.Sharma; A.C. Varshney and J.M.Nigam</i>	2	LAS 8-
TS 7-	A modified fenestrated polyethylene tube within the teat canal for postoperative drainage of milk in open teat surgery <i>S.V.Pandey and P.E.Kulakarni</i>	3	LAS 9-
TS 8-	A mixed teat tumour in a buffalo <i>V.D.Aher; L.B. Sarkate and S.D.Moregaonkar</i>	3	LAS 10-
TS 9-	A Pocrine metaplasia in mammary gland of sheep and goats <i>A.K.Garg; D.N.Sharma; A.K.Srivastave; H.Singh; D.Prakash and S.K.Vashishtha</i>	3	LAS 11-
TS 10-	A modified technique for the management of teat fistula in lactating goats <i>S.K.Srivastava; R.P.Pandey and S.S.Misra</i>	4	LAS 12-
TS 11-	Gross observations on the teat of buffalo ( <i>Bubalus bubalis</i> ) <i>R.S.Katiyar and M.Bharadwaj</i>	4	LAS 13-
TS 12-	Affections of udder and teats in bovines- A clinical survey <i>S.D.Sharma</i>	4	LAS 14-
TS 13-	Preliminary report on modified therapy with tri-sodium citrate in clinical mastitis in buffaloes <i>Ashok Kumar</i>	5	LAS 15-
TS 14-	Effect of tri-sodium per os on the pH of milk in cows <i>Ved Prakash and N.D. Sharma</i>	5	LAS 16-

## LARGE ANIMAL SURGERY

(Session Sponsored by BAIF Lab. Ltd.)

Chairman: Dr. O. Ramakrishna

Rapporteur: Dr. T.K. Gahlot

- |     |   |    |
|-----|---|----|
| 1-  | Dilatation and torsion of caecum in a bullock-A case report<br><i>R.W.Ashturkar; V.D.Aher and G.D.Mulay</i>   | 6  |
| 2-  | Retention of urine in camel ( <i>Camelus dromadarius</i> )<br><i>Govind Ram Chawdhary</i>   | 6  |
| 3-  | Seminoma in bullocks- A report of three cases<br><i>V.D.Aher; S.D.Moregaonkar and A.P.Bhokre.</i>   | 6  |
| 4-  | Freak of nature - A case report<br><i>S.K.Maiti</i>   | 7  |
| 5-  | Diaphragmatic hernia in Marathwada region<br><i>S.K.Jawalikar</i>   | 7  |
| 6-  | Surgical repair of ventral perineal cystocoele in a pregnant cow<br>- A case report<br><i>Malay Mitra; A.K.Maji and M.Hoque</i>   | 8  |
| 7-  | Intermandibular oral fistula in a buffalo-A case report<br><i>S.N.Sharma; Balwinder Singh and Sukhbir Singh</i>   | 8  |
| 8-  | Esophageal diverticulum due to foreign body in a buffalo<br><i>V.K.Sobti; N.S.Saini; K.I.Singh; P.S.Simran and P.S.Bansal</i>   | 9  |
| 9-  | Repair of flexor tendon contracture following sweery in a<br>thoroughbred filly<br><i>P.S.Simran and K.K.Gupta</i>  | 9  |
| 10- | A disability study of limb amputation in bovine by joint disarticulation<br>and bone amputation - A comparative study<br><i>S.Nayak and J.Mohanty</i>   | 9  |
| 11- | Nasal polyps in buffalo and goats<br><i>N.R.Purohit; D.S.Chauhan; A.K.Mathur and G.D.Sharma</i>   | 10 |
| 12- | Surgical management of phimosis in a mule- A case report<br><i>K.K.Gupta and Raghbir Singh</i>  | 10 |
| 13- | Surgical repair of atresia ani et recti with congenital ventral hernia in<br>two calves<br><i>R.Suresh kumar; K.Ameerjan; N.N.Balasubramanian; Archibald David;<br/>S.Thilagar and S.K.Guha</i> | 11 |
| 14- | Bovine papillomatosis-A study of two cases<br><i>K.Ramanujam; S.Ayyappan; R.Srijayanath and P.Dhanapalan</i>  | 11 |
| 15- | Congenital meningocele in a buffalo calf- A case report<br><i>S.Ayyappan; S.Balasubramaniam; A.Subramaniam; R.Srijayanath and<br/>P.Dhanapalan</i>  | 12 |
| 16- | Successful surgical management of intussusception in bullocks<br>-A report of three clinical cases<br><i>S.M.Utsurge; P.T.Jadhav; R.L.Dhoble and N.M.Markandeya</i>                             | 12 |

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LAS 20-	Bilateral empyema of guttural pouches in a mare- A case report <i>R.R.Parsania; K.Sukumaran; B.B.Patel; B.M.Jani; J.N.Mistry and D.R.Barwalia</i>	13	SAS 7-
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LAS 22-	Bilateral convergent strabismus with exophthalmia in crossbred Jersey cow <i>P.S.Bansal; V.K.Sobti; K.I.Singh and N.S.Saini</i>	14	SAS 8- SAS 9-
LAS 23-	Subclinical laminitis related hoof lesions and hoof biopsy in cattle <i>S.S.Singh; W.R.Ward and R.D.Murray</i>	14	SAS 10
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LAS 25-	Surgical anatomy of the spleen of goat ( <i>Capra hircus</i> ) <i>U.K.Bajapai and G.Chandra</i>	15	SAS 12
LAS 26-	Intussusception and volvulus as a complication of ileocaecal anastomosis in a horse <i>H.B.H.Al-Khatib; R.P.Pandey; B.Singh; S.U.Farooqui; V.S.Yadav; S.Babu; R.Saraswat and S.S.Misra</i>	15	SAS 13
LAS 27-	Surgical management of vulvar tumour in mare-A report of two cases <i>H.B.H.Al-Khatib; R.P.Pandey; B.Singh; S.U.Farooqui; A.K.Awasthi and S.S.Misra</i>	16	SAS 14
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LAS 29-	Haemangiosarcoma in the vagina of a mare <i>A.K.Awasthi; A.K.Srivastava and H.Singh</i>	17	

### SMALL ANIMAL SURGERY

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Rapporteur: **Dr. S. Thilagar**

Chairman

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## THEME SESSION

Chairman : Dr. P.E. Kulkarni

Rapporteur : Dr. S.K. Chawla

TS - 1

### SUCCESSFUL SURGICAL MANAGEMENT OF AN UNUSUAL GROWTH ON SURFACE OF TEAT IN A BUFFALO

S. N. Sharma, N. S. Saini and P. S. Simran

Deptt. of Surgery and Radiology, P.A.U. Ludhiana.

A buffalo aged 6 years, developed an ulcerative growth over a period of two years, involving more than half of the surface of teat. Animal was in its second lactation and there was difficulty in milking. Sometimes milk and blood were also oozing from the growth. Growth was surgically removed by fine dissection, which led to a teat fistula, which was closed by simple interrupted sutures. Histopathology of the resected mass revealed chronic suppurative inflammation alongwith healing tissue.

TS - 2

### OSTEOGENIC SARCOMA OF UDDER IN A CROSSBRED COW - A CASE REPORT

A.K. Ray, I. Nath and H.K. Mohapatra

Faculty of Veterinary Science & A.H. Bhubaneswar - 751003.

A crossbred cow aged about 5 years was presented to college clinics with the history of a growth over the udder and reduced milk yield since last two months. Clinical examination revealed a hard tumour like growth over the left hind quarter with involvement of udder tissue. The teat of the quarter was not affected and the milk was normal.

The growth was excised under sedation and local infiltration anaesthesia. Histopathological examination revealed it to be osteogenic sarcoma. There was no recurrence of the growth after 2 months of operation and normal milk yield was restored.

TS - 3

### AN UNUSUAL FOREIGN BODY IN THE TEAT CANAL OF A GOAT

V.D. Aher, A.P. Bhokre and V.M. Solunke

College of Veterinary and Animal Sciences, Parbhani - 431 402 (M.S.)

A two year old goat was presented to the College Polyclinic with the history of kidding one day ago and absence of letting down of milk from left teat. On examination it was diagnosed as imperforate teat orifice. The teat orifice was perforated with a 15 gauge needle and the teat was drained. During milking a fluctuating hard foreign body was observed in the teat. Attempts were made to remove the foreign body through teat orifice but it was slipping hence it was fixed at a point and open teat surgery was performed. The details of the operation are discussed .

TS - 4

### **UDDER ENGORGEMENT IN A SHE GOAT**

**Ravisundar George, R. Srijayanth, S. Ayyappan, S. Balasubramanian, S.Thilagar  
and P. Dhanapalan**

Resident Veterinary Services, Madras Veterinary College, Madras - 7.

A non-descript she goat aged 5 years was presented to the casualty section of Madras Veterinary College hospital with a history of udder engorgement and no let down of milk since a day. It was reported to have delivered two live female kids 3 days ago. Clinical examination revealed grossly distended elongated conical glands. The glandular tissue was soft and pliable. Teats were tense. Milk from both the glands could be ejected only by application of force at the base of the teat. A teat obstruction was suspected and the retained milk was drained by passing a sound through the teat orifice and kept in-situ. Milk flow was unhindered and appeared normal on physical examination. No microbiological contamination of the milk could be detected on analysis. The probable cause of udder engorgement is discussed.

TS - 5

### **BLOODLESS SURGERY IN BLOCKED TEAT WITH THE HELP OF LAMLIER TENT**

**K.R. Patil and S.J. Baviskar**

Veterinary Polyclinic, Dhulia (M.S.).

Lamlier Tent was used in 90 cases comprising 70 cows and 20 buffaloes. The blockage was at the tip of teat in most of the cases but in some cases it was upto the mid of teat. The insertion of the tent was carried out with proper aseptic precautions. Out of 90 cases treated 55 cows and 12 she buffaloes were fully cured. Remaining cases could not recover which might be due to mismanagement and negligence of the owners.

TS - 6

### **INCIDENCE OF TEAT AFFECTIONS AND THEIR MANAGEMENT IN BOVINE AND CAPRINE**

**Mohinder Singh, S.K. Sharma, A.C. Varshney and J.M Nigam**

College of Veterinary & Animal Sciences, Palampur - 176 062.

A total of 30 cases of teat affections were recorded at college clinic during the last five years in bovine and caprine. The age of these animals varied from 2 to 10 years and they were presented at 2nd to 7th lactation. Teat affections such as teat lacerations without perforation (13), blocked teat canal (7), teat fistula (6) and injury and stenosis of teat orifice (4) were encountered. Out of these mentioned cases, the complete healing with preservation of the quarter was achieved in 10 (77%), 3 (43%), 5 (83%) and 3 (75%) cases, respectively. Both conservative and surgical therapy was adopted to manage these cases. Traumatic injuries and faulty milking techniques were ascertained as the main etiological factors for these conditions. Recurrence and mastitis were the main post-operative complications observed in untreated cases.

TS - 7

## **A MODIFIED FENESTRATED POLYETHELENE TUBE WITHIN THE TEAT CANAL FOR POST OPERATIVE DRAINING OF MILK IN OPEN TEAT SURGERY**

**S.V. Pande and P.E. Kulkarni**

Animal Husbandry Department, Buldana (M.S.)

For avoiding manipulation of sutured wound edges during milking and for avoiding the leakages through the line of sutures following open teat surgery, milk was required to be drained out by resorting to use of rubber valve or polyethelene tube without cap or modified fenestrated polyethelene tube.

A polyethelene tube of suitable size and diameter perforated with a hot 14 gauge sterile hypodermic needle in such a manner that each opening was approximately at a distance of 1 cm and one opposite the other was used in 42 cases.

It was properly sterilised and passed into the teat canal, upto the base of the teat, keeping 3 cm part of the tube outside. The tube was removed on 4th day.

This tube was used only in fistulous teat wounds for providing continuous draining of milk without any accumulation over the rosette within the teat cistern. With the use of the fenestrate tube as described, it was observed that there was no accumulation of milk within teat canal and no swelling of the teat above rosette. The teat walls were in collapsible condition favouring the healing of suture line. Satisfactory results were obtained in all the 42 cases.

TS - 8

## **A MIXED TEAT TUMOR IN A BUFFALO**

**V.D. Aher, L.B. Sarkate and S.D. Moregaonkar**

College of Veterinary and Animal Sciences, Parbhani (M.S.).

A 10 year old Jaffrabadi buffalo was presented to the Veterinary Polyclinic, College of Veterinary and Animal Sciences, Parbhani with the complaint of enlarged hard growth on right fore teat since 2 months. On examination it was found to be tumor hence radical removal of the growth alongwith mamary tissue was carried out. Histopathological examination revealed it to be a mixed tumor.

TS - 9

## **APOCRINE METAPLASIA IN MAMMARY GLAND OF SHEEP AND GOATS**

**A.K. Garg, D.N. Sharma, A.K. Srivastava, H. Singh, D. Prakash and S.K. Vashistha**

College of Veterinary Science and A. H., Mathura - 281 001.

Apocrine metaplasia was observed in mammary gland of one sheep and 16 goats on examination of udders of 913 sheep and 2315 goats in abbatoirs. The affected udders were slightly indurated and had coarsely granular cut surfaces. Microscopic lesions featured by dilatation of ducts, ductules and acini with or without increase in inter and intralobular connective tissue. The dilated ducts and ductules were lined by tall columnar epithelium with knob like structures at their apex having eosinophilic granular cytoplasm with basilar nuclei.

TS - 10

## A MODIFIED TECHNIQUE FOR THE MANAGEMENT OF TEAT FISTULA IN LACTATING GOATS

S.K. Srivastava, R.P. Pandey and S.S. Misra

College of Veterinary Science & A.H., Mathura - 281 001 (U.P.).

An open teat surgery with normograde indwelling catheterization using latex tubing (5 mm OD) was found to be compatible with the teat texture of the goat. The anchorage of the indwelling catheter with sutures and additional tube connections were advantageously dispensed away. Uneventful healing with conventional and desired parenteral and intramammary medications was observed by seventh post-operative day. The technique was evaluated in five clinical cases.

TS - 11

## GROSS OBSERVATIONS ON THE TEAT OF BUFFALO (*Bubalus Bubalis*)

R. S. Katiyar and M. Bharadwaj

College of Veterinary Science & A.H., Mathura.

A total of 95 teats were collected at random from 2 immature, 12 lactating and 14 non-lactating buffaloes and one immature male buffalo. The weight, length and diameter of the teats were recorded which ranged from 5.8. to 33.7 gm, 2.5. to 5.8 cm and 0.8 to 4.2. cm respectively. The teat was opened and the length of streak canal and teat cistern were measured. The buffalo teats were cylindrical to conical in shape, having a large base attached with the udder and an apex at which the streak canal opened. The teats were covered with smooth and generally non-hairy, dark coloured skin which was marked by polygonal or diamond shaped wrinkled areas. Grossly, the teat wall consisted of an inner mucosal lining, the middle musculo-vascular layer and the outermost integumentary covering. The cavity of the teat was divided into a larger teat cistern and a terminal streak canal. The folds of the Furstenberg rosette continued proximally as longitudinal mucosal bands. Generally, a single teat cistern opened to the exterior through a single unbranched streak canal, however, occasionally this pattern differed in different animals.

TS - 12

## AFFECTIONS OF UDDER AND TEATS IN BOVINES- A CLINICAL SURVEY

S.D Sharma

College of Veterinary Science & Animal Husbandry, Mathura.

A surveillance of clinical records of dairy farms and field hospitals of Mathura district revealed 41.35 and 42.8 per cent incidence of udder diseases in farm and 18.76 and 9.05 per cent in field in cow and buffalo, respectively. Disease - wise distribution was recorded as mastitis (9.34 & 4.60 %), teat injury (3.36 & 1.90 %),agalactia (1.39 & 1.14 %), fibrosed udder (1.02.& 0.26 %), teat obstruction (0.95 & 0.17 %), blood in milk (0.66 & 0.10 %), udder edema (0.51 & 0.23 %), udder abscess (0.44 & 0.09 %), eruptions/udder impetigo (0.58 & 0.36 %) and pox (0.58 & 0.18 %) in cow and buffalo in field conditions. On the farms, the disease-wise incidence was mastitis (6.9 & 7.84 %), teat injury (20.15 & 11.10%) agalactia (1.8 & 17.97%), fibrosed udder (2.55 & 3.43 %), teat obstruction (1.95 &

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0.65 %), blood in milk (2.4 & 0.16 %), udder edema (1.8 & 0.49 %), udder abscess (0.60 & 0.65 %), and eruptions (3.15 & 0.49 %), in cow and buffalo respectively.

The difference between two conditions of management was highly significant and the incidence was also found to be influenced by year, months and season, highest in winter and lowest in rains.

TS - 13

### **PRELIMINARY REPORT ON MODIFIED THERAPY WITH TRISODIUM CITRATE IN CLINICAL MASTITIS IN BUFFALOES**

**Ashok Kumar**

College of Veterinary Science & A.H., Mathura (U.P.).

Mastitis is a big hurdle in the development of the dairy industry due to involvement of microbes and frequent development of resistance. Chemotherapeutic treatment of mastitis has not been successful to desirable extent. Physiological pH of milk (6.5) to be considered unsuitable for multiplication of bacteria. With this idea, trisodium citrate was included in modified integrated therapy with a dose rate of 10 gm. daily orally in water for a period of 5-6 days, which corrected citrate content and pH of milk. Hence, a modified therapeutic schedule comprising of an appropriate broad spectrum antibiotic (best selected on the base of drug sensitivity and diffusability,) Levamisole (Immuno potentiator) and trisodium citrate was tried and found more effective and it reduced the recovery period. Extensive work is under way.

TS - 14

### **EFFECT OF TRI-SODIUM CITRATE PER OS ON THE pH OF MILK IN COWS**

**Ved Prakash and N.D. Sharma**

College of Veterinary Science & Animal Husbandry, Mathura (U.P.).

Effect of oral administration of tri-sodium citrate on the milk pH of 10 cows suffering from mastitis was studied. The pH of the milk in these cases ranged between 6.7 to 9.1. Tri-sodium citrate at a dose rate of 30mg/kg body weight (total dose not less than 12 gm per animal) was administered once daily orally in 250 ml distilled water. The treatment continued for 5-8 days. A gradual decrease in milk pH was recorded from 4th day and normalcy was attained by 7th to 8th day post treatment. The milk pH was recorded to be in the range of 6.5 to 6.6 following the treatment.

## LARGE ANIMAL SURGERY

Chairman : Dr. O. Ramakrishna

Rapporteur : Dr. T.K. Gahlot

LAS - 1

### DILATATION AND TORSION OF CAECUM IN A BULLOCK - A CASE REPORT

R.W. Ashturkar, V.D. Aher and G.D. Muley

Veterinary Dispensary, Dharmabad (M.S.)

A non-descript bullock aging 10 years and weighing about 300 kg was reported ailing at Veterinary Dispensary, Kini, Tq. Bhokar Dist. Nanded. The animal was having anorexia, colic pain and was straining severely for defaecation. The bullock was treated symptomatically without any improvement. Per rectal examination revealed empty bowel with mucous stained to the hand. A soft fluctuating mass of the size of foot ball was palpated at the level of right flank extending upto pelvic brim. The right flank laparotomy was performed routinely. The examination of the mass revealed a twist at the ileo-caecal junction. The caecum was distended containing gas and ingesta. The distended caecum was exteriorised and caecotomy was performed at the most dependent part, and the twist was corrected. The animal showed uneventful recovery after a week.

LAS - 2

### RETENTION OF URINE IN CAMEL (*Camelus dromedarius*)

Govind Ram Choudhary

Veterinary Hospital, Kuchaman City, Nagaur.

The study was conducted on eight clinical cases of retention of urine in male camels.

