



RAJ BHAVAN,
MADRAS - 600 002.
17 - 11 - 1979



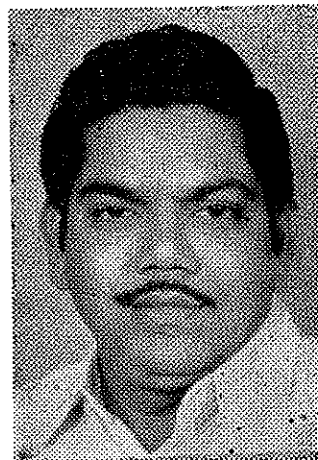
MESSAGE

I am glad to know that a Conference of the Indian Society for Veterinary Surgery will be held in Madras from the 17th to 19th December, 1979.

I wish the Conference success.

(PRABHUDAS B. PATWARI)
Governor of Tamil Nadu.

7-12-79



MESSAGE

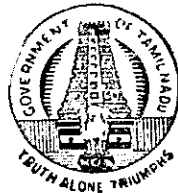
I am happy to know that the Third Annual Conference of the Indian Society for Veterinary Surgery is to be held in Tamil Nadu at the Madras Veterinary College from 17-12-79 to 19-12-79.

On behalf of the Government of Tamil Nadu, I welcome all delegates drawn from all the States of India who are likely to participate in the Madras Conference. I, as Pro-Chancellor of the Tamil Nadu Agricultural University, Congratulate the President and members of the Indian Society for Veterinary Surgery since they help to promote coordination of Research and to share the latest knowledge on Veterinary Science.

I also like to thank the President of the Indian Society for Veterinary Surgery for having come forward to hold the useful conference in Tamil Nadu.

I wish the Annual Conference and the Souvenir a grand success.

P. KOLANDAIVELU
(Minister for Agriculture & Irrigation)



FORT ST. GEORGE

MADRAS - 600 009.

11-12-79



MESSAGE

I am very glad to know that the Third Annual Conference of Indian Society for Veterinary Surgery will be held at Madras Veterinary College, Madras from 17-12-1979 to 19-12-1979. The delegates representing the different parts of the country, I am sure, will focus the attention on the practical problems which pose the Field Veterinarians in the field of Veterinary Surgery to render just