Haematological and biochemical changes (Pre and Post Operative ) were also studied. A post scrotal urethrostomy was carried out under epidural anaesthesia. Subcutaneous infiltration of urine caused extensive necrosis which was treated as per general principles.

A significant rise was observed in concentration of Blood Urea Nitrogen, serum creatinine, serum calcium, potassium and magnesium whereas significant decline was observed in the values of serum phosphorus, chloride and sodium. These values regained gradually to normal levels post operatively.

The chemical analysis of calculi revealed it to be composed of calcium carbonate, phosphate and organic matter.

LAS - 3

### SEMINOMA IN BULLOCKS - REPORT OF THREE CASES

V.D. Aher, S.D. Moregaonkar and A.P. Bhokre

College of Veterinary & Animal Sciences, M.A.U. Parbhani- 431 402 (M.S.)

Three non- descript bullocks aging between 8 to 13 years were presented to the Veterinary

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polyclinic with the history of castration and complaint of enlarged pendulous scrotum. This condition was existing since last 1-2 years. Clinical examination revealed that in all the cases one testicle was of small size while other was hard and very much enlarged. The swelling was hot and painful. Paracentesis of the swelling revealed blood tinged fluid.

The enlarged testicle was removed surgically and examined for gross and microscopic changes. Histological examination of tumor revealed seminoma. Severe traumatic injury while performing castration could be the factor responsible for the seminoma in the present cases under report.

AS - 4

### **FREAK OF NATURE - A CASE REPORT-**

**S.K. Maiti**

Directorate of Veterinary Services, Govt. of West Bengal.

A non-descript four year old cow was presented as a case of dystokia. The gestation period was complete and signs of impending parturition were observed. Laparo-hysterotomy was performed through left-flank under local infiltration analgesia and sedation. The foetus was a monster. It had only two fore-limbs, a head and two large voluminous sacs lying side by side. Head was elongated and swollen having protruding oedematous tongue and cleftpalate. Both the fore-limbs were swollen with sign of putrefaction. There was no neck. Largest sac contained large volume of oedematous fluid and undeveloped/undifferentiated digestive and uro-genital system. Liver and kidneys were absent. Atypical, swollen smaller sac resembled to thoracic cavity as it contained undeveloped lungs and heart and also large volume of fluid. Weight of this monster was more than 20 kg.

AS - 5

### **DIAPHRAGMATIC HERNIA IN MARATHWADA REGION**

**S. K. Jawalikar**

Bull Rearing Centar, Harsool, Aurangabad. (M.S.)

Investigations were carried out on 3133 cases of ruminal disorders reported at 7 Veterinary polyclinics in Marathwada region during the year 1985 to 1988, to study the incidence etiology, symptomatology, haematology and biochemistry of diaphragmatic hernia in bovines. Out of 3133 cases, 164 cases of ruminal disorders were reported in Buffaloes while 880 cases were recored in cows. The maximum incidence was observed in females (2461 cases) then males (403 cases). Out of these 121 cases were diagnosed as Traumatic Reticulo Peritonitis of which diaphragmatic hernia was recorded in 119 cases. The incidence of diaphragmatic hernia was high in buffaloes (83 cases) then cattle (36 cases). Again females (107) showed highest record of diaphragmatic hernia between the age group of 6 to 10 years. Penetrating lesions of foreign body, physical forces such as pregnancy, parturitions, and tympany were major contributing factor for causation of diaphragmatic hernia. The cases showed partial or complete anorexia, emaciation and dehydration. Chronic recurrent tympany was persistnt feature. Hypermotility and gross distension of rumen was observed in some cases. Majority of the cases were having scanty and constipated faeces, whereas diarrhoea was noticed in

a few cases. The milk yield was drastically reduced. Haematological studies revealed decrease in packed cell volume with no change in total erythrocytic count and slight lowering of Hb values. The serum chemistry revealed significant increase in serum calcium and phosphorus with no difference in sodium and chloride values. Diagnosis of diaphragmatic hernia was made by physical examination, history and characteristic symptoms, radiology, and exploratory laparorumenotomy. Plain radiography is sufficient to diagnose diaphragmatic hernia with characteristic features like discontinuity of the diaphragm, and reticular shadow in chest cavity with metallic object. Laparo rumenotomy gives valuable information about the nature of the disease.

LAS - 6

### **SURGICAL REPAIR OF VENTRAL PERINEAL CYSTOCELE IN A PREGNANT - COW A CASE REPORT**

**Malay Mitra, A.K. Maji and M. Hoque**

Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia - 741 252 (W.B.)

Perineal hernia in males is common but rare in females because of stronger and more adherent levator ani muscle. A 4 months pregnant Haryana cow of 5 years of age with a swelling of the size of a football on the right ventral aspect of vulval lips for two months was brought to the treatment extension camp of BCKV. Bowel movement and defecation was normal. The animal urinated on applying pressure on the swelling and was diagnosed as perineal cystocele. It was operated on left lateral recumbency under caudal epidural anaesthesia and triflupromazine tranquillization. The defect in the pelvic diaphragm was corrected on modified line of Moltzen- Nielsen's method in canine. The wound was dressed with povidone iodine ointment for 8 days and oxytetracycline long acting was given i/v at 3 days interval upto 6th post-operative day. The skin sutures were removed after 10th day of operation. The cow delivered normally and remained healthy.

LAS - 7

### **INTERMANDIBULAR ORAL FISTULA IN BUFFALO-A CASE REPORT**

**S.N. Sharma, Balwinder Singh and Sukhbir Singh.**

College of Veterinary Science, PAU, Ludhiana - 141 004

An unusual case of oral fistulation in the intermandibular space was repaired surgically. The fistulation developed subsequent to a diverticulum which was present for the last one and a half years. Repair was undertaken under deep sedation and local analgesia. Fistulous tract and fibrous tissue was completely excised and the opening was sutured in three layers. In addition to the routine post-operative treatment, animal was not given oral feeding for 3 days and was maintained on parenteral fluid therapy. This was followed by a green fodder allowance and molasses. The animal recovered without any complications.

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**OESOPHAGEAL DIVERTICULUM DUE TO FOREIGN BODY IN A BUFFALO**

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

College of Veterinary Science, PAU, Ludhiana - 141004

A buffalo aged 7 years had a hard swelling in the mid neck on the ventral side which developed gradually in the last 7 days. Regurgitation occurred as and when animal took water. Plain radiograph revealed a sharp angulated foreign body lying at the level of 4th cervical vertebra. Barium meal radiograph indicated a big pouch in the oesophagus around the foreign body. The surgical management of such a diverticulum with a foreign body inside is described.

S - 9

**REPAIR OF FLEXOR TENDON CONTRACTURE FOLLOWING SWEEPY IN A THOROUGHBRED FILLY.**

**P.S. Simran and K.K. Gupta**

College of Veterinary Science, PAU, Ludhiana - 141 004

A yearling filly was presented with left forelimb flexed at knee and right forelimb having valgus deformity at knee. Successive tenotomies of flexor tendons above and below knee joint of left forelimb were performed successfully to straighten the limb. Hoof trimming and corrective shoeing was done on right forelimb.

- 10

**DISABILITY STUDY OF LIMB AMPUTATION IN BOVINE BY JOINT DISARTICULATION AND BONE AMPUTATION - A COMPARATIVE STUDY**

**S. Nayak, and J. Mohanty**

College of Veterinary Science & A. H., Bhubaneswar, Orissa.

An attempt has been made to bring out a comparison on the degree of disability produced by limb amputation from the midshaft of bones and disarticulation of the joints at different levels on fore and hind limbs in bovines. Observations have been taken from 35 cases which included both natural and experimental animals. It has been concluded that the joint disarticulated amputees were comparatively less disabled than those of limb amputations at midshaft of bones. The wound healing was also superior and safer in disarticulated animals. Disarticulated amputees maintained body balance better than the other group. Above all, it was noted that the lower level amputees were less disabled than the higher level amputees.

**NASAL POLYPS IN BUFFALO AND GOAT**

**N.R. Purohit, D.S Chauhan, A.K. Mathur and G.D. Sharma**  
 College of Veterinary and Animal Science, Bikaner (Rajasthan)

A six year old buffalo having respiratory distress since last 4 months was presented. Clinical examination revealed a deep seated tubular protruding growth from the right nostril diagnosed as a nasal polyp.

The animal was tranquillized and under local infiltration anaesthesia a 4 cm. skin incision approximately 20cm. from external nare and 2.5cm. lateral to median plane was made followed by a trephine opening into the nasal cavity. The polyp was surgically removed. Haemostasis achieved by local application of Adrenaline and compression with gauze. The cavity was flushed with Nitrofurazone solution. A gauze sponge impregnated with Nitrofurazone ointment was used to plug the opening. The tubular growth was smoothsurfaced about 22 cm. in length. The histopathological examination revealed nasal polyp.

A goat approximately 2 years of age having difficult respirations and nasal discharge was presented. Clinical examination revealed a large protruding nasal polyp like growth completely occluding the lumen of the left nostril.

Xylazine was given at the dose rate of 0.05. mg/kg body weight. The site was prepared lateral to median plane over left nasal cavity. Local anaesthesia was infiltrated at the proposed median line over the left nostril to enlarge the left nostril opening. The growth was exposed and was surgically excised. Haemostasis achieved by local application of Adrenaline and by compression with swabss. The underlying tissue & skin was sutured.

The polyp was 4 cm. in length, pinkish white, smooth and pedunculated. Histopathological examination confirmed the diagnosis. Sutures were removed after 10 days.

**SURGICAL MANAGEMENT OF PHIMOSIS IN A MULE- A CASE REPORT**

**K.K. GUPTA AND RAGHBIR SINGH**  
 Veterinary Polyclinic, Faridkot, (Panjab)

A male mule, 6 months of age, suffering from phimosis for the last 10 days was presented for treatment at Veterinary Polyclinic, Faridkot. There was history of injury and laceration on the prepuce and dribbling of urine. Clinical examination revealed narrowing of preputial opening with fluctuating swelling in preputial sheath due to collection of urine. Manual extension of the penis was not possible. Surgical correction was done under xylazine and ketamine anaesthesia. The patient made uneventful recovery.

## **URGICAL REPAIR OF ATRESIA ANI ET RECTI WITH CONGENITAL VENTRAL HERNIA IN TWO CALVES**

**R. Suresh Kumar, K. Ameerjan, N.N. Balasubramanian,  
Archibald David, S, Thilagar and S. K. Guha**

Madras Veterinary College, Madras - 7

**Case No. 1 :** A 3 day old crossbred heifer calf was referred to surgery with a history of not passing faeces and a hernial swelling on the left side of abdomen. It was diagnosed as a congenital ventral hernia with atresia ani et recti.

Under xylazine and ketamine hydrochloride general anaesthesia the abdomen was explored through the incision on the hernial Sac. The portion of the colon was found to have a large blind pouch which was filled with gas and faeces (meconium). The intestine distal to the colon was small in diameter and appeared like a fibrous cord. Colotomy was performed to evacuate the contents and it was fixed on the lateral wall of abdomen (Colostomy). Hernioplasty was performed using TEFLON mesh since the abdominal muscles were thin and illedeveloped. The skin wound was closed as per standard technique.

**Case No. 2 :** A 5 day old crossbred male calf was referred to surgery with a similar history mentioned above. Surgical treatment remained the same, except the hernial repair. In this case omiorrhaphy was performed as the hernial ring was smaller in diameter.

Post operative treatment included intravenous administration of 5% DNS with Ampicillin and gentamicin sulphate with regular dressing. The calves recovered uneventfully.

## **BOVINE PAPILLOMATOSIS- A STUDY OF TWO CASES**

**K. Ramanujam, S. Ayyappan, R. Srijayanath and P. Dhanapalan**

Resident Veterinary Services, Madras Veterinary College, Madras - 7

A cow aged 4 years and heifer aged 1 year were presented at the Casualty Section of Madras Veterinary College Hospital with a history of generalized eruptions on the skin since 3 months. Topical therapy with various medications was of no avail. Clinical examination revealed compact, raised hyperkeratotic patches about 40 in number diffusely distributed from withers to the croup region in the cow. The heifer exhibited grotesque cauliflower like pedunculated horny and fissured growths diffusely distributed in the fore and hind limbs. The probable causes and management of the condition papillomatosis are discussed.

LAS - 15

### **CONGENITAL MENINGOCOELE IN A BUFFALO CALF - A CASE REPORT**

**S. Ayyappan, S. Balasubramanian, A. Subramaniam, R. Srijiyanath and P. Dhanapalan**

Resident Veterinary Services, Madras Veterinary College, Madras - 7

A ten days old buffalo calf was presented at the Casualty Section of the Madras Veterinary College with a history of swelling in the cranial region. Since birth the calf was recumbent. Clinical examination revealed a bilobed soft fluctuating swelling attached to frontal region of the head. A communication could be detected between the mass and the cranial cavity and it was diagnosed as congenital meningocoele. A clear fluid could be aspirated from the swelling. The mass was irreducible. The calf died the next day. The condition is discussed.

LAS - 16

### **SUCCESSFUL SURGICAL MANAGEMENT OF INTUSSUSCEPTION IN BULLOCKS REPORT ON THREE CLINICAL CASES**

**S.M. Utsurge, P.T. Jadhav, R.L. Dhoble and N.M. Markandeya,**

Veterinary College, UDGIR-413 517

Three clinical cases, one in a bull and two in working bullocks were presented to Veterinary Polyclinic, Udgir (MS). The cases were diagnosed depending on history, clinical symptoms and clinical examinations as cases of intestinal obstruction/intussusceptions. The cases were successfully treated by resection of devitalised part due to intussusception followed by end to end anastomosis of the part involved. The evacuation of abnormally distended caecum with colonic intussusception was performed prior to anastomosis in a case. The symptoms exhibited by the animals, the diagnosis of ailment and the surgical procedure with postoperative care has been described.

LAS - 17

### **AN UNUSUAL CASE OF RETICULAR FISTULA IN A BUFFALO**

**P.S. Bansal, Balwinder Singh, V.K. Sobti and D.C. Dhablania**

College of Vety. Science, PAU, Ludhiana.

An adult buffalo aged 8 years was presented with an opening in the middle of thorax through which semi-solid partly digested ingesta exuded. A one finger wide opening was situated in between 11th and 12th ribs on left side between middle and upper third of left thoracic cage. External exploration revealed a tract but no foreign body could be encountered. The case was diagnosed as a fistula and hence a laparo-rumenotomy was decided. Following rumenotomy, an opening was palpated just anterior to rumenoreticular opening on ventrolateral aspect of reticulum. On clearing the tract a hard metallic rod 37 cm long and 1 cm in diameter was retrieved. Tract was flushed with sterile saline followed by injection of Tr. iodine through the external opening. The case made an uneventful recovery.



## STUDIES ON SO-CALLED STRINGHALT IN BOVINE

P.K. Samanta and N.K. Modak

Faculty of - Veterinary & Animal Sciences, B.C.K.V., Nadia (W.B.)

Uni-lateral and bi-lateral affections of femoro-patellar articulation in 18 clinical cases of so-called stringhalt in bovine were studied. The ratio of uni-lateral and bi-lateral affection were 3:1. Desmotomy about half inch at the lower third region along with partial capsulotomy of the stifle joint, the medial region cured the condition better than simple desmotomy of the medial patellar ligament. Topical administration of combination of long acting Terramycin 3 ml. and Placentrex 2ml. within the joint quickly achieved satisfactory resolution in all the cases. The studies of this disease by various workers including the present one indicated that the description of the clinical features of this typical stringhalt and the affection in bovine are similar in all cases, but their nomenclature do not aptly suited synonymously between them. Therefore, stringhalt in bovine=chronic luxation of patella= luxation of patella= chronic pseudo-luxation of patella= Upward dislocation or displacement of patella= Upward fixation of patella are not only confusing but also totally contradictory. Since the clinico-pathological features in bovine very closely resemble with stringhalt-like affection in equine, so it will be quite reasonable to designate the name of this disease as "so-called stringhalt in bovine."

## CLINICAL AND ABATTOIR STUDIES ON FOOT DISORDERS IN GOATS

Y.P. Singh

Veterinary Hospital, Newai, Tonk (Raj.)

Survey of foot disorders in goats was carried out at local slaughter house and surgery clinic, College of Veterinary and Animal Science, Bikaner. A total of 172 goats were affected out of total 1756 surveyed. Foot affections were classified according to age, sex, limbs and season. Plain radiographic examination was also carried out to study the bony changes in affected feet. Treatment trial was also tried out in routine clinical cases.

## BILATERAL EMPYEMA OF GUTTURAL POUCH IN A MARE - A CASE REPORT.

R.R. Parsania, K. Sukumaran, D.B. Patil, B.M. Jani, J.N. Mistry and D.R. Barvalia.

Gujarat Agricultural University, Anand - 388 001.

An adult mare was brought to the hospital with a history of bilateral thick, mucoid, blood tinged discharge from the nostril, since two months. Exploratory puncture in the Viborgs' triangle confirmed the case of empyema of guttural pouches. The case being a bilateral, which is a rarity is reported and surgical management is discussed.

LAS - 21

### **OMASAL IMPACTION IN A BUFFALO -- A CASE REPORT**

**S.N. Sharma, S.S. Rathor, D.C. Dhablania, K.K. Mirakhur and Balwinder Singh**

College of Vety. Sc., PAU, Ludhiana - 141 004

A 7 year old buffalo showed the symptoms of recurrent tympany and reduction in milk yield for one month. Haemogram revealed slight neutrophilia. Rumenotomy was performed. Ruminal contents were dry and omasum was enlarged in size and hard in consistency. Intraruminal administration of 700 gms. of Mag Suph and one litre of liquid paraffin was undertaken following evacuation of ruminal contents. Both these drugs were also administered per os for two days in addition to routine post operative treatment. Animal started passing loose faeces on fourth post operative day and fully recovered.

LAS - 22

### **BILATERAL CONVERGENT STRABISMUS WITH EXOPHTHALMIA IN CROSSBRED JERSEY COW**

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

College of vety. Science, PAU, Ludhiana.

A Jersey crossbred cow aged about 5 years was presented with a history of inability to see properly and the condition was first noticed when the animal was about 6 months old and since then the condition started worsening. On clinical examination both the globes showed severe convergent strabismus with cornea hardly visible. There was an appreciable bulge suggesting presence of exophthalmia.

Bilateral convergent strabismus (esotropia) with exophthalmia is considered a recessive hereditary defect in Jersey and Holstein breeds of cattle.

LAS - 23

### **SUBCLINICAL LAMINITIS RELATED HOOF LESIONS AND HOOF BIOPSY IN CATTLE**

**S.S. Singh, W.R Ward and R.D. Murray**

Punjab Agriculture University, Ludhiana, and University of Liverpool,

Gross examination of hooves after trimming in live animals and sectioning in dead, showed haemorrhages in the weight-bearing parts. Sole ulcers and white line lesions develop following this disease. For detailed serial histopathological and electromicroscopic examination, a simple technique of hoof biopsy enabled collection of tissue samples in clinical cases and experimental animals which otherwise would necessitate killing of animal.

AS - 24

## MANAGEMENT OF A LACERATED WOUND USING A FULL THICKNESS SKIN EXPANSION GRAFT IN A CALF

L. Nagarajan, M.S. Dewan and Muthu Mohammed.

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

A 6 months old male buffalo calf was admitted in the inpatient ward of Madras Veterinary College Clinics, with a history of an accident. The calf had extensive laceration in the right meta carpal and fetlock region and a complete fracture of metacarpus. A full thickness skin graft of 10 cm x 8 cm, harvested from the lower flank, was transplanted at the recipient site after expansion. The operated area was covered with paraffin gauze and the fractured site was immobilised with plaster of paris cast.

Tiny spots of epithelialisation were observed on the 14th day in 50% of the area at isolated places. There was spreading of epithelial layer and pigmentation at 30th day. The 'take' was about 40% and rest of the graft sloughed off.

AS - 25

## SURGICAL ANATOMY OF THE SPLEEN OF GOAT (*Capra hircus*)

U.K. Bajpai and G. Chandra

College of vety. Sc. & A.H., Mathura (U.P.)

Keeping in view the scant literature available on the gross anatomy of spleen of goat, detailed dissections were performed on 20 non-descript normal adult goats ranging in age from 8 months to 1 year with an aim of elaborating upon the location, topography, general morphology, maximum length, width and thickness of the spleen.

The spleen was found to be located on the dorsal part of the dorsal sac of rumen in close relation to the dorsal curvature beneath the posterior border of 8th rib and anterior border of 13th rib. Its oblique axis lies parallel to and in close apposition of diaphragm

An approach site through a laparotomy incision in the anterior most part of left paralumbar fossa or by 12th - 13th costectomy is suggested as being safe and workable.

AS - 26

## INTUSSUSCEPION AND VOLVULUS AS A COMPLICATION OF ILEOCAECAL ANASTOMOSIS IN A HORSE

H.B.H. Al-khatib, R.P. Pandey, B. Singh, S.U. Farooqui, V.S. Yadav,  
S. Babu, R.K. Saraswat and S.S. Misra

College of veterinary science & A.H. , Mathura

Experimental ileocaecal anastomosis with resection was performed in a five year old horse under general anaesthesia. Ileum was sectioned six inch away from the ileocaecal junction and the edges of the distal segment were inverted and closed. The proximal segment was anastomosed with the caecum between the dorsal and medial bands. Routine closure of laparotomy wound was

performed. No complication during recovery from anaesthesia was encountered, however, on second post-operative day, the animal started showing colicky signs. The ESR, PCV, BUN, Na, K, and TSP was elevated.

The cause of death and measures to avoid such complications are discussed.

**LAS - 27**

### **SURGICAL MANAGEMENT OF VULVAR TUMORS IN MARE -- A REPORT OF TWO CASES**

**H.B. H. Al-khatib, R.P. Pandey, B. Singh, S.U. Farooqui,  
A.K. Awasthi and S.S. Misra**

College of Veterinary Science & A.H., Mathura.

Two mares interestingly of same colour and age group were presented to the departmental clinic at two different occasions. Both had a growth of about 6-8 inch diameter attached to the mucosal surface of left vulvar lip.

Surgical ablation of the growth was performed under xylazine and diazepam sedation and local infiltration analgesia. The vulvar mucosal wounds were minimised by using 1/0 black braided silk. In one case skin incision had to be made. It was repaired by using cotton thread. The animals were discharged on the same day.

Seven months postoperatively, uneventful recovery was reported in one case. The owner of the other animal did not turn up for further reports.

**LAS - 28**

### **MORPHOMETRIC CHANGES IN THE TESTES OF MALE BUFFALO CALVES (*Bubalus bubalis*) AFTER CAUDECTOMY**

**M.M. Farooqui and R.K. Shingatgeri**

Marathwada Agricultural University, Parbhani - 431401

Morphometric changes were studied on 20 non-descript male buffalo calves of about 1 year age after caudectomy. The calves were grouped as A, B, C and D with five calves in each group. The calves of group A served as control whereas the calves of B, C and D groups were studied at 30, 60 and 90 days post caudectomy, respectively. Caudectomy was performed on schedule dates and the testes were collected after orchidectomy from all the calves. The testes were long and elongated. Two testes were asymmetrical in all cases and the left was slightly larger than right. The testes were distended, and were pale in colour. Accumulation of fluid with adhesion at the site of caudectomy was a significant feature in caudectomised groups. A whitish watery fluid oozed out after puncturing tunica albuginea. A gradual increase in the weight and length of testes and decrease in width of testes from normal to caudectomised groups was observed.

## HAEMANGIOSARCOMA IN VAGINA OF A MARE

A.K. Awasthi, A.K. Srivastava and H. Singh

College of Vety. Science and A.H., Mathura.

Presence of a dark brown coloured growth of about 20 cm diameter attached to the left wall of the vagina near the vulvar lip of a ten year old mare was recorded. The growth was hanging from the vagina and was bleeding from many places at its surface.

Surgically removed tissue from the growth on histological examination revealed multiple regularly arranged tortuous blood spaces of varying shape and size lined by pleomorphic endothelial cells having hyperchromatic nuclei with appreciable number of mitotic figures indicating malignant neoplastic nature. Some of the neoplastic endothelial cells either singly or in clusters forming giant cell like structures were embedded in the proliferating fibroblasts.

## SMALL ANIMAL SURGERY

Chairman : Dr. A. P. Bhokre

Rapporteur : Dr. S. Thilagar

SAS-1

### SUCCESSFUL TREATMENT OF UROLITHIASIS IN DOGS

Raju Sharda

Department of Surgery & Radiology, Veterinary College, Anjora, Durg.

Two dogs aged six (Doberman) and seven (Alsatian mixed) years were brought to department with the history of restlessness and inability to pass urine since 16-18 hours. On critical clinical examination the urethral obstruction was noticed just behind the os penis. Dogs were sedated with triflupromazine @ 2 mg/kg body wt. followed by general anaesthesia with thiopentone sodium @ 22mg/kg body wt. Retrograde hydropulsion with normal saline using a polythene tube of 25 mm diameter failed to dislodge the calculi. After incising urethra at the site of calculi it was found that small numerous calculi blocked the whole urethra for about 2 cm in Alsatian mixed dog. In Doberman dog there was single large calculi. After removing calculi, hydropulsion with normal saline was done to make opening patent.

Urethral and muscular incision was closed in usual manner. Chloramphenicol solution in distilled water was administered in urethra for 3 days, strepto-penicillin (1 mg) was given intramuscularly for 5 days. Both the dogs had uneventful recovery.

SAS-2

### CRYOTHERAPY OF PAPILOMATOSIS IN DOGS

T. Madhava Rao, K.B.P. Raghavender, V. Girish Kumar, M.R. Joshi and R.L.N. Rao

College of Veterinary Sciences, Rajendranagar, Hyderabad - 500 030

Six dogs suffering from papillomatosis were subjected to cryotherapy under sedation and/or light plane of general anaesthesia. Cryotherapy was performed by Frigironics CS-76 cryosurgical unit using liquid nitrogen as cryogen by spray technique (3 multiple cutaneous papillomas), probe technique (2 oral papillomas) and swab technique (1 multiple oral papilloma) following double "rapid freeze-slow thaw" cycle method, after shielding the healthy tissue with vaseline impregnated gauze pads.

One hour after two "freeze-thaw" cycles, in all the cases, the cryolesions grossly appeared erythematous and edematous soon becoming dark and haemorrhagic, however, the oedema subsided by 2nd-3rd day. Necrosis followed by sloughing was observed within 1-5 days in spray technique, 2-3 days in probe technique and 3-7 days in swab technique. Complete healing was observed within two weeks. Regression of several unfrozen papillomas located on the apex of tongue occurred, which might be due to immunostimulatory effect of cryotherapy.

S-3

### CRYOSURGICAL TREATMENT OF CANINE TRANSMISSIBLE VENEREAL TUMOURS

T. Madhava Rao, V. Girish Kumar, K.B.P. Raghvender, M.R.Joshi and R.L.N. Rao

College of Veterinary Science, Rajendranagar, Hyderabad- 500 030

Three female dogs suffering from TVTs confined to the vulvar lips were treated either by spray technique using Frigitornic CS-76 liquid nitrogen cryosurgical unit (Mongrel-67, Cocker Spaniel-5y) or ab technique (Pomeranian-6y). Sloughing of the cryolesions was noticed on the 7th day and complete healing was observed by the end of 3 weeks in mongrel and Pomeranian dogs and by 4 weeks in Cocker Spaniel. However, in Cocker Spaniel recurrence of the tumour was observed after 6 weeks of treatment. So she was again subjected to surgical excision followed by cryotherapy.

Three male mongrel dogs ( $4\frac{1}{2}$ , 5, &  $5\frac{1}{2}$  y) having TVTs on the dorsal aspect of caudal parts of bulbos glandis of penis and two female dogs (Pomeranian-3y; Mongrel-5y) having TVTs over the vulvar lips and extending into the anterior parts of vagina were subjected to surgical excision followed by cryotherapy. Sloughing of cryolesions occurred in 5-10 days and complete healing was observed in 3-4 weeks. No recurrence was noticed in these cases.

S-4

### IATROGENIC NEURITIS IN DOGS : ELECTRODIAGNOSIS AND ELECTROTHERAPY

M. Hoque, G.R. Singh, I.V. Mogha and O.P. Gupta

Division of E.M.S., I.V.R.I., Izatnagar-242 122

Three dogs aged between 5 to 10 months were referred for treatment with the history of dragging one of the hind limbs following intramuscular injection at thigh region. The history further revealed that the animals did not respond to the treatment with analgesics and neurotonics. The clinical examination revealed paresis of affected hind limbs. The palpation at the site also revealed the presence of hard nodules. Electrodiagnostic testing (EDT) parameters such as rheobase values, intensity duration curves, chronaxy values and accommodation coefficient were suggestive of popliteal nerve damage at the level of injection sites. The animals were treated by electrical stimulation using galvanizing current with the intensity equal to the threshold values for 5-10 minutes daily. In addition, analgesics and neurotonics were also given orally. All the three animals showed gradual improvement and recovered completely by 20 to 30 days.

S-5

### THYROGLOSSAL CYST IN A DACHSHUND MALE DOG

S.K. Pandey, and LT. Col. B.K. Vishwanathan

Deptt. of Surgery & Radiology, Veterinary College, Jabalpur (M.P.)

A 6 months old Dachshund male dog had a soft fluctuating swelling which was situated in

ventromedial plane at the cephalo cervical region. History revealed that the swelling was congenital and present in the form of a small nodule which grew gradually over the past 6 months. Careful clinical examination revealed that the growth was situated below the body of the hyoid bone. On palpation fluctuating fluid was felt inside the swelling and exploratory puncture revealed escape of clear, transparent fluid. The swelling measured 4 cm in diameter.

The cyst was excised under diazepam premedication (2 mg/kg body wt.) and local infiltration of 2% lignocaine hydrochloride. The microscopic examination of fluid did not give any evidence of parasitic infestation.

The site of location of cyst and its existence since birth were suggestive of thyroglossal cyst.

#### **SAS-6**

### **A RETROSPECTIVE STUDY ON THE INCIDENCE OF OPHTHALMIC LESIONS IN DOGS AND CATS**

**T.N. Ganesh, T. Sathish, W.P. Archibald David,  
S.R. Pattabiraman and N.N. Balaubramanian.**

Deptt. of surgery, Madras Veterinary College- Madras- 7

A clinical study on ophthalmic affections was conducted on 88 dogs and 2 cats reported to the small animal surgical clinic of Madras Veterinary College during the period October 1992 to March 1993. The distribution of lesions in various regions of the eyeball were conjunctiva (42.2%), cornea (35.8%), eye lids (6.6%), lens (7.7%), eye globe (4.4%) and iris (3.3%). The common breeds involved were non-descript (45.6%) and Spitz (31.1%). The remaining were Alsatian, Border Collie, Lhasa-apso and Dachshund. Out of 88 dogs and 2 cats, 14 dogs were aged less than one year, 49 dogs were aged between 1-3 years, 17 dogs were aged between 3-6 years and 10 dogs were aged above 6 years.

#### **SAS-7**

### **REPAIR OF FEMORAL SHAFT FRACTURE BY INTRAMEDULLARY NAILING – A CLINICAL STUDY OF 6 CASES**

**T.N. Ganesh, R. Jayaprakash, S. Ayyappan, W.P. Archibald David, and N.N. Balasubramanian.**

Department of Surgery, Madras Veterinary College, Madras-7.

Six dogs reported to the Madras Veterinary College Hospital with femoral shaft fractures were subjected to surgical correction. Retrograde intramedullary nailing was performed in all the cases using Steinman pin with threaded and pointed end. Among the six dogs, two dogs with bone loss at the fracture site received demineralized bone matrix composite. Post-operative, clinical and radiological observations were analysed and discussed.



5-8

## **CERVICAL SALIVARY MUCOCELE IN A RHESUS MONKEY**

**V.P. Chandrapuria, M.K. Bhargava and S.K. Pandey**

Deptt, of Surgery & Radiology, College of Vety. Sci. & A.H., Jabalpur (M.P.)

A monkey aged about two years had an egg size swelling over right angle of mandible, 4-5 below the ear. The swelling developed gradually and started discharging creamy yellowish fluid if it got wounded at its dependant part. The swelling was moderately soft on touch with no pain. Animal was otherwise clinically normal. On aspiration, swelling showed a semiviscid creamy discharge diagnosed as salivary mucocele.

Operation was performed under ketamine anaesthesia (10 mg/kg body wt.). The mass was excised after dissecting its fibrous adhesions with the capsular lining of the submandibular gland. A fibrous tract joining the mucocele with gland was transfixed. Dead space was obliterated by using parotido-auricularis muscle and subcutaneous tissue as single layer and skin sutured with multiple interrupted sutures using silk. Animal made an uneventful recovery without recurrence during six month period.

5-9

## **COMPLICATED GASTRO-INTESTINAL TRACT FOREIGN BODY IN A BOXER PUP**

**C.L. Badgujar and S.Z. Sharma**

Bombay Veterinary College, Parel, Bombay.

A 3 month old female boxer pup was presented with repeated vomitions, especially after feeding. Lateral abdominal radiograph revealed a staple pin in the stomach. A hair ball was found in stomach on gastrotomy. A cotton thread was carried from the hair ball in the intestines for about 15" length and anchored with plastic material to the intestinal lumen. It was removed successfully.

5-10

## **MANAGEMENT OF INGUINAL HERNIA IN A BITCH**

**M.B. Mantri, C.L. Badgujar, S.G. Satam And G.S. Khandekar**

Bombay Veterinary College, Parel, Bombay.

A female pomeranian dog aged 7 years was presented with reduced appetite, dullness and a doughy swelling in the inguinal region. Clinically it was diagnosed as inguinal hernia and repaired surgically. However, it recurred. During surgery uterus was found herniated which was removed and the hernia was surgically repaired.

SAS-11

## **A CLASSICAL CASE OF PERSISTENT RIGHT AORTIC ARCH IN AN ALSATIAN PUP**

**C.L. Badgujar**

Bombay Veterinary College, Parel, Bombay.

A 2½ month old male Alsatian pup was presented with the signs of food dropping shortly after eating. It was lagging behind its littermates in size and body weight. It was dull and inactive. On radiological and clinical examination it was diagnosed as a case of persistent right aortic arch. Surgical ligation and division of ligamentum arteriosum was performed. The pup was better and frequency of regurgitation was less. However, the pup suffered from loose motions with blood and finally died on 8th post-operative day.

SAS-12

## **SPAYING IN BITCHES AND QUEEN CATS BY SIMPLE ANAESTHETIC MANAGEMENT IN THE FIELD PRACTICES**

**D. Batul and P.K. Samanta**

Deptt. of Surgery, B.C. Krishi Vishwavidyalaya, Nadia (W.B).

In this study twenty four bitches and twenty four queen cats were spayed by different approaches, namely oblique left flank, right flank, both flank and mid-ventral incision methods. Each bitch was premedicated with i/m injection of atropine sulphate @ 0.5 mg per kg body weight. After 30 minutes, diazepam and pentazocine were injected intravenously @ 3 mg/kg body weight. Then subcutaneous infiltration of 2% lignocaine on the proposed line of incision was done. Same anaesthetic management was followed in cat, but diazepam and pentazocine were injected i/m @ 3 mg/kg body weight. After 10 minutes of local infiltration spaying was performed by different approaches. Combination of this premedication and local analgesia produced satisfactory sedation, adequate muscle relaxation and good analgesia. In bitches mid-ventral incision and in cat oblique left flank incision were found to be the convenient approaches and may be safely and effectively performed in the field.

SAS-13

## **OVARIOHYSTERECTOMY IN BITCHES BY FLANK APPROACH**

**T.N. Ganesh, R. Jayaprakash, W.P. Archibald B. David and N.N. Balasubramanian.**

Madras Veterinary College, Madras.-7

The surgical site (right flank) was prepared routinely. General anaesthesia was induced and maintained using 2.5 per cent thiopentone sodium after premedicating the animal with triflupromazine and atropine sulphate, followed by a linear skin incision. The external and internal oblique muscles were separated using fingers after making a nick on the respective muscles. The transverse abdominis with peritoneum was incised to a required length and held with clamps. Right ovary was exteriorised and its proximal stump was ligated and resected. Broad ligament was separated from the right and left uterine horns followed by separation of left ovary from its proximal attachment in the similar manner.

The body of the uterus was resected after ligation at its distal most site. The different layers of abdominal muscles were sutured separately and the skin was closed in standard manner.

SAS-14

### **OVARIOHYSTERECTOMY IN CATS BY FLANK APPROACH.**

**T.N. Ganesh, R. Jayaprakash, W.P. Archibald B. David and N.N. Balasubramanian**

Madras Veterinary College, Madras-7

The cat was premedicated with atropine sulphate and a narcotic dose of thiopentone sodium was given. The surgical site (right flank) was prepared and anaesthesia was deepened with additional dose of thiopentone sodium. A skin incision of about one inch length was made. The abdominal muscles were held with a pair of Allis tissue forceps and incised including the peritoneum. Right ovary was separated from its proximal attachment after ligation. Broad ligament of the right and left horns was separated followed by resection of left ovary in a similar manner. Body of the uterus was then ligated at the distalmost end and resected to complete ovariohysterectomy. Peritoneum and abdominal muscles were sutured together and the skin was closed in a routine manner.

SAS-15

### **A NOTE ON THE INCIDENCE OF CANINE OSTEOPATHIES IN U.P.**

**A.K. Srivastava and S.S. Misra**

College of Veterinary Science & A.H. Mathura.

An extensive state-wise survey was conducted on canine osteopathies in U.P. for a period from 1985 to 1990.

Rickets in 33.006%; fractures in 31.5%; dislocation in 8.92%; osteomalacia in 7.67%; hip dysplasia in 0.43%; osteomyelitis in 0.21% and intervertebral disc disease in 0.07% cases were recorded. The incidence of unspecified osteopathies was 8.7%.

A single case of bone cyst was also reported from a hospital.

## **ANAESTHESIOLOGY**

Chairman : **Dr. Amresh Kumar**

Rapporteur : **Dr. Rishi Tayal**

AS-1

### **MEDETOMIDINE IN GOATS**

**A.M. Pawde, Amar Pal, K. Pratap, O. P. Gupta, A. K. Sharma & Naveen Kumar**

Division of E.M.S., Indian Veterinary Research Institute, Izatnagar- 243 122, U.P.,

Medetomidine hydrochloride was given in goats at the dose rate of 15 ug/kg body weight intramuscularly. Good analgesia and sedation was achieved with excellent muscle relaxation. A gradual fall in MAP was recorded upto 90 minutes. However, CVP showed an upward trend throughout the study. Bradycardia was observed between 15 to 60 minutes after administration of medetomidine whereas respiration and temperature were not affected significantly. Haematological parameters viz. Hb., PCV and TLC showed transient fall in beginning, however, values were near normal at the end of study. Electrolytes i.e. Na<sup>+</sup>, K<sup>+</sup> and Cl<sup>-</sup> estimation revealed no significant changes. Occasional bradycardia and sinus arrhythmia were the noticeable ECG changes.

AS-2

### **CLINICAL AND HAEMATOLOGICAL EVALUATION OF DIAZEPAM AND ITS COMBINATION WITH TRIFLUPROMAZINE HYDROCHLORIDE IN SPLENECTOMIZED AND NORMAL CALVES**

**Naveen Kumar, Amarpal, O.P. Gupta and A.M. Pawde**

Division of E.M.S. Indian Veterinary Research Institute Izatnagar U.P.

Effects of diazepam (0.5 mg/kg, I/M) and triflupromazine hydrochloride (0.5 mg/kg, I/M) were evaluated in splenectomized and normal calves. The combination produced more intense sedation and analgesia in splenectomized calves as compared to normal group. Significant (P<0.05) fall in rectal temperature was recorded in splenectomized animals at 30, 60 and 90 minutes. Heart and respiration rate did not show any significant change in both groups. Haemoglobin was significantly (P<0.05) reduced in splenectomized animals, however packed cell volume and leucocyte count were not affected significantly in any of the groups.

AS-3

### **CLINICAL EVALUATION OF MEDETOMIDINE WITH AND WITHOUT PENTAZOCINE IN DOGS**

**Amarpal, A.M. Pawde, Naveen Kumar, K. Pratap and A.K. Sharma**

Div. E.M.S., Indian Veterinary Research Institute, Izatnagar, (U.P.)

Study was conducted in 10 adult dogs divided into two groups of five animals each. In group I medetomidine @ 30 µg/kg was administered intramuscularly in atropinised dogs, whereas, in group

meperidine 2 µg/kg and medetomidine 30 µg/kg were given intramuscularly. Analgesia and sedation were evaluated using a score method. Weak time and down time did not differ significantly, however, meperidine and medetomidine combination produced good anaesthesia ranging from 35 to 43 minutes.

Significant ( $P < 0.05$ ) increase in heart rate was observed within 5-10 minutes after administration of drugs in both the groups. Respiration reduced gradually and significantly ( $P < 0.05$ ) whereas rectal temperature did not show any significant change.

## **PREANAESTHETIC DEPENDENT EPIDURAL ANAESTHESIA IN CANINE SURGICAL PATIENTS**

**S. K. Pandey**

Deptt. of Surgery & Radiology, Veterinary College, Jabalpur (M.P.)

Thirty dogs (15 bitches and 15 male dogs) operated for venereal granuloma were included in the present study. These dogs were divided into three groups consisting of 5 males and 5 females in each group. The dogs of groups I, II and III were premedicated with diazepam, triflupromazine hydrochloride and chlorpromazine hydrochloride @ 2 mg/kg body weight intravenously 10 minutes before administration of epidural anaesthesia. The epidural anaesthesia was induced with 2% lidocaine hydrochloride @ 8 mg/kg body wt.

The onset of analgesia was observed on an average period of  $3.69 \pm 0.68$ ,  $3.89 \pm 1.29$  and  $1.60$  minutes in animals of groups I, II and III respectively. The duration of analgesia averaged  $4.88 \pm 6.21$ ,  $119.08 \pm 5.26$  and  $103.61 \pm 8.23$  minutes respectively in animals of groups I, II and III. Animals remained under recumbency of an average period of  $213.98 \pm 12.69$ ,  $182.86 \pm 9.22$  and  $7 \pm 7.29$  in animals of groups I, II and III respectively.

## **COMPARATIVE EVALUATION OF PROCAINE HYDROCHLORIDE, LIGNOCAINE HYDROCHLORIDE AND BUPIVACAINE HYDROCHLORIDE FOR OCULAR ANAESTHESIA IN DOGS**

**P. Sengupta, B. B. Das, P. K. Bose and S. K. Nandi**

Bihan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia - 741 252 (W.B.)

Comparative evaluation of local anaesthetics for ocular anaesthesia were done in 36 mongrel dogs divided equally into six groups. Groups I, II, III were employed for auriculopalpebral block by procaine HCl, lignocaine HCl and bupivacaine HCl whereas Groups IV, V, VI were utilised for retrobulbar block with combination of auriculopalpebral block by above three drugs, respectively. The time required for onset of analgesia was within 2 to 5 minutes. Longer duration of analgesia was recorded in groups I & IV ( $49.33 \pm 2.29$ ,  $90.67 \pm 3.20$  minute) followed by groups II & V ( $19.67 \pm 1.18$ ,  $60.50 \pm 1.71$  minute) and groups I & IV ( $12.17 \pm 0.70$ ,  $37.68 \pm 1.34$  minute). Complete recovery occurred in  $30.85 \pm 0.48$  to  $1.81$  minute in groups I, II, III and  $83.75 \pm 1.79$  to  $195.0 \pm 1.76$  minute in groups IV, V, VI. Eyelids were anaesthetized in groups I, II, III animals whereas eye, orbit, conjunctiva, eyelids, forehead skin

ere anaesthetized in groups IV, V, VI animals. Extent of analgesia was mild in procaine HCl, moderate in lignocaine HCl and extensive in bupivacaine HCl. Palpebral reflexes were absent in all groups. Corneal reflexes were present in first three groups but absent in last three groups. The Schirmer tear test revealed lowered tear production in animals of all groups.

AS-6

### USE OF ETORPHINE AND DIPRENORPHINE AS IMMOBILISING AND REVERSING AGENTS IN CAPTURE OF WILD ELEPHANTS

K. A. Nanjappa, B. C. Chittiappa and M. S. Vasanth

Veterinary College Bangalore. (Karnataka)

Eleven wild elephants were captured at Thethimati and Shanivarasanthe range of Kodagu district, Karnataka. Etorphine hydrochloride was darted at dose of 2 mg per ton body weight. Induction/search time varied from 8 to 45 minutes. Captured elephants were revived using diprenorphine at the dose of 4 mg per ton body weight. Recovery time ranged from 3 to 8 minutes. These elephants were later transported to the base camp and in most cases were sedated using xylazine hydrochloride.

AS-7

### COMPARATIVE STUDY ON ANAESTHETIC EFFECT OF TILETAMINE, ZOLAZEPAM (TELAZOL) AND TILETAMINE-ZOLAZEPAM WITH XYLAZINE COMBINATION IN NEWZEALAND WHITE RABBITS

V. Ramasamy, M. Mohan Kumar, Ramesh Kumar, W. B. Archibald And N. N. Balasubramanian

Tamil Nadu University of Veterinary and Animal Sciences, Madras.

A comparative study was conducted in 12 experimental, Newzealand white rabbits, divided into two groups of 6 animals each. In group I, Telazol (32 mg/kg) and in group II Telazol (16 mg/kg) followed with xylazine (1 mg/kg) were administered intramuscularly.

The mean induction time was  $1.63 \pm 0.07$  and  $2.1 \pm 1.0$  (minutes) in groups I and II respectively. In group I the anaesthesia was adequate for immobilization or restraint only and the reflexes such as palpebral, corneal, pedal and tail reflexes were maintained. In group II the duration of surgical anaesthesia observed was  $29.16 \pm 1.7$  minutes and the reflexes were abolished. The recovery time was longer in group II when compared with group I. During anaesthesia a significant reduction in temperature and respiratory rate was noticed, whereas the heart rate significantly reduced in group II.

AS-8

### CLINICO-HAEMATOLOGICAL EVALUATION OF TWO ANAESTHETIC REGIMENS FOR SURGICAL EMBRYO TRANSFER IN SMALL RUMINANTS

W. B. Justin, D. Kathiresan, G. D. Rao, V. Leela, A. Palanisamy  
R. S. George and K. Nachimuthu,

Madras Veterinary College, Madras-7.

The study was conducted on oestrus synchronised donors and recipient does used for surgical

ryo collection and transfer. Six donors and 12 recipients were divided into two groups each consisting donors and 6 recipients. Ketamine (11.0 mg/kg) was combined with xylazine 0.22 mg/kg in group I. Group II ketamine 15 mg/kg was combined with diazepam 0.5 mg/kg. The anaesthetic combinations provided good anaesthesia with smooth induction and recovery. Ketamine-xylazine combination provided excellent relaxation which facilitated easy exteriorization of reproductive organs, successful embryo collection with higher rate of recovery and successful embryo transfer. The changes in haematological parameters were not significant in both groups.

## **STUDIES ON THE USE OF ATRACURIUM BESYLATE— A MUSCLE RELAXANT IN CANINE PRACTICES**

**A. K. Chatterjee, P. K. Bose, B. B. Das, S. K. Nandi**

Dept. of Surgery & radiology, B. C. Krishi Viswavidyalaya, Mohanpur, Nadia (W.B.)

The efficacy of atracurium besylate, a new neuromuscular blocking agent was investigated in healthy mongrel dogs. The temperature, heart rate and blood pressure did not show any marked changes. Complete muscular relaxation was achieved and can be easily reversed by neostigmine. ECG and cardiographic observation and biochemical observations mainly BUN, creatinine, SGOT and SGPT revealed insignificant changes before and after exposure of drug in one group. Gross morphological findings of liver and kidney revealed no adverse effects in another group.

## **COMPARATIVE EFFICACY OF LOCAL ANAESTHETICS FOR EPIDURAL ANAESTHESIA IN CANINE PRACTICE**

**M. L. Saha, B. B. Das, P. K. Bose, S. K. Nandi and A. K. Maji**

Bidhan Chandra Krishi Viswavidyalaya Mohanpur, Nadia - 741 252 (W.B.)

In the present study, twenty seven adult mongrel dogs of either sex weighing between 12 to 20 kg were divided into three equal groups. Procaine hydrochloride was administered at the dose rate of 5 mg/kg body weight, lignocaine hydrochloride (5.5 mg/kg), bupivacaine hydrochloride (2 mg/kg) in group-I, group-II and group-III respectively. The clinical, anaesthetic, haematological, bio-chemical parameters were done and the parameters were recorded before induction and after 10, 30, 60, 120, 180, 240 and 24 hours of induction. The average time required for onset of anaesthesia was 1.888±0.045 minute in group-I, 0.876±0.048 minute in group-II and 0.905±0.044 minute in group-III respectively. The duration of anaesthesia was recorded in group III (83.75±6.23 minute) followed by group-II (35.58±5.98 minute) and group-I (35.58±3.40 minute). Complete recovery from anaesthesia was recorded in 68.67±4.21 minute, 123.11±6.72 minute, 200.0±9.13 minute in group-I, group-II and group-III respectively. The changes in clinical, haematological and bio-chemical values were not significant at different time intervals.

## LUMBAR EPIDURAL ANALGESIA IN YAK (*BOS GRUNNIENS*)

Kubhushan, A. C. Varshney, D. N. Sharma, S. K. Sharma, Mohinder Singh and J. M. Nigam.

College of Veterinary and Animal Sciences, H.P.K.V. Palampur-176062.

Anatomical studies on vertebral column in relation to spinal cord and its meninges revealed that the spinal cord was slender and its meninges invested it more closely in the cranial lumbar canal. The lumbar epidural space was significant. The spines of L-1 and L-2 were distantly placed, thereby allowing easy penetration of the needle. The needle was penetrated through the dorsal spinal ligament and the interarcual ligament just to enter the spinal canal. Further deep penetration was avoided. A free flow of injection was indicative of desired depth of needle. Injection of 8 ml of 2% lignocaine hydrochloride desensitized the whole sublumbar and flank area of either side of spinal column. Therefore this analgesia can be used safely for any operation through laparotomy incision along either side of median plane. The average duration of analgesia was maintained for 90 minutes.

## PRELIMINARY TRIALS WITH MEDETOMIDINE FOR IMMOBILIZATION OF YAKS (*BOS GRUNNIENS*) AND ITS REVERSAL BY ATIPAMEZOLE

S. K. Sharma, J. M. Nigam, Mohinder Singh, A. C. Varshney and Adarsh Kumar

College of Veterinary and Animal Sciences H.P.K.V. Palampur-176062.

Medetomidine, and 2 alpha-adrenoceptor agonist was used in adult yaks for immobilization at the dose rate of 70 µg/kg, intramuscularly. The average weak time and down time were 4.0±1.0 min, 7.5±2.5 (sitting) and 10.5±0.5 (lateral) respectively. Muscle relaxation and analgesia were seen after 5 minutes, which remained for 63 minutes. Profuse salivation was seen. In one experiment regurgitation was seen at 60 min. interval. Bradycardia and initial oligopnoea were seen. Hyperglycaemia was observed after 30 minutes of medetomidine. Haematological parameters, rectal, temperature, alkaline phosphatase, BUN, creatinine, SGOT and SGPT were not affected. Atipamezole (1:1 ratio) was given intravenously at 75 min. interval. Movement of limbs was seen within 2 minutes. The recovery time recorded after atipamezole administration was 4.5±0.5 min (sitting), 10.5±4.5 min (standing ataxia) and 20±5.0 min (normal gait).

## XYLAZINE IN YAKS (*BOS GRUNNIENS*): CLINICAL, HAEMATOLOGICAL AND CARDIOVASCULAR STUDIES

Adarsh Kumar, J. M. Nigam, S. K. Sharma, A. C. Varshney, and M. Singh

College of Veterinary and Animal Sciences, H.P.K.V. Palampur-176062.

Xylazine was administered at the dose rate of 0.22 mg/kg Intra-muscularly, there was decrease in respiratory rate in the initial stages which showed an increasing trend later on, haemoconcentration was observed. Xylazine caused bradycardia and hypotension in yaks. Large variations were seen in central venous pressure values following xylazine administration. Haemoglobin and rectal temperature remained within normal range.

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### **PARAVERTEBRAL ANALGESIA IN YAK (*BOS GRUNNIENS*)**

Kulbhushan, D. N. Sharma, A. C. Varshney, S. K. Sharma,  
Mohinder Singh And J. M. Nigam

College of Veterinary and Animal Sciences, H.P.K.V. Palampur-176062.

Anatomical dissection and analgesic studies conducted on eight adult yaks indicated that the injection of 8 ml of 2% lignocaine hydrochloride in fan shaped manner, 1/2" inward along a straight line drawn parallel to the mid line from the end of the L-1 transverse process cranially (upto T-13 and L-1) and caudally (upto L-2) desensitized the whole ipsilateral flank area. It can, therefore, be used for any operation through flank incision. The average duration of analgesia was 110 minutes.

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### **EVALUATION OF DIAZEPAM IN YAKS (*BOS GRUNNIENS*)**

Adarsh Kumar, J. M. Nigam, S. K. Sharma, M. Singh and A. C. Varshney

College of Veterinary and Animal Sciences, H.P.K.V. Palampur-176062.

Diazepam was used in adult yaks for sedation at the dose rate of 0.5 mg/kg body weight continuously, computed after pilot trials. The average weak time, down time and recovery time following diazepam administration were  $40 \pm 10$  sec.,  $1.5 \pm 0.5$  min. and  $11.5 \pm 5.5$  min. (standing ataxia) and  $3.5$  min (normal gait) respectively. Salivation was seen throughout the period of study with mild agitation. There was evidence of mild haemoconcentration. Initial oligopnea followed by hyperpnea was observed. Diazepam produced tachycardia in yaks. However, varied effects were seen on arterial pressure as there was hypertension in initial stages but hypotension later on. ST segment depression with decrease in T-wave amplitude was observed. Electroencephalographic studies did not show any significant changes. Rectal temperature remained within normal range following diazepam administration.

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### **ANAESTHETIC MANAGEMENT OF PERSISTENT STRAINING IN CHRONIC VAGINA-CERVICAL PROLAPSE IN A COW**

Syed Sajjad Hussain

S.K. Univ. of Agril. Sci. & Tech., G.P.O Srinagar- 190001, Kashmir.

The use of long duration epidural anaesthesia for treating a case of recurrent prolapse in a parturient cow which was refractory to conservative treatment is reported. The relief from irritating discharge was provided by selectively blocking, the conduction of impulse by caudal epidural administration of lignocaine hydrochloride followed by amyl alcohol.

AS-17

## REACTION TO KETAMINE ANAESTHESIA IN LHASA APSO BITCH— A CASE REPORT

Dipak Kumar De and N. R. Pradhan

Faculty of Veterinary & animal Sciences, B.C.K.V., Nadia (W.B.)

A dermoid cyst case was presented where severe muscle hypertonicity causing opisthotonus developed in a Lhasa Apso bitch following Ketamine anaesthesia. Respiratory distress developed due to severe bronchospasm. The possible mechanism of this adverse reaction and its implication have been discussed.

AS-18

## PHYSIOLOGICAL AND BIOCHEMICAL EFFECTS OF ELECTROACUPUNCTURE ANAESTHESIA OF ABDOMINAL REGION IN GOATS

Awadh Bihari, Amresh Kumar and N. S. Jadon

College of Veterinary Sciences, Pantnagar- 263145 (U.P)

The electrostimulation of acupoints LI-4, Liv-14, GB-34, BL-30, GV-20 and Tianping (group 1); LI-11, Liv-4, GB-34, BL-30, GV-20 and Tianping (group 2); ST-36, SP-6, GB-34, BL-30, GV-20 and Tianping (group 3) revealed a significant ( $P < 0.05$ ) increase in heart rate at 30 minutes and no significant changes in respiration rate, rectal temperature, mean arterial pressure, CVP and acid-base status. Minor changes seen in these parameters were readily compensated within 60 to 180 minutes after discontinuation of electrostimulation.

A significant ( $P < 0.05$ ) increase in total proteins, globulin concentration, serum glucose and decrease in serum albumin was seen from 1 to 6 hours after electroacupuncture. Serum urea nitrogen, creatinine, cholesterol non- significantly ( $P > 0.05$ ) decreased at 1/2 to 6 hours after electrostimulation in all the groups of animals. Serum electrolytes ( $\text{Na}^+$ ,  $\text{K}^+$  and  $\text{Cl}^-$ ) and enzymes (ALT and AST) also did not reveal any significant change after electroacupuncture in various groups of animals. There was no significant ( $P > 0.05$ ) difference in various physiological and biochemical parameters between the three groups of animals. The physiological parameters compensated within 60-180 minutes after discontinuation of electrostimulation and biochemical parameters returned to prestimulation level by 24-48 hours.

AS-19

## EPIPLEURAL BLOCKADE IN GASTROINTESTINAL DISTURBANCE IN CATTLE

Devendra Kumar and Amresh Kumar

College of Veterinary Sciences, Pantnagar- 263145 (U.P.)

Epipleural administration of procaine hydrochloride (0.5%) or lignocaine hydrochloride (0.5%) with and without stomachic powder and rumenotone bolus in clinical cases of ruminal indigestion revealed that procaine hydrochloride (0.5%) alongwith stomachic powder + rumenotone gave a better

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AS-20

## CLINICAL EFFECTS OF DETOMIDIN

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AS-21

## EFFECTS OF

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therapeutic effect over other treatments and recovery was quicker. It was even superior to epipleural procaine or procaine alone or stomachic powder + rumenotone. A marked improvement in general condition of patient, character of faeces, rumen motility, feed intake and milk yield was observed after treatment which steadily improved upto 5th day. The minimal effect was observed in the animals which were treated with stomachic powder+ rumenotone bolus alone and recovery was delayed as compared to other treatment groups. The treatments in order of merit can be grouped as epipleural procaine HCl (0.5%) + stomachic powder + rumenotone; epipleural lignocaine + stomachic powder+rumenotone; epipleural procaine HCl (0.5%); epipleural lignocaine HCl (0.5%); and rumenotone+stomachic powder.

### 20 **CLINICAL, PHYSIOLOGICAL HAEMATOBIOCHEMICAL EFFECTS OF DETOMIDINE WITH OR WITHOUT ATROPINE IN DIAZEPAM PREMEDICATED DOGS**

P.V. Parikh, B. Sharma, S. K. Tiwari, N. S. Jadon and Amresh Kumar

College of Veterinary Sciences, Pantnagar (U.P.)

Detomidine @ 50  $\mu$ g/kg body wt. or 100  $\mu$ g/kg body wt. with or without atropine (0.04 mg/kg body wt.) in diazepam (2 mg/kg body wt.) premedicated dogs caused deep sedation/analgesia lasting 20.5 mts. The detomidine @ 100  $\mu$ g/kg caused a significant ( $P < 0.05$ ) increase in sleeping time and prolonged recovery as compared to @ 50  $\mu$ g/kg dose group. The administration of detomidine caused a fall in rectal temperature ( $P > 0.05$ ) and significant decrease ( $P < 0.05$ ) in heart rate and respiratory rate. The decrease in heart rate was comparatively less in atropine premedicated dogs.

TEC, PCV, Hb and TLC decreased after 30 minutes of detomidine administration in all animals. Glucose level of all groups showed significant ( $P < 0.05$ ) increase in glucose level at 1 hour after injection. Total protein and albumin level decreased slightly in all animals. Slight increase ( $P > 0.05$ ) in SGOT and SGPT level has been observed during analgesia which returned to near pre-administration after 1 hour of initial injection.

All animals irrespective of dose showed depression of pedal and cough reflex as during maximum depth of sedation, whereas palpebral and corneal reflexes were not abolished and greater depression was observed at 100  $\mu$ g/kg dose rate.

### 21 **EFFECTS OF EPIDURAL XYLAZINE WITH DIAZEPAM PREMEDICATION IN DOGS**

N. H. Kelawala, A. Kumar, S. Chaudhary, Harnam Singh, and H. P. Singh

College of Veterinary Sciences, Pantnagar 263 145 (U.P.)

Epidural administration of xylazine @ 0.75 mg/kg (2% solution) in diazepam @ 1 mg/kg I.V. premedicated dogs (12) revealed onset of sedative effects in  $7.12 \pm 2.17$  minutes and analgesia lasted  $4 \pm 3.1$  minutes. The complete recovery occurred in  $108.23 \pm 4.32$  minutes. A significant ( $P < 0.05$ ) decrease in heart rate, respiration rate and rectal temperature was observed at maximum depth of

ation/anaesthesia. The deep sedation/analgesia occurred in all the animals. The heart rate ( $125 \pm 4.1$  per minute) respiration rate ( $19.25 \pm 2.14$  per minute) and rectal temperature ( $102.2 \pm 0.53^\circ\text{F}$ ) pre administration did not decrease below  $58.25 \pm 4.2$ ,  $11.25 \pm 1.26$  and  $101.2 \pm 0.45$ , respectively during 120 minutes period of observation. The haemocytological examination revealed a decrease in C, Hb, PCV and TLC at maximum depth of sedation. Their values returned to near preadministration level by 24-48 hours after induction. The cardio-pulmonary effects revealed a transient effect on MAP, P, tidal volume and minute volume which showed signs of return to their preadministration at the end of recovery from sedation. Surgical operations like intramedullary pinning, extirpation of venereal tumour by episiotomy, gastrotomy, cystotomy could be successfully performed after epidural administration of xylazine with i/v diazepam premedication. The effects of epidural xylazine simulated the effect of its i/m or i/v administration.

-22

### EFFECTS OF EPIDURAL ADMINISTRATION OF DETOMIDINE WITH DIAZEPAM PREMEDICATION IN DOGS

Harnam Singh, S. Chaudhary, A. Kumar, N. H. Kelawala, N. S. Jadon, & H. P. Singh

College of Veterinary Sciences, Pantnagar- 263145.

Epidural administration of detomidine @  $20 \mu\text{g}/\text{kg}$  and @  $40 \mu\text{g}/\text{kg}$  in atropine @  $0.04 \text{ mg}/\text{kg}$  and diazepam @  $1 \text{ mg}/\text{kg}$  I.V. premedicated dogs revealed a dose dependent onset of effects, duration of analgesia and complete recovery time. However, no significant difference was observed between the animals of 20 and  $40 \mu\text{g}/\text{kg}$  groups. A significant ( $P < 0.05$ ) decrease in heart rate, respiration rate and non-significant decrease ( $P > 0.05$ ) in rectal temperature was observed at maximum depth of sedation/analgesia. A comparatively greater and a significant decrease was observed in animals of  $40 \mu\text{g}/\text{kg}$  group. Haematological examination revealed a non-significant decrease in TEC, PCV and Hb (gm %) throughout the period under study. Biochemical studies revealed dose dependent significant hyperglycaemia with non-significant increase in BUN, plasma protein and creatinine values at 12 hours after maximal sedation and analgesia. However, blood glucose level returned to their preanaesthetic level by 48 hrs.

A satisfactory sedation and analgesia was produced after epidural administration of detomidine @  $40 \mu\text{g}/\text{kg}$  body weight. Induction was smooth and free of excitement. Surgical operations viz. ovariohysterectomy, cystotomy, gastrotomy could be successfully performed after epidural administration of detomidine @  $40 \mu\text{g}/\text{kg}$  with i/v diazepam administration. Effects of epidural detomidine simulated the effect of its i/m i/v administration.

AS-23

### EFFECT OF

Detomidine @  $40 \mu\text{g}/\text{kg}$  premedicated with atropine @  $0.04 \text{ mg}/\text{kg}$  and diazepam @  $1 \text{ mg}/\text{kg}$  I.V. revealed good surgical anaesthesia. A significant ( $P < 0.05$ ) decrease in heart rate occurred during surgical operations. Rectal temperature observed during surgical examination revealed a significant decrease after administration of the drug. Biochemical studies revealed a significant increase in plasma urea nitrogen after administration of drugs, however, the blood glucose level remained within normal limits.

The induction of anaesthesia was smooth and free of excitement. Surgical operations viz. ovariohysterectomy (7), splenectomy and recovery were unremarkable.

AS -24

### BALANCE A

A male captive dog was brought to the department for surgical operations. The dog was premedicated with atropine sulphate, diazepam and detomidine @  $0.04 \text{ mg}/\text{kg}$ ,  $1 \text{ mg}/\text{kg}$  and  $40 \mu\text{g}/\text{kg}$  respectively. After 20 mg and 30 mg respectively of atropine premedication, ketamine @  $4 \text{ mg}/\text{kg}$  was administered intramuscularly in divided doses. The dog was sedated in 15 minutes after which the surgical operations were performed. Salivation became minimal during which the surgery was completed in 120 minutes without any

## EFFECT OF DETOMIDINE AND KETAMINE ANAESTHESIA IN DOGS

N. S. Jadon, Amresh Kumar and Harnam Singh

College of Veterinary Sciences, Pantnagar-263145 (U.P.)

Detomidine @ 0.2 mg/kg followed by ketamine hydrochloride @ 5 mg/kg in 12 dogs pretreated with atropine sulphate 0.4 mg/kg intramuscularly, revealed onset of anaesthesia and surgical anaesthesia in  $6.4 \pm 2.3$  minutes and  $41.30 \pm 5.35$  minutes respectively. A significant decrease in heart rate and respiration rate and non-significant decrease in body temperature during surgical anaesthesia. Mean decrease in heart rate, respiration rate and rectal temperature observed was  $74.50 \pm 10.50$ ;  $10.25 \pm 2.25$  and  $37.50 \pm 1.5^\circ\text{C}$  respectively. Haematological examination revealed significant increase ( $P < 0.05$ ) in total leucocyte count at 6 to 12 hour after the administration of the drugs and non-significant effect on other haematological parameters. The clinical studies revealed a significant ( $P < 0.05$ ) increase in plasma glucose with insignificant change in plasma urea nitrogen, creatinine, total proteins at 6 to 12 hours after administration of the drugs; however, the blood glucose level returned to preadministration level by 48 hours.

The induction was smooth and free of excitement. The pupillary reflexes were present throughout the period of surgical anaesthesia in all dogs. In one of the dog vomiting was also observed. Various operations viz. gastrotomy (7), end to end anastomosis of intestine (6), cystotomy (5), ovarioectomy (7), splenectomy (5) were performed in 30 dogs. The anaesthesia was rated good in all cases and recovery was smooth and uncomplicated.

## BALANCE ANAESTHESIA FOR A BEAR (*MELURUS URCINUS*) BY INTRAMUSCULAR ROUTE

Bharat Singh, R. P. Pandey and S. S. Misra.

College of Veterinary Science & A.H., Mathura.

A male captive black bear (*Melurus Urcinus*) weighing about 100 kg was presented to the hospital for surgical removal of epulis. For the anaesthetic management of the bear atropine sulphate, diazepam and triflupromazine hydrochloride was administered in the doses of 0.65 mg S/C, 10 mg and 30 mg respectively by intramuscular route for premedication. After 20 minutes of premedication, ketamine+xylozine mixture at the dose rate of 5+1 mg/kg body weight was administered intramuscularly in divided doses for induction of anaesthesia. The induction of anaesthesia occurred within 5 minutes after which the animal stabilized with regular pattern of respiration, heart beat and reflexes became minimal. The anaesthetic effects lasted for 50 minutes with good muscular relaxation which the surgery was completed painlessly. Complete recovery from anaesthesia occurred in 30 minutes without any ill effects.

AS-25

## EFFECT OF LIGNOCAINE AND XYLAZINE COMBINATION FOR EPIDURAL ANALGESIA IN BUFFALO CALVES

R. P. Pandey, B. Singh, S. U. Farooqui And S. S. Misra

College of Veterinary Science & A.H., Mathura.

Xylazine and lignocaine hydrochloride solutions are physically compatible. Local anaesthetic properties of xylazine are well established and it has been used at 0.07 mg/kg dose rate for epidural anaesthesia which causes marked systemic effects. Lignocaine at higher doses epidurally leads to recumbency. A combination of both these drugs ( xylazine 0.02-0.04 mg/kg and lignocaine 0.5%) was evaluated for epidural analgesia in six healthy buffalo calves of 60 to 80 kg body weight. Five ml of the solution thus prepared was administered epidurally via sacrococcygeal space.

A synergism resulting in marked potentiation of regional analgesic effect of the drugs was recorded in all the animals. The onset of action for tail analgesia was almost instantaneous. Analgesia extended anteriorly upto the umbilicus over next 10-15 minutes. All the animals except one receiving 0.04 mg/kg dose of xylazine maintained standing position with dropped head and salivation. Insignificant decrease in heart rate, respiratory rate, rumen contraction per minute was recorded.

Analgesic effect was tested with needle pricks, by applying tissue forceps and by making cutaneous incisions. Complete recovery occurred in 60 to 90 minutes and no untoward after effects were observed.

The combination epidural analgesia as described above may be exploited advantageously in clinical surgery in standing animals.

AS-26

## ATROPINE-DIAZEPAM- XYLAZINE- THIOPENTONE SODIUM: AN ANAESTHETIC COMBINATION FOR ABDOMINAL SURGERY IN EQUINES

H.B.H. Al- Khatib, Bharat Singh, R.P. Pandey, S.U. Farooqui and S. S. Misra

College of Veterinary Science & A.H., Mathura.

The study was conducted on eight horses (*Equus Caballus*) scheduled for experimental oesophagectomy. The animals were premedicated with atropine sulphate followed after 30 minutes by intravenous injection of a mixture of diazepam and xylazine. Lateral recumbency was attained in quiet manner thereafter, the horses were restrained on the operation table and a 5% thiopentone sodium solution was administered for induction of anaesthesia. For maintenance, incremental doses of thiopentone sodium were administered as and when required.

The combination was found suitable for the purpose and recommended as safe for equine abdominal surgery.

The doses and physiological parameters are discussed.

Chairman

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## RADIOLOGY

Chairman : Dr. B. Prasad

Rapporteur : Dr. G.R. Singh

R-1

### CERTAIN IMPORTANT OBSERVATIONS OF CLINICAL AND EXPERIMENTAL MYELOGRAPHY IN CANINES

S. Thilagar, N.N. Balasubramanian, and R. Ganesh

Madras Veterinary College, Madras-600 007

Eventhough myelographic techniques have been reported often in canine, certain important observations were lacking in review. Observations arrived from both the experimental and clinical study carried out in the Radiology Section constituted the material for the present study. The observations were poor miscibility in the cervical region, partial filling of thoracic spine, less contrast density in aged dogs, increase of inclination while injecting the dye in spinal compression cases, deep entry of spinal needle in muscular animals, garlanding appearance in faulty cisterna magna puncture, different exposure factors for different regions and duration of opacification.

R-2

### INFECTIOUS ARTHRITIS OF CARPAL JOINT—A RADIOGRAPHIC STUDY

Satyendra Kumar and Harpal Singh

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

Experimental study was conducted on 20 buffalo calves. These animals were divided into four equal groups. Infectious arthritis (IA) was induced using  $3 \times 10^8$  *Staph. aureus* in PSS suspension intra-articularly. Group I was control where no treatment was given but in other three groups various therapeutic regimen were applied.

Radiographs were taken on 7, 15 and 30 post infection days. Changes in soft tissue, increased/decreased joint space alongwith osteolytic changes were closely observed in all the four groups and results interpreted.

R-3

### A RADIOGRAPHIC SURVEY OF STIFLE JOINT AFFECTIONS IN DOGS

S.Thilagar, Annif Philip, N.N. Balasubramanian and Archibald David

Madras Veterinary College, Madras- 600007

A total of 123 cases of dogs suspected for surgical affection and subjected for radiographic study at Radiology section of Madras Veterinary College during the period January 1990 to June 1993 constituted the material for the present study. The stifle region was evaluated radiographically in lateral and anterioposterior view. Patellar dislocation (22.0%) and tibial tuberosity avulsion fracture (21.1%) were most commonly observed. Other frequently observed lesions were tibial head fracture (13.0%),

supracondylar fracture (15.5%), condylar fracture (8.9%), distal third of femoral shaft fracture (8.1%), proximal third of tibial shaft fracture (5.7%), tumor (1.6%), osteodystrophy (1.6%) and ligament rupture (1.6%). In affected dogs 60.2% were male and 39.8% female. Highest incidence was seen in non-descript dogs (39.1%) followed by (36.7%) Spitz, (8.2%) German Shepherd and (7.4%) Doberman. Out of 123 dogs 75 dogs were aged less than 1 year with highest incidence within 6 months of age and 24 dogs were between 5 year 10 years.

#### MYELOGRAPHIC STUDIES IN CLINICAL CASES

S.Thilagar, M.S. Gopal, M.S.Dewan Muthu Mohammed, N.N. Balasubramanian, and  
W.P. Archibald David

Madras Veterinary College, Madras-7.

Many abnormalities of the spine like spinal cord tumor, fibrocartilagenous embolisation of the spinal cord, vertebral tumors and extent of compression causing the neurological signs that may not be apparent in survey radiographs need myelography. Twenty four clinical cases reported to college clinics with neurological disorders were considered for this study. The dogs were subjected for myelographic procedure using either Iohexol or Iopamidol at the dose rate of 75 mg/kg body weight. Study revealed conditions like intervertebral disc protrusion (50.0%), spinal compression of unknown etiology (20.8%), wobbler syndrome (12.5%), traumatic fracture and compression (12.5%) and hemivertebra (4.2%). The symptoms exhibited by the animal, myelographic procedure and abnormal lesions were discussed.

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#### STANDARDIZATION OF EXPOSURE FACTORS FOR RADIOLOGICAL EXAMINATION IN BOVINES

A.P. Bhokre, L.G.Lathaker and L.B.Sarkate

College of Veterinary Sciences, M.A.U. Parbhani-431402.

Experimental radiography was undertaken in calves and cows to standardize the radiographic factors for obtaining best quality radiograph of extremities, neck, head, thorax and abdomen. A total of 15 radiographs were obtained in these animals. Keeping all other factors like FFD, intensifying screen, X-ray film, developer, fixer and processing time constant, the ideal radiograph for extremities and neck could be obtained by modifying the formula of Gillette for  $Kvp=2x$  thickness of object in cm+43. The milliamperage used was 80 and 0.3 seconds exposure time. For X-ray of head having object thickness 1 cm, the Kvp selection was a little less i.e. 77 with 19 mAS. For the thorax and abdomen radiographs in lateral recumbency, the Kvp selection ranged between 70 to 81 for small and large size animal, the mAS factor remaining constant.

Clinical radiography was undertaken in 30 animals where 35 skiagrams of extremities, neck, head, thorax and abdomen were obtained with above standardized factors. The results as regards contrast clarity of picture and radiographic details were excellent.



## RADIOGRAPHY OF THE EQUINE DIGIT

Rishi Tayal and A.P. Singh

College of Vety. Sc., CCSHAU, Hissar

Two hundred and fifteen cases of equines were referred to the department during last 10 years for radiographic diagnosis of the diseases causing lameness. Out of these, 41.8% of the cases were diagnosed to be having one or the other kind of bone and joint involvement. Fetlock joint and distal interphalangeal joint were involved in 28.1% of the total cases radiographed and 66.6% of the affected ones. Synovial arthritis and ring bone were diagnosed in 28.3% of affected cases, while side-bone and the soft tissue calcification were observed in 13.3% cases. Other affections diagnosed included periosteitis, osteomyelitis, dislocation and osteoma of fetlock joint, fracture of phalanges and chronic laminitis. Radiographic features of various diseases will be discussed.

## **ORTHOPAEDIC SURGERY**

Chairman : Dr. S.S. Rathor

Rapporteur : Dr. K. Pratap

OS-1

### **OSTEOSARCOMA IN A POMERANIAN DOG AND ITS SURGICAL MANAGEMENT**

S. K. Tiwari, R. C. Ghosh and R. Sharda

College of Veterinary Science & A.H., Durg, (M.P.)-491001

Osteosarcoma involving nasal, ethmoid, maxilla and palatine bones in a Pomeranian dog and its surgical management is reported. Histopathologically, the osteosarcoma is characterised by the presence of osteoblasts which are anaplastic, pleomorphic and having hyperchromatic nuclei. Numerous mitotic figures were found.

OS-2

### **CLINICAL STUDIES ON THE USE OF DEMINERALISED BONE MATRIX COMPOSITE FOR FRACTURE TREATMENT IN RUMINANTS**

B. Ramesh Kumar, T. P. Sastry, C. Radhakrishnan, S. Thilagar, R. Suresh Kumar, K. Ameerjan, S. R. Pattabiraman and N. N Balasubramanian

Madras Veterinary College, Madras-600 007.

Bovine demineralised bone matrix (DBM)- hydroxyapatite composite coupled with gentamicin was prepared in collaboration with Central Leather Research Institute, Madras. The DBM composite was utilised for the treatment of various types of fractures in ruminants at large animal surgical ward, Madras Veterinary College. The pre and post-operative weight-bearing pattern, gait, serum calcium, alkaline phosphatase estimation and radiological studies were conducted to assess the healing pattern. The results are presented and discussed.

OS-3

### **RETROSPECTIVE STUDY ON THE INCIDENCE AND ANATOMICAL LOCATIONS OF ORTHOPAEDIC PROBLEMS IN LARGE ANIMALS**

T. N. Ganesh, T. Sathish, S. Thilagar, B. Ramesh Kumar, K. Ameerjan, S. R. Pattabiraman and N. N. Balasubramanian

Madras Veterinary College-Madras-7.

A survey was conducted on 107 cases of large animals reported to large animal clinic at Madras Veterinary College for a period of six months constituted the material for the present study. Out of 107 cases the common species involved were sheep and goat (62.6%), cattle (34.5%), buffalo (1%), other species (1.9%). Fractures in the pectoral limbs were 30% and in pelvic limbs were 70%. Out of 107 cases 69 animals were below one year of age, 33 animals were between 1-4 years of age and 5 animals were between 4-8 years of age.

## ORTHOPEDIC WIRING FOR BILATERAL CALCANEUS FRACTURE IN GREY HOUND—A CASE REPORT

K. K. Mirakhur, Balwinder Singh and S.N. Sharma

Collage of Vety. Sciences, PAU, Ludhiana-141004 (Punjab).

A five months old Grey-Hound developed a bilateral calcaneus fracture while racing. The calcaneus bone was approached from lateral aspect and osteosynthesis was carried out using orthopaedic wire in both the limbs. Two wire sutures, one in the form of figure of '8' and other as mattress suture, were applied for immobilization. Additional support was provided by Thomas splint for weeks.

Left calcaneus bone healed satisfactorily. Right limb had to be reoperated using the same technique as the proximal fragment developed a fracture at the point of passage of wire sutures. This limb also healed subsequently.

## EXPERIMENTAL SURGERY

Chairman : Dr. S.K. Pandey

Rapporteur : Dr. T.N. Ganesh

ES-1

### STUDIES ON THE USE OF CALCIUM CHLORIDE BY INTRATESTICULAR INJECTION FOR CHEMOSTERILIZATION IN SCRUB BULLS

P.K. Samanta, and B.Mitra

Department of Vety. surgery & Radiology, B.C.K.V., Nadia W.B.

Experiments were designed to know whether calcium chlorider ( $\text{CaCl}_2$ ) at dosage and duration employed by intratesticular injection in 5 different goups produces necrosis of the entire parenchyma of the testes of scrub bulls. The 10%,20%,30%,40% and 40% solutions of  $\text{CaCl}_2$  also contained 2% lignocaine hydrochloride in the ratio of 5:1,10:1,15:1,20:1, and 25:1 in order to minimise any possible pain reaction at the time of intratesticular injection. All the animals tolerated the injection well. The drug did not produce any severe inflammatory reaction of the testes. The physical status was apparently normal in post injection period up to 45 days. Haematological picture reflected mild degree of inflammatory response in the early phase. Grossly, all the testes reduced in size and volume significantly ( $P < 0.01$ ) and in 50% solution treated 75% reduction of the size volume was attained at 45 days. Evaluation of serum testosterone indicated significant reduction from pre-treatment value of  $3.69 \pm 0.07$  mg/ml to  $0.76 \pm 0.018$  mg/ml ( $P < 0.01$ ) at 45 days after injection. The histomorphological findings at 45 days showed extensive or total coagulative necrosis of testicular parenchyma that resulted in desired atrophic changes. These changes can be attributed to the powerful chemosterilising role of  $\text{CaCl}_2$  on the testis which signifies specific local effect within the zone of reaction. Results indicated that the technique is easy to do and inexpensive, does not seem to cause undesirable side effects and appears suitable for large scale sterilization programme in scrub bulls.

ES-2

### AN EXPERIMENTAL STUDY ON ACUTE OSTEOMYELITIS- PLAIN RADIOGRAPHY, OSTEOMEDULLOGRAPHY AND CORE BIOPSY

Y. Sangwan, S.K. Chawla, Jit Singh, A.P. Singh and J.R. Sadana.

College of Vety. Sc., C.C.S.H.A.U., Hisar

Osteomyelitis was induced in tibia of twenty four cow calves, using *Staphylococcus aureus* and saw dust. Changes in plain radiographs, osteomedullograms and marrow histopathology were studied at various intervals upto day 30 post infection.

The radiographic signs of osteomyelitis were evident from day 20 onwards. At day 20, the signs were variable, by day 30, typical signs of cortical lysis, medullary radiolucency, periosteal elevation and sequestra formation were clearly evident.

Osteomedullograms at day 5 revealed accumulation of contrast material at proximal epiphysiometaphyseal region. However, from day 10 onwards considerable stasis and delayed drainage

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contrast media was evident. The histopathology revealed acute inflammatory signs such as congestion, haemorrhage, serofibrinous exudate and necrotic tissue upto day 10. Subsequently, slight tissue proliferation with more inflammatory cells were observed at day 15 and extensive fibrous tissue proliferation was evident at day 20.

Thus, osteomedullography and core-biopsy can be used to diagnose osteomyelitis at early stages when changes are not evident on plain radiographs.

### **EXPERIMENTAL EVALUATION OF BLADDER RECONSTRUCTION USING PRESERVED HOMOGENOUS PERICARDIUM IN GOATS**

**S.K. Nandi, P.K. Bose, B.B. Das, A.K. Chatterjee**

Deptt. of Surgery & Radiology, B.C.K.V., Nadia (W.B.)

In the present study, cystoplasty was performed on twelve female goats. Preserved homogenous pericardium was used for cystoplasty in animals. The animals were sacrificed on 21st and 45th day post-operatively. Clinically, the animals were dull and depressed initially and the temperature, pulse rate and respiration rate were increased upto 1 week. Biochemical studies revealed transient increase in blood urea nitrogen upto 1 week and an insignificant increase of serum creatinine levels. Microscopically, the mucous membrane of bladder appeared to cover up by multilayered transitional epithelium and flattened lining epithelium of pericardium. Good amount of collagen fibres were also deposited.

### **RADIOGRAPHIC AND GASTROGRAPHIC OBSERVATIONS ON GASTROTOMY WOUND HEALING OF LEAST VASCULAR AREA OF STOMACH IN DOGS - AN EXPERIMENTAL STUDY**

**A.K. Maji And P.K. Bose**

Department of Surgery & Radiology, B.C.K.V., Nadia (W.B.)

Gastrotomy wound healing of avascular area of stomach in twenty four adult mongrel dogs of either sex divided into 4 groups- Gr. I (Cotton), Gr. II (Braide Silk), Gr. III (chromic catgut) and Gr. IV (fishing cord braided nylon) were studied by Barium Sulphate Suspension Gastrography and the animals were sacrificed at 3rd, 7th, 15th and 21st post-operative days for angiography of morbid stomach by injecting barium sulphate through the coeliac artery. The results interpreted from the radiograph are discussed.

ES-5

## ISOLATION AND CHARACTERISATION OF STOMACH MICROFLORA AND ITS RELATION TO GASTROTOMY WOUND HEALING IN DOGS

A.K. Maji and N.C. Nag

Deptt. of Surgery & Radiology, B.C.K.V., Nadia (W.B.)

Twelve dogs of either sex divided into two groups of 6 animals each were studied. In group I, Silk and in group II Catgut were applied for suturing the experimental stomach wound. *Enterobacter* sp. was isolated from the contents of normal and gastrotomised stomach of both the groups. Mice inoculation test was negative. Rabbit gut loop test for enteropathogenecity was non-significantly positive. The bacteria was highly sensitive to Norfloxacin, Ciprofloxacin and Gentamycin, intermediate to resistant to Sisomycin, Lincomycin and Cephaloridine and resistant to 3rd generation Cephalosporine (Cefotaxime), Mandelamine and Lederomycin. The relations between the viable counts of bacteria of the contents of different pH at preoperative and 2nd, 4th, 6th, 9th, and 12th post-operative days and wound healing are discussed.

ES-6

## COMPARATIVE EVALUATION OF DIFFERENT TYPES OF SUTURE MATERIALS IN STOMACH WOUND HEALING IN DOGS- HISTOMORPHOLOGICAL AND HISTOCHEMICAL OBSERVATIONS

A.K. Maji, P.K. Bose and J. Sengupta

Department of Surgery & Radiology, B.C.K.V., Nadia (W.B.)

Twenty four adult dogs of either sex were utilized to evaluate the wound of least vascular area in the body parallel to the greater curvature of the stomach sutured in double-layer by using cotton thread(Gr.I), braided silk(Gr.II), chromic catgut (Gr.III) and fishing cord braided nylon (Gr.IV) at 3rd, 7th, 15th, 21st and 30th post-operative day. The results of microscopic observations by Haematoxilin -Eosin stain and van Gieson stain for collagen fibres are presented.

ES-7

## LAK(LYMPHOCYTE ACTIVATED KILLER CELLS) FOR VENEREAL GRANULOMA IN A CASTRATED DOG

A.M. Pawde, T.K. Goswami, Kali Charan, Amarpal and Naveen Kumar.

Division of experimental Medicine and Surgery, IVRI, Izatnagar

Efficacy of LAK was evaluated in a castrated male dog suffering from venereal granuloma. Peripheral blood lymphocyte (PBL) were isolated and incubated with a mitogen for 48 hours. Intralesional injections of these LAK were given twice weekly. Daily gross and bi-weekly biopsy examinations done. Regression of the lesion (grossly) started on 3rd day and by 2nd week substantial reduction was observed. Histopathological examination of initial samples post-injection revealed infiltration of lesion by lymphocytes

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### WOUND HEALING PROPERTIES OF *TRIDAX PROCUMBENS* FRESH JUICE

A.M. Pawde, G.R. Singh, Amar pal and Naveen Kumar.

Division of Experimental Medicine and Surgery, IVRI, Izatnagar

Healing properties of juice obtained after crushing fresh green leaves of *Tridax procumbens* were evaluated in experimentally created 4 large (6x4") skin defects as well as clinical cases (2 Equines).

Appreciable anodyne and astrigent effects were noticed within in few hours in wounds treated with leaf juice of *Tridax Procumbens*. It casued rapid dry contracture of wounds, discouraged exuberant granulation tissue growth and resulted in early wound healing with minimum scar formation.

ES-9

### REPEATED LAPAROTOMY ON LINEA ALBA USING THE SAME LINE OF INCISIONS AND ITS EFFECTS ON SKIN, MUSCLES AND PERITONEUM

B.B. Das, D.B. Mukherjee, P.K. Bose and P.K.Samanta

Faculty of Vety. & Animal Sciences, BCKV, Nadia (W.B.)

36 bitches aged between 1 and 1½ years weighing close to 10.5 kg were selected for this experiment. The bitches were divided in 6 groups – A, B, C, D, E and F. The animals according to group were subjected to midventral laparotomy on linea alba once, twice, thrice, 4 times, 5 times and 6 times at 100 days interval. The clinical and histopathological studies were done for assesment of pathological changes of skin, muscles and peritoneum on each group.

ES-10

### GROSS AND HISTOMORPHOLOGICAL EFFECTS OF THERAPEUTIC ULTRASOUND (1W/CM<sup>2</sup>) IN HEALING OF HUMERUS FRACTURE IN DOGS

M. Singh, V.K. Sobti and K.S. Roy

Deptt. of Veterinary Surgery and Radiology, PAU, Ludhiana

Mid shaft transverse fracture of humerus was created experimentally and repaired by intramedullary pinning in 8 dogs. In 4 dogs, ultrasound therapy at the rate of 1w/cm<sup>2</sup> was given on alternate days starting 3 days after the surgical repair. A total of 10 treatments were given. Callus harvested 40 days after the repair of fracture showed greater inflammatory reaction in the control where there was mild inflammatory reaction in the treated animals. The fibroblastic and osteogenic activity was better in the treated animals. The treated animals showed more acid and neutral mucopolysacecharides. The surrounding muscle fibres of the treated animals showed clear and distinct striations while those of control animals showed hyaline degeneration.

ES-11

### **STUDIES ON PREVENTION OF INTRA ABDOMINAL ADHESIONS IN DOGS**

**Vikram Mohindra, K.K. Mirakhur and K.S. Roy**

Deptt. of vety. Surgery & Radiology P.A.U., Ludhiana

Efficacy of normal saline solution peritoneal lavage (5dogs ) and of amniotic membranoplasty (7dogs) were evaluated for prevention of postoperative adhesion after laparocystotomy, abrasion of urinary bladder serosa and cystorrhaphy (5 dogs)

Normal saline solution peritoneal lavage minimised intra- abdominal adhesions to some extent while it was prevented by amniotic membranoplasty.

ES-12

### **STUDIES ON THE ROLE OF AMNIOTIC MEMBRANE IN URETHRAL HEALING IN DOGS**

**Vikram Mohindra, K.K. Mirakhur and K.S. Roy**

Deptt. of Vety. Surgery & Radiology P.A.U., Ludhiana

Comparison was made of the healing and development of stricture of non-sutured prescrotal incisions (5 dogs) with that of sutured incisions (4 dogs) and non-sutured incision with amniotic membrane casing (7-dogs). Comparison was also made of healing of 4-0 chromic catgut sutured urethrae incisions (3 dogs) with that of 4-0 polygalactin 910 sutured incisions (3 dogs)

Marked inflammation occurred postoperatively in dogs in which urethrae incisions were not sutured or in non sutured amniotic membrane casing of urethrotomy site. The surgical sites in which incisions healed by second intention had more fibrosis than did those that were sutured. Chromic catgut showed more cellular reaction than did with polygalactin 910 sutured incisions. No appreciable urethrae stricture formation occurred in any of the dogs.

ES-13

### **STUDIES ON HISTOMORPHOLOGICAL CHANGES AFTER CYSTOPROSTHESIS USING FORMALIN PRESERVED URINARY BLADDER GRAFTS IN BUFFALO CALVES**

**S.P. Sharma**

Bihar Veterinary College, Patna- 800 014

Cystoprosthesis using formalin preserved urinary bladder graft was performed on partially cystectomised male buffalo calves. All the experimental animals survived the surgery. Clinical manifestations of the operated animals upto 90th post-operative day did not indicate any untoward symptom. The level of urea nitrogen in blood upto 30th postoperative day fluctuated within the normal range. All the operated animals remained in normal habitus and good health even upto last day of study. Gross and histological examinations revealed that the prosthesis served as a resorbable matrix around which there was gradual regeneration of the urinary bladder. There was presence of small



residual matrix in few cases up to last day of observation but complete regeneration of the bladder tissues with transitional epithelium was marked histologically on 90th postoperative day.

ES-14

### **EFFICACY OF SHORTWAVE DIATHERMY FOR VARIOUS MUSCULO-SKELETAL DISORDERS IN CANINES**

**M.S. Vasanth and O. Ramakrishna**

College of Veterinary Science, Tirupati- 517 502.

Ten clinical cases with various musculo- skeletal disorders like bursitis, myositis, arthritis, spondylities etc., were treated using shortwave diathermy. Treatment was of ten minute duration and given on alternate days.

The improvement following treatment was based on reduction of pain and functional restoration. The grading of response was mostly subjective clinical judgment.

Shortwave diathermy relieved pain, reduced inflammation and these animals showed early recovery to normal in most cases.

ES-15

### **THERMODYNAMIC EFFECTS OF SHORTWAVE DIATHERMY ON DIFFERENT TISSUES OF FEMORAL REGION IN CANINES**

**M.S. Vasanth and O. Ramakrishna**

College of Veterinary Science, Tirupati-517502

Six dogs were used to study the thermodynamic effects of shortwave diathermy on different tissues of femoral region in canines.

A thermocouple digital thermometer was modified to have seven thermocouple probes. These probes were fixed to different tissues of thigh region viz., skin, subcutaneous tissue, muscle, muscle-bone junction, bone and bone marrow.

Shortwave diathermy was administered for a duration of 30 minutes and temperature changes were recorded in these tissues at every five minutes for 60 minutes duration. The experiment was repeated on the contralateral femur with intramedullary pin. There was significant elevation in temperature of all the tissues with in 10 minutes of therapy. Intramedullary pin showed a gradual rise in temperature and reached significant levels by 40th minute and remained so till 60th minute.

ES-16

### **COLOSTOMY IN POULTRY**

**P. Kinjavadekar, J. Verma and G.R. Singh**

Div. of E. M. S., I.V.R.I., Izatnagar

The estimates of the digestibility of protein feeding stuffs in poultry could not be made on the droppings which contained uric acid and other nitrogenous products of urinary origin. Since urine and

faeces are excreted through a common opening (Cloaca), the estimation of digestibility of proteins from faeces required surgical separation of colon as chemical means of estimation have serious limitations. Hence, Colostomy was performed in poultry by anchoring the terminal part of colon to the skin. The fistula thus created remained functional indefinitely. Colostomy, therefore, is a suitable method for long term collection of faeces in poultry.

ES-17

### **SPENOPORTOGRAPHY TECHNIQUE IN AN EXPERIMENTAL STUDY**

**G. Dhanan Jaya Rao, W.P. Archibald David, N.N. Balasubramanian,  
Justin William, Ravisunder George, S. Thilagar and R. Jayaprakash**

Department of Surgery, Madras Veterinary College, Madras-7

Contrast radiographic studies of hepatic circulation is helpful in diagnosing hepatic cirrhosis, abscesses, neoplasms, portal hypertension, arterioveous malformation and hepatic regeneration. The study was undertaken in 12 experimental dogs, to evaluate the usefulness of splenoportography (SPG) in studying the portal vein branches in pre and post hepatectomised dogs, its complications and feasibility in the field without the use of rapid cassette changer and/or fluoroscopy. The percutaneous approach to the spleen was 2cm below the costal arch and posterior to the 12th rib on the right side. The spleen was located by palpation and an 18G, 7cm length teflon sheathed intravenous canula was introduced into the abdomen through a small skin nick. The tip of the needle was positioned as close to the hilus as possible. 20-30 ml meglumine iothalamate injected with pressure and lateral radiograph was taken. The quality of SPG differs with the position of the dog, the best position being right lateral recumbency. SPG revealed intrahepatic vasculature, distribution, the number and caliber of vessels before hepatic surgery. The post operative 14th day of partial hepatectomy SPG revealed the proliferating capillaries indicating the process of regeneration of the hepatic surface. The major complication, being splenic haemorrhage and the minor complications were leakage of contrast medium into peritoneal cavity, splenic laceration and splenic haematoma.

ES-18

### **AUTOGENOUS CANCELLOUS BONE, ALLOGENIC AND XENOGENIC DEMINERALIZED BONE MATRIX AS BONE GRAFTS IN DOGS -CLINICO- HAEMATOLOGICAL AND BIOCHEMICAL STUDIES**

**T.N. Ganesh, T.P. Sastry and M.S. Dewan Mohammed.**

Madras Veterinary College., Madras-7

An experimental study was conducted on 42 mongrel dogs divided into four groups. Group I, II and III comprising twelve dogs each were divided based on the type of graft they received. The fourth group comprised of six dogs served as control. A 0.5 cm segmental defect was created in the distal third of the radius. Group I dogs received autogenous cancellous bone. Group II allogenic demineralized bone matrix hydroxyapatite composite and Group III dogs received xenogenic (Bovine) demineralized bone matrix-hydroxyapatite composite as bone graft. The defects were not filled in the control group.

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The parameters studied were weight bearing pattern or gait of the animal, haemogram, serum calcium, phosphorous and alkaline phosphatase. Marked monocytosis was noticed in the Group III. A reduction in the calcium values upto 2 weeks after surgery followed by an elevation was observed. In group III there was delay in the calcium elavation. The changes in serum phosphorous were irregular in all the groups. Significant elevation of serum alkaline phosphatase was noted in all the groups immediately after surgery.

ES-19

### **AUTOGENOUS CANCELLOUS BONE, ALLOGENIC AND XENOGENIC DEMINERALISED BONE MATRIX AS BONE GRAFTS IN DOGS- RADIOLOGICAL AND PATHOLOGICAL STUDIES**

**T.N. Ganesh T.P. Sastry and M.S. Dewan Muthu Mohammed.**

Madras Veterinary College., Madras-7

An experimental study was caried out in 42 mongrel dogs divided into four groups viz, group I (autogenous cancellous bone), Group II (allogenic demineralized bone matrix) Group III (xenogenic demineralized bone matrix) and Group IV (Control). The dogs were operated to create a 0.5 cm segmental defect in the distal third of radius. The parameters studied were plain radiography, contrast radiography, gross and histopathological studies.

Radiologically there was bridging of the gap in Group I and Group II dogs by 12 weeks. However, in Group II dogs there was a persistent lucent line at the central area. There was no evidence of bridging in group III and IV dogs. Brachial angiography was found to be too insensitive to show the small vessels at the fracture healing site, at 21 days. Histologically xenogenic demineralized bone matrix showed unsatisfactory union as in the case of control group. The allogenic demineralized bone matrix was found to be good while the autogenous cancellous bone was found to be the best as there was quick, rapid and complete bone repair.

ES-20

### **RADIOLOGICAL AND HISTO-PATHOLOGICAL OBSERVATIONS IN INDUCED SEPTIC ARTHRITIS**

**K. Pratap, G.R. Singh, N.S. Parihar and H.C. Setia**

Division of Surgery, IVRI, Izatnagar.

Infectious arthritis of tarsal joint was produced by intra-articular inoculation of *Streptococcus pyogenes* organisms in 24 calves, divided into 4 group of six animals each. In group I, no treatment (Control group), and in other groups treatment comprising of drainage, joint lavage, intra-articular/parenteral administration of specific antibiotic (Gr. II) plus auto (Gr. III) and allogeneic synovial tranfusion (Gr. IV) commenced from day 11 post- inoculation. Radiographic changes, except for soft tissue swelling observed on day 15, remained insignificant in treatment groups. In control group, rarefaction of distal end of malleolus and new bone formation was seen on day 30 and 45 post-infection. Double contrast arthrography and angiography, on day 30 and 45 post-infection, respectively, failed to

demonstrate any significant radiographic changes except for hypervascularity in the peri-articular soft tissue in the control group. On day 45, the gross observations showed purulent exudate, denuded and oedematous synovial membrane and dull and rough articular cartilages in the joint cavities of the animals of control group. In treatment groups, synovial fluid was clear, synovial membrane was smooth and the articular cartilages were glistening and normal in appearance. The histo-pathological changes were suggestive of acute/subacute inflammatory reaction in synovial membrane and degenerative changes in articular cartilages. The lesions were more prominent in control group.

ES-21

### INDUCED INFECTIOUS ARTHRITIS IN CALVES

K. Pratap, G.R. Singh and P.N. Kumar

Division of Surgery, I.V.R.I., Izatnagar

*Streptococcus spp.* is one of the common isolates from the spontaneously occurring cases of infectious arthritis in bovines, yet patho-physiology of *Streptococcus pyogenes*, induced infectious arthritis has not been studied in detail. The present study deals with the clinical manifestations of tarsal infectious arthritis, induced by intra-articular inoculation of *Streptococcus pyogenes* ( $4.8 \times 10^9$  CFU) organisms in 24 calves, divided into four groups of six animals each. In group I, no treatment was given (Control). In other three groups treatment comprising of drainage, joint lavage and specific antibiotic (Gr. II), autogenous (Gr. III) and allogeneic (Gr. IV) synovial transfer, commenced from day 11 post-inoculation. The clinical symptoms viz., elevation of rectal temperature, respiration and pulse rates, hot painful peri-articular swelling, lameness during progression and partial weight bearing on toe at rest, simulating to spontaneous cases of infectious arthritis developed within 24-48 hours. The organisms, however, could be isolated from the synovial effusions of seven animals only on day 7 post-inoculation. Most of the clinical signs, though showed gradual improvement, never returned to normal in control group. In treatment groups, the recovery was relatively faster. This was more true in group III.

ES-22

### USE OF INTRAVENOUS CUT-DOWN CANNULA AS A TOOL FOR SURGICAL EMBRYO COLLECTION AND TRANSFER IN GOATS

W.B. Justin, D. Kathiresan, S. Thilagar, A. Palanisamy, G.D. Rao, V. Leela,  
K. Nachimuthu and V.D. Padmanaban

Deptt. of Animal Biotechnology, Madras Vety. College, Madras-7

Minimal handling of reproductive tract is very essential for successful embryo transfer. For minimal handling of reproductive tract the conventional method of flushing and embryo transfer were modified by the use of 1/2 cut down cannula. Superovulated Tellichery does were used for surgical embryo collection. Midline laparotomy under general anaesthesia was performed in both donors and recipients anterior to the udder. The ostium tubae abdominalis was cannulated and a 10 gauge cut-down cannula was passed into the uterine lumen one inch away from utero-tubal junction and the tip of the cannula was fixed to the uterine opening of fallopian tube. Flushing was done with 5 ml Dulbaccous

phosphate buffer. Good quality embryos were loaded in 21 gauge cut-down cannula passed into the recipient's uterine lumen and the tip was advanced to the infundibulum and the embryos were deposited 2 to 3 cms below the ostium.

The present procedure resulted in good recovery of embryos with minimal quantity of flushing medium in donor and pregnancies in recipients. Myometrial stretching and adhesions in the reproductive tract were not observed in this study.

ES-23

### **PLEURAL AND PERITONEAL DIALYSIS IN THE MANAGEMENT OF URAEMIA IN GOATS : RADIOLOGICAL AND HISTOPATHOLOGICAL OBSERVATIONS**

Y.K. Reddy, I.V. Mogha and S.K. Chattopadhyya

Div. of EMS, IVRI, Izatnagar

The efficacy of peritoneal and pleural dialysis in the management of uraemia following urinary bladder rupture was compared in 18 male goats divided into 3 groups of 6 animals each. Animal model for uraemia was prepared by ligating urethra in all animals. In group I, the treatment included drainage of urine from abdominal cavity, repair of urinary bladder and intravenous administration of normal saline @ 30 ml/kg body weight daily for 3 days. Animals of group II and III were subjected to peritoneal and pleural dialysis respectively, in addition to the treatment given in group I. Clinically, the animals of all groups, behaved more or less in the same manner following bladder rupture. Thoracic radiographs taken after 10 days of pleural dialysis, in animals of group III, did not show any evidence of pleural effusion.

At necropsy, no marked changes were observed in visceral organs. Microscopic examination of kidney, bladder, liver and heart revealed degenerative changes in the animals of all the groups. Histopathological examination also indicated that degenerative changes in various organs were in process of reversal and in way of reparative changes. On the basis of these, it may be concluded that peritoneal and pleural dialysis can be practiced under field condition. Peritoneal dialysis was more effective in reducing the abnormal level of BUN than pleural dialysis.

ES-24

### **STUDIES ON DYNAMICS OF BONE HEALING BY THE ADMINISTRATION OF *CISSUS QUADRANGULARIS*, A HERBAL PLANT AS BONE INDUCER**

D.P. Singh

Bihar Veterinary College, Patna - 14

The present study was conducted on 12 Black Bengal Goats. Mid shaft fracture of left metacarpal bone was created under regional anaesthesia. Six animals were kept as control where no treatment was given except conventional immobilisation with plaster cast. In six animals, alcohol free aqueous extract of *Cissus quadrangularis* was administered intramuscularly twice a week for 6 injections @ 1 ml/kg body weight, 1 ml of aqueous extract was equivalent to 2 gm of dried powder along with conventional treatment of immobilisation.

The efficacy of bone inducer used was evaluated in comparison to control by clinical , radiological, biochemical , histopathological and tetracycline labelling study and discussed.

ES-25

### **COMPARATIVE EFFICACY OF PARA ANAL APPROACH FOR CYSTIC REPAIR IN MALE BOVINES**

**J. Mohanty, P.K. Das and A.K. Ray**

Faculty of Vety. Sc., O.A.U., Bhubaneswar

Eighteen apparently healthy bullocks in the age group of 8 to 10 years were subjected to bladder repair through para-anal and paramedian approaches after simulating a similar clinical condition of obstruction by ligating the urethra at post-scrotal region. Bladder repair was done after 48, 72 and 96 hours of urethral obstruction in different subgroups.

Clinical, biochemical and haematological observations were taken just before the creation of obstruction and then at 24 hours interval up to the fifth post-operative day of bladder repair.

The bladder was found to be distended after 6 hours of obstruction. There was seepage of urine after 72 hours obstruction.

In para-anal approach, 1/3rd of the bladder could be brought outside for surgical manipulation. It was easy to introduce catheter into the neck of the bladder, by pushing of catheter through pelvic urethra and crossing the ischial region was very difficult. It was also difficult to detect small leakage points during bladder repair.

In paramedian approach, little less than 50% of the bladder could be brought under vision for surgical manipulation. Catheterisation was very easy. Small leakage points could be easily detected during bladder repair. It was possible to take up surgical manipulation of bladder on all its surfaces by introducing both hands into the peritoneal cavity. Intestinal loops were interfering to a great extent in case of paramedian approach.

ES-26

### **SURGICAL REPAIR OF URINARY BLADDER IN MALE BOVINE THROUGH LEFT FLANK APPROACH AND ITS COMPERATIVE STUDY**

**J. Mohanty, S.U. Duala and V.S.C. Bose**

Faculty of Vety. Sc., O.A.U., Bhubaneswer.

Eighteen bullocks in the age group of 8 to 10 years were subjected to urinary obstruction through ligation of urethra at post-scrotal region. Surgical repair was taken up by left flank and paramedian approaches at 48, 72 and 96 hours of obstruction.

A lower left flank approach was very close to the bladder. It was found difficult to manipulate the whole of bladder in view of space limitation.

Paramedian approach had the advantage of wider space resulting in all kinds of surgical manipulation of bladder. Passing of catheter was easy in both the methods.

ES-27

## **STUDIES ON THE TRACHEAL RECONSTRUCTION USING AUTO GENOUS AURICULAR CARTILAGE, TRACHEAL ALLOGRAFT AND DACRONMESH**

**N. Arul Jothi, W.P. Archibald Balraj David. and N.N. Balasubramanian.**

Veterinary College & Research Institute, Namakkal.

A comparative study was conducted for tracheal window defect using Autogenous auricular cartilage, Tracheal allograft and Dacron mesh. A total of 18 adult non-descript dogs were utilised for this study. They were divided into three groups of six animals each. Clinical signs, physiological, haematological, bronchoscopic, radiological, gross and histopathological studies and the pre and post-operative changes were studied on the 3rd, 7th, 14th and 30th and post-operative day.

The clinical signs exhibited by all the animals were, cough and oedema. Body temperature showed significant changes in all the three groups post-operatively. No significant change in the pulse rate was observed.

Total erythrocyte counts, total leukocyte counts and neutrophil counts were increased in all the three groups post-operatively. Haemoglobin, packed cell volume, erythrocyte sedimentation rate, monocyte counts and eosinophil counts did not change.

In blood gas analysis pH and PaCO<sub>2</sub> were unaltered before and after surgery in all the three groups. However significant increase in PaO<sub>2</sub> was noticed on the 3rd post-operative day. Bronchoscopic examination revealed normal tracheal lumen at the grafted area in autogenous auricular cartilage and tracheal allograft group. Dacron mesh group showed slight narrowing of the lumen. In tensile strength estimation autogenous auricular cartilage showed elevated values than tracheal allograft and dacron mesh groups.

Plain and contrast radiography showed normal tracheal pattern in autogenous auricular cartilage and tracheal allograft groups. In dacron mesh group tracheal constriction was noticed. Regarding gross pathological changes at the grafted area no congestion was noticed in autogenous auricular cartilage and tracheal allograft groups. Dacron mesh group showed mild constriction, histopathological studies revealed inflammatory reactions which were less in autogenous auricular cartilage group, when compared with tracheal allograft and dacron mesh groups.

ES-28

## **STUDIES ON USE OF HUMAN AMNIOTIC MEMBRANE IN ESOPHAGEAL SURGERY IN DOGS**

**K.S. Chauhan and K.K. Mirakhur**

College of Veterinary Science, PAU, Ludhiana

Esophageal healing along esophagotomy site was evaluated with amniotic membrane casing (5 dogs). Healing of the experimentally created esophageal mucosal defects with (5 dogs) and without amniotic membrane graft (2 dogs) was also evaluated. Interpositioning of the autogenous, orthotopic, avascular intestinal (ileum or colon) segment to bridge the smaller cervical esophageal resections (5 dogs) was also carried out. There was one survivor (ileal graft) in this group. Animals were fed via

pharyngostomy tube for first seven days, except the animals subjected to simple esophagotomy and amniotic membrane casing which in turn were fed by oral route from the very beginning.

Intestinal segment necrosis and leakage was observed in animals subjected to avascular intestinal segment grafting in 4 out of 5 animals. No leakage was observed in any animal in rest of the groups. No feeding problem with any feed was observed except in animals subjected to mucosal stripping without membrane graft. Initial weight loss followed by a gain was a common feature. Maximum wall scarring observed at 15th post-operative day resolved appreciably by 30th post-operative day due to soaked and dry feed boluses. Amniotic membrane casing exerted buttress effect to the esophagus at the incision line. It enhanced the re-epithelization of the esophageal mucosal defects with less scarring. The grafted autogenous avascular ileal segment had both macroscopic and microscopic vasculature. Esophageal epithelial regeneration over the ileal segment lumen was in the process. Normal microscopic structure of ileum was lost.

ES-29

### **EVALUATION OF INTRAMUSCULAR VS. INTRA-ARTICULAR ADMINISTRATION OF GENTAMICIN FOR TREATMENT OF INFECTIOUS ARTHRITIS IN BOVINES**

**B.A. Moulvi, I.S. Chandana, Rishi Tayal and Jit Singh**

College of Veterinary sciences, Hisar

A study was conducted in 20 calves to evaluate systemic and local treatment for infectious arthritis in bovines. The disease was produced by intra-articular administration of *staphylococcus aureus* organisms. Treatments evaluated were: intramuscular administration of gentamicin, intra-articular administration of gentamicin and a combination of both and lavage of the joint. Results were evaluated on the basis of clinical signs, radiography, bio-chemical analysis of blood and synovial fluid and histopathological studies. Intramuscular gentamicin proved effective in checking the infection.

ES-30

### **EFFECT OF FREEZING ON SYNOVIA OF CALVES**

**Rishi Tayal, A.P. Singh, B.A. Moulvi, Maninder Singh & Sarbjit Singh**

College of Veterinary Sciences, Hisar

Twenty samples of normal synovial fluid taken from the radio-carpal joint of calves were frozen for seven days to study the effect of freezing on the synovial constituents. No change was observed in the color and clarity of the samples. The mucin clot quality changed from normal to fair. Substantial reduction in the relative viscosity of the samples was observed. The total leucocyte count and total proteins and glucose values also decreased slightly. Inference can be drawn from the results that the hyaluronic acid content of the synovial fluid reduced on freezing.



## IMMUNOPOTENTIATION BY ELECTROACUPUNCTURE IN GOATS

Awadh Bihari, Amresh Kumar and S.K. Garg

College of Veterinary Sciences, Pantnagar-263145 (U.P.)

Twelve goats were immunized with *Salmonella* 'O' antigen. Four goats of group 1 were treated as control, four goats of group 2 were treated by electroacupuncture stimulation at Tsu-San-Li (ST-36) San-Yin-Chiao (SP-6), Hoku (LI-4), and Daz hui (GV-14) acupoints and the goats of group 3 were treated with Zuangzhong (GB-39), Xue-hai (SP-10), Chu-chih (LI-11) and Taichung (Liv-3) acupoints. The electroacupuncture stimulation in animals of groups 2 and 3 caused a significant ( $P < 0.05$ ) increase in antibody titre from 1:7.5 (control) to 1:22.5 and 1:20 respectively against *Salmonella* 'O' antigen at day 5 post-inoculation. The antibody titre gradually and significantly ( $P < 0.05$ ) increased to 1:1440 and 1:1120 at day 14 respectively against 1:320 of controls. Thereafter it had declined to 1:120; 1:90 and 1:15 respectively by day 30. There was no significant difference in antibody titre between different groups of acupuncture stimulated animals.

## THE NORMAL HAEMOGRAM OF DRY AND LACTATING MURRAH BUFFALOES

I.S. Nigam and B.C. Raizada

College of Vety. Sc. & A.H., Mathura.

The mean values of R.B.C. (million, Cu.mm.) Hb (grm%) P.C.V. (%) T.L.C. (Thousand/cumm) and E.S.R. (Mm/hr) estimated in morning collection from the jugular venous blood were 5.95±0.35 (range 5.22-7.45); 10.0±0.53 (8.0-12.0), 34.0±2.45 (22-55), 11.90±0.86 (10.4-13.1) 85.50±9.47 (56-110) in early lactating; 6.26±0.15 (5.89-6.91), 10.17±0.51 (8.5-11.5) 38.33±3.29 (31-54), 13.40±1.30 (8.50-17.76), 81.50±10.69 (45-100) in mid lactating; 6.34±0.35 (5.37-7.48), 11.17±0.46 (10.0-12.5) 33.83±1.40 (30-39), 11.54±0.94, 84.33±13.13 (27-115) in late lactating; and 6.95±0.27 (5.66-8.62), 11.25±0.50 (9.5-14.50) 33.45±1.24 (28-40) 13.32±1.18 (9.10-19.45), 77.80±9.07 (41-119) in dry buffaloes, the DLC in the early, mid, late lactating and dry buffaloes had 41.67±0.99 (38-45), 43.00±1.37 (39-48) 38.00±1.10 (37-41), 47.50±2.12 (33-55), % neutrophils; 4.67±0.33 (4-6), 3.67±0.61 (2-6), 3.83±0.54 (2-5), 4.40±0.78 (2-10) percent eosinophils; 51.17±1.38 (46-56), 50.33±1.67 (46-55) 55.67±1.17 (52-60); 45.60±2.60 (39-63) percent lymphocyte 2.50±0.34 (2-4) 3.00±0.37 (2-4), 2.50±0.34 (2-4), 2.60±0.22 (2-4) percent monocytes. The normal haemogram of buffaloes may prove useful in clinical diagnosis of infection.

ES-33

## HISTOMORPHOLOGY OF ENDOMETRIUM DURING OESTRUS CYCLE IN SHEEP

D.K. Johari, and B.C. Raizada

College of Veterinary Science & A.H., Mathura.

The histomorphology of uterine endometrium in normal genitalia of an oestrus and cyclic non discript adult sheep obtained from the local slaughter house was carried out.

In anoestrus, oestrus, dioestrus (4 to 5 days prostoestrus) and metoestrus (10 to 12 days posteoestrus) ewes, the epithelial height (u) irrespective of the sites of cornua was 14.02,12.15,20..70 and 16.05 in the right horn and 14.85,12.56, 19.80 and 15.50 in the left horn, respectively. The position of the nucleus was mostly from base to middle in onoestrus and methoestrus ewes, and at the base at other stages of the cycle. The shape of the nuclei was oval to elongated and vesicular in anoestrus and oestrus; and elongated and compact to vesicular in dioestrus and metoestrus. The average length of the nuclei (u) was 8.88 to 9.07 in anoestrus, 8.25 in oestrus, 8.17 to 8.57 at dioestrus and 9.56 to 10.32 at metoestrus. The supra nuclear cytoplasmic vacuoles were abundently observed alongwith clear cells at oestrus and absent or rarely present at other stages studie. The thickness of the lamina propria and stratum compactum was 598.50 and 48.05 in anoesturs, 1531.80 and 79.20 at oestrus, 800.00 and 92.48 at dioestrus and 980.6 and 64.35 at metordtrus in right horn , the irrespective values for the left horn were 882.40 and 66.00,1465.20 and 72.50,920.00 and 85.00 and 936.60 and 55.35. The mean thickness of the uterine mucosa irrespective of the sides of horns was minimum (815.47 u) at anoestrus, significantly higher at oestrus (1574.35 u) with marked decline at dioestrus (1044.95 u) and metoestrus (1018.45 u). The mucous membrane lining the uterine endometrium in ewes had mostly stratified columer cells and was hightly glandular, Its thickness and vascularity was observed to vary with the hormonal changes in the ovary during the estrous cycle.

ES-34

## STUDIES ON THE EFFECT OF PARANEPHRIC BLOCKADE IN INTESTINAL SURGERY IN BUFFALOES

N.S. Jadon and Amresh Kumar

College of Veterinary Sciences, Pantnagar - 263145

End to end anastomosis of intestine was performed under the local infiltration of procaine hydrochloride with and without paranephric blockade in the animals of group 1 and and 2, respectively. A significant ( $p < 0.05$ ) increase in heart rate and body temperature was observed upto day 2 after operation whereas respiration rate did not show any significant changes. The haematological examination revealed non significant changes in various parameters viz. Hb, P.C.V , ESR and blood coagulation time. An insignificant decrease in plasma total protein albumin, sodium and chloride with an increased level of potassium was observed in both the groups upto 2 to 3 days of operation. A significant increase in the level of plasma glucose, urea-nitrogen, cortisol, epinephrine and norepinephrine was observed upto 3 days in both groups, however it was comparatively lower in the animals of group 2 where operation were performed under paranephric blockade. No significant

changes were observed in plasma creatinine level. It reveals that linear infiltration alongwith paranephric blockade causes comparatively less stress as compared to local infiltration alone.

ES-35

### **SYNOVIAL ALTERATION IN EXPERIMENTAL ARTHRITIS IN BUFFALOES**

**M. Pal, H.P. Singh and N.S. Jadon**

College of Veterinary Sciences, Pantnagar - 263145

The experimental arthritis was produced by intra articular administration of 1.0 ml. of turpentine oil in 12 male buffalo calves. Animals were divided in 4 groups of equal number of animals. the first group of animal was kept as control. The animals of group 2,3 or 4 were treated with topical application of dexamethasone, DMSO and the combination of both respectively. The efficacy of the treatment was assessed by the physical, cytological and biochemical analysis of the synovial fluid collected before and after the treatment. The results concluded that the combination of the DMSO and dexamethasone gave better and early recovery, as compared to the DMSO and dexamethasone alone, which was evidenced by low level of the total leucocyte count, neutrophil count, total proteins, albumin, synovial urea and uric acid and increased level of relative viscosity, mucin precipitate quality, lymphocyte and monocyte count, and glucose.

ES-36

### **EXPERIMENTAL INDUCTION OF URECHYSIS AND REPAIR OF URETHRAL FISTULA IN MALE BUFFALO CALVES.**

**Megh Shyam; R.P. Pandey; S.U. Farooqui; B. Singh and S.S Misra**

College of Veterinary Science & A.H. Mathura.

Urechysis was induced experimentally in six buffalo calves by performing a prescrotal urethrotomy under epidural analgesia. Skin sutures were applied using silk whereas, the urethrotomy wound was left as such to allow seepage of urine subcutaneously

The condition was allowed to develop over a period of three days after which the skin sutures were removed for allowing urine drainage and formation of a fistula over a period of ten days.

Reconstructive surgery of urethra in such cases has been described and discussed. Uneventful recovery was noticed in half of the operated animals.

ES-37

### **EXPERIMENTAL EVALUATION OF DIAZEPAM, ROMPUN AND CAP-CHUR SOL. IN BUFFALO CALVES**

**S.P. Yadav, S.S. Misra and S.J. Angelo**

College of Veterinary Science & A.H., Mathura.

The study was conducted in 18 animals divided in three groups of six animals each. Diazepam 1mg/6kg, i/v; Rompun 0.2 mg/kg, i/m and Cap-chur sol. (nicotine alkaloid) 3.3 mg/kg i/m was

administered in the experimental animals. Hypothermia was noticed with diazepam, however, a slight increase in temperature was noticed with Rompun and Cap- chur sol. A rise in BUN and creatinine was registered in all three groups . Duration of action of diazepam, Rompun and Cap- chur sol. was 40-55 minutes; 3-5 hours and 45-75 minutes respectively. Onset of action of Rompun was 10-15 minutes.

ES-38

## **STUDIES ON EXPERIMENTAL RADIAL NERVE NEUROPRAXIA IN BUFFALO CALVES**

**S. Chaudhary and D.M. Tatkod**

College of Veterinary Sciences, G.A.U., Sardarkrushinagar.

The present study was conducted in six experimental male buffalo calves. Neuropraxia was induced in all the animals by stretching and uniform compressing, the radial nerve in between thumb and index finger. The affected limb was immobilized in bamboo splints then the animals were divided into two groups of three animals each. In group I hydrocortisone was injected locally and nerve tonic was given parenterally, whereas, the animals of group II did not receive any treatment. Animals of both the groups were examined daily for weight bearing, flexion of fetlock and knee, walking pattern, ability to clear obstacle and sensitivity to pin pricks. On clinical examination, complete functional recovery was achieved by 7th post-operative day in both groups, however, on histopathological examination it was concluded that local treatment with hydrocortisone and parenteral nerve tonics have definite role to play in the regeneration of nerves.

## POSTER SESSION

Chairman : Dr. A.P. Singh

Rapporteur : Dr. L.B. Sarkate

PS-1

### ON THE INCIDENCE OF INFECTIOUS ARTHRITIS IN CATTLE AND BUFFALO

D.P. Singh, K.B.P. Agarwal, J.G. Singh, S.P.Sharma & S. Kumar.

Bihar Veterinary College, Patna- 800 014

Infectious arthritis has become common ailment in urban areas. Incidence of infectious arthritis and joint involvement in cattle and buffalo was studied consulting clinics records for a period of 10 years. Study show that commonly knee, hock, fetlock elbow are involved. The incidence of infectious arthritis was more in cattle than buffalo. Animals having heavy body weight were more involved with hock and elbow joints. Young ones were usually involved with knee and fetlock joints. Various etiological factors considered have been discussed.

PS-2

### CRYOSURGICAL TREATMENT OF LICK GRANULOMAS IN DOGS

T. Madhava Rao, V. Girish Kumar; K.B.P. Raghavender, M.R. Joshi and R.L.N Rao

College of Veterinary Science, Rajendranagar, Hyderabad- 500 030

Four dogs suffering from lick granulomas, located on flank (3 cases) and hind limb (1 case) were subjected to cryotherapy under sedation by Triflupromazine hydrochloride @ 1 mg/kg. b.wt. Cryotherapy was performed by Frigitronics CS-76 cryosurgical unit using LN<sub>2</sub> as cryogen by spray technique (3 cases) and swab technique (1 case) following double "rapid freeze-slow thaw" cycle method.

Necrosis and blackening of cryolesions was observed by 3-5 days and sloughing of necrosed tissue was complete by 5-11 days and the lesions healed in 3-4 weeks. In all the four cases, recurrence was not noticed (upto 4 months). This might be due to the immuno-stimulatory effect of cryotherapy.

S-3

### CRYOSURGICAL COMPLICATION

T. Madhava Rao, K.B.P. Raghavender; V. Girish Kumar; M.R. Joshi and R.L.N. Rao

College of Veterinary Science, Rajendernagar, Hyderabad- 500 030

A six year old mongrel dog suffering from mixed mammary tumour of right inguinal mammary and was subjected to cryotherapy, under light plane of general anaesthesia, by spary technique using Frigitronics CS-76 liquid nitrogen cryosurgical unit. The tumour was pedunculated and large in size. So, holes were made in the tumour mass using 15 gauge hypodermic needle and spray tip was inserted into the holes and frozen at a pressure of 30 lbs/Sq. inch. The vapours produced by liquid nitrogen penetrated with a great force into the subcutaneous tissue and resulted in a generalised

subcutaneous emphysema to such an extent that the whole animal appeared bloated within 3-5 minutes. The condition was tested by making several cutaneous incisions at different places and squeezing out liquid nitrogen gas. Later, this appeared normal within two days without any subcutaneous emphysematous swelling.

Ulcerative, infected mammary tumours with high surgical risks may be considered for cryosurgery using contact cryoprobe rather than spray tip.

PS-4

### **AMELIA IN A BOVINE CALF**

**S.K Maiti**

Directorate of Veterinary Services, (W.B.)

After failure of manual traction of the foetus, under local infiltration anaesthesia and sedation laparo-hysterotomy was performed through the left flank of a 7 year old non-descript cow. The foetus was taken-out and found to be a dead monster. A portion of the humerus and distal portion of the right fore-limbs was missing at birth. Calf-monster presented three complete legs. with failure of ventral abdominal wall and skin to close completely and exteriorised abdominal organs. Failure of proper development of pelvic part of the body and absence of external genitalia and tail was also seen. Weight of the foetus was about 14-15 kg.

PS-5

### **RARE INCIDENCE OF COMPOUND ODONTOME WITH HAEMANGIOSARCOMA OF MANDIBLE IN A COW- A CASE REPORT**

**A.K. Maji, J. Sengupta and R.R. Paul**

Department of Surgery & Radiology, B. C. K. V. Nadia (W. B.)

A globular firm growth 1.5" X 1.5" encapsulating one incisor tooth was operated in a Haryana Cow of ICBP Section of Haringhata Farm. Microscopically it was examined as compound odontome. Within 2 months of operation the growth recurred to a size of 4" 4" hard mass of non-uniform radioopacity involving the incisive part of the mandible. The mass was radically excised under tranquillization, mandibular nerve block and local infiltration. Histomorphologically the mass was haemangiosarcoma of bone. The details of surgical procedures, histopathological and radiological findings are presented.

PS-6

### **CHONDROSARCOMA IN CAMEL**

**N.R. Purohit; D.S Chauhan; N.K. Sharma and G.D Sharma**

College of Veterinary & Animal Science, R. A. V., Bikaner

A she-camel of about 14 years of age was presented at surgery clinic for treatment of wound at foot region, Clinical examination revealed a hen-egg size wound at the left side of the solar aspect

of left hind foot. Pinkish-white multiple papillae like growths were observed in the wound area.

Under xylazine and volar nerve blocks the growths were surgically excised and the wound was debrided. Later, the growth recurred twice after surgical excision, hindering the wound healing.

Histopathological examination of biopsy revealed a malignant chondro-sarcoma.

PS-7

### **OMENTAL LIPOMATOSIS IN A BULLOCK**

**M.S. Vasanth**

Veterinary College, Bangalore- 560024.

A Hallikar bullock was brought to the hospital with a history of anorexia, mild tympany and passing very little mucous coated dung. It was under the treatment by a local vet for over a month. Exploratory laparo-rumenotomy revealed severe impaction of rumen but no foreign bodies were found. The animal deteriorated in condition and died on day 4 after surgery.

Necropsy revealed a 4 to 6" thick lipomatous layer in continuity with omentum covering the anterior aspect of rumen, reticulum, omasum and abomasum encompassing all the structures into a single mass. Abomasum and the subsequent intestinal tract was empty. Histopathological examination revealed the abnormal tissue to be lipomatous.

PS-8

### **RETROSPECTIVE STUDIES ON THE COMMON SURGICAL CONDITIONS AFFECTING TEAT AND UDDER IN BOVINES**

**B. Ramesh Kumar, M.K. Narayanan, T.N. Ganesh, S.R. Pattabiraman, and N.N. Balasubramanian**  
Madras Veterinary College, Madras - 7

A clinical survey was conducted on the bovine cases reported to the large animal surgical ward, Madras Veterinary College, between June 1990 to May 1993. The common surgical conditions affecting the teat and udder were identified and classified. The etiology and incidence of various surgical affections were discussed.

PS-9

### **AN UNUSUAL CASE OF BUCCAL FISTULA IN A BUFFALO - A CASE REPORT**

**K.K. Gupta, Ram Pal and Raghbir Singh**

Veterinary Polyclinic, Faridkot, (Punjab)

A buffalo was brought to Veterinary Polyclinic, Faridkot with profuse salivation and tongue protruding out of the floor of the mouth from the intermandibular space. The fistula was repaired after bringing the tongue in normal position under trifluoromazine sedation and local infiltration. The patient made uneventful recovery.

PS-10

### **HYPOTHELIA IN A SHE BUFFALO**

**S. Ayyappan, G. Ravisundar, S. Balasubramanian, R. Srijayanth and P. Dhanapalan**

Resident Veterinary Services, Madras Veterinary College Madras-7.

A cross bred she buffalo in her first lactation was referred to the Casualty section of Madras Veterinary College Hospital with a history of change in consistency of milk, since 2 days. It was reported to have given birth to a live female calf a week back. Clinical examination of the udder revealed atrophied fore quarters with absence of teats (Hypothelia). Hind quarters were normal in size and texture and presented two functional teats which were approximately equal in size. Milk from Both the quarters contained flakes and was treated accordingly. Average milk yield was reported to be 4 litres. History revealed that the defect was present since birth and indicated a genetic predisposition. The possible reasons for the defect are discussed..

PS-11

### **BILATERAL BIFID TEATS IN A SHE GOAT**

**R. Srijayanth, S. Balasubramanian, S. Ayyappan, G. Ravisundar and P. Dhanapalan.**

Resident Veterinary Services, Madras Veterinary College Madras-7

A non descript she goat aged 4 years was presented to the Casualty section of Madras Veterinary College hospital with a history of full term and straining since 6 hours. Vaginal examination revealed a fully dilated cervix with deviation of head and neck of the first foetus. Three live kids were delivered after manual correction and traction of first foetus. Mammary glands examined for secretions revealed the presence of bifid teats in both the quarters. History indicated a congenital aberration. Stripping both quarters indicated that all teats were functional and of approximately equal length and texture. The possible causes of the malformation is discussed.

PS-12

### **A CLINICAL CASE OF FIBROMA OF THE RECTUM IN A SHE BUFFALO**

**C.Radhakrishnan, R. Suresh Kumar, N.N. Balasubramanian, B. Ramesh Kumar, K. Ameerjan and S.R. Pattabiraman.**

Madras Veterinary College, Madras - 7

A non- descript she buffalo aged about seven years was brought to Large Animal Surgical ward, Madras Veterinary College with the symptoms of tenesmus scanty dung, and debility. Rectal examination revealed a hard mass of the size of a base ball, adhering to the right lateral wall of rectum, partially obstructing the lumen.

Radical surgery was performed under xylazine sedation and low epidural analgesia for the removal of the mass. The recovery was uneventful and the histopathological examination of the mass revealed fibroma of the rectum.



PS-13

## **EXTRACTION OF BULLET ABUTTING A SINUS TRACT AT THE KNEE IN AN ELEPHANT**

**M.S. Vasanth and K.A. Nanjappa**

Veterinary College, Bangalore

An elephant belonging to the forest department was showing small quantity of purulent discharge, little above the right knee joint. As per the history this discharge was seen since its capture four years ago.

Physical examination revealed a sinus tract at the site and hard fibrous tissue all around the opening. Elephant was sedated using xylazine (100 mg per ton body weight) and acepromazine (20 mg per ton body weight). Local anesthetic was infiltrated around the site and the sinus tract was excised and an irregular shaped lead bullet was extracted which was abutting the sinus. The wound was sutured with adequate provision for drainage.

Tetracycline was given post operatively at 2 gm per day for five days. The wound healed completely in about three weeks.

PS-14

## **COMMON CONGENITAL ANOMALIES AMONG COW AND BUFFALO CALVES MET WITHIN B.V. COLLEGE, HOSPITAL, 1983-92**

**J.G. Singh, S. Kumar and K.B.P. Agarwal.**

Bihar Veterinary College, Patna-14.

Common congenital anomalies in calves recorded in Bihar Veterinary College hospital included anomalies almost from all the systems of the body. Hydrocephalus, xerophthalmia, unpigmented cornea, vermiform cyst, (hairs on the conjunctiva) atresia ani, atresia ani et recti, supranumerary teat, osseous deformities like absence of few ribs or distorted ribs, gastrourinary anomalies like eventration of testine, absence of urinary bladder and urethra and opening of seath. Anomalies have been classified and discussed.

S-15

## **URETHRO RECTAL FISTULA IN A MALE KID-A REPORT**

**C. Ramani, Abraham Manickarajan and L. Nagarajan.**

Veterinary College and Research Institute, Namakkal,

A day old male kid was brought to the Veterinary Hospital Namakkal, with atresia ani. The kid had been voiding faeces and urine through the urethral opening. During surgery for atresia ani the kid was found to have a fistula connecting the distal part of the rectum and the urethra at the ischial arch. The fistulous tract was excised and the rectal wall and urethral end were closed separately. The rectum was fixed with the skin by means of stay sutures. Then the blind end was incised to establish continuity with the digestive tract.

Animal made an uneventful recovery following surgery.

### RARE OCCURRENCE OF UTERUS UNICORNIS IN CAT

D. Das, U. Das, B. Bandopadhyya, and B.B. Das.

South Calcutta Veterinary Clinic., Calcutta- 700025

During a series of spaying operation, uterus unicornis was recorded in a queen cat and discussed.

### RADICAL SURGERY FOR AN UNUSUALLY LARGE TUMOUR IN A BUFFALO

S.U. Farooqui, R.P. Pandey, S.D. Sharma, S.K. Srivastava, H.H.B. AL-Katib and S.S. Misra

College of Veterinary Science & A.H, MATHURA

A seven year old female buffalo was reported at the College Hospital with a large growth on the right side of sternum posterior to right axilla. The growth developed over a period of two years. It was diagnosed as benign tumour.

Surigical removal was performed under xylazine sedation (Xylaxin-Ind. Immuno.) at 30 mg dose administered intramuscularly and local infiltration with 2% lignocaine (Xylocaine, Astra IDL). The haemorrhage was profuse but could be controlled effectively. Cutaneous horizontal mattress sutures were applied using braided silk. Daily wound dressing with Betadine ointment (Wockhardt) and antibiotic administration was done for 7 days.

Uneventful recovery was evident by 10th postoperative day.

### UNUSUALLY LARGE CTVT IN A POMERANIAN FEMALE DOG. A CASE REPORT

H.B.H. AL-Khatib; S.K. Srivastava; M. Shyam; U.K. Bajpai; R.P. Pandey and S.S. Misra

College of Veterinary Sc. & A.H., MATHURA.

An eleven year old bitch was referred to the departmental clinic for surgical treatment of vulvovaginal tumor. The animal was found to be dull, depressed, slightly febrile with pale mucous membranes. The animal was treated for such conditions and after three days radical surgery was performed under local infiltration of 2% lignocaine hydrochloride and diazepam sedation.

The growth was found encapsulated in thick fibrous capsule and was of about 6" diameter. The animal was discharged on the same day but reported to have died 48 hours post operatively.

The owner's negligence and the causes of death are discussed.

PS-19

### AN UNUSUALLY LARGE CYST IN THE BRISCKET REGION OF A BUFFALO

S.Babu, V.S Yadav, R.K. Sarswat, H.B.H. Al-Khatib, S.K. Srivastava and S.S. Misra.

College of Veterinary Sc. & A.H., MATHURA.

A buffalo was attended to at the departmental clinic. On examination, the buffalo was found to have a huge, round mass hanging from the briscket region. It was felt hard, hot and painful on palpation. A needle was thrust in the mass at the distal most region which revealed serosanguinous fluid mixed with blood, about 3 liters of fluid was aspirated. A stab wound was made ventrally for exploration. Cauliflower growth attached to the inner wall of the cyst was found and was scrubbed, cleaned and painted with tincture iodine and triple dye on alternate occasions after being irrigated with normal saline and potassium permanganate. 2.5 gm Dicrysticin daily for 5 days was given intramuscularly. Long term recovery report could not be obtained since the owner did not turn up.

PS-20

### RADICAL SURGERY FOR YOKE GALL IN A BUFFALO BULL

M.K. Gupta and V.P. Gupta

Department of Animal Husbandry, U.P.

An unusually large and very chronic case of yoke-gall was reported at the veterinary hospital Surir, Mathura. A tumour like growth of fibrosed tissue of approximately 5 kg weight was hanging on the right side of the neck.

Radical surgery was performed under xylazine sedation (Xylaxin 1.5 ml; Ind. Immuno) and local infiltration of 2% lignocaine hydrochloride. Cutaneous sutures were applied using black braided silk.

Deily wound dressing with povidone iodine iontment (Betadine, Wockhardt) and intramusclar administration of streptopenicillin 2.5 gm was done for 7 days.

Uneventful recovery was recorded.

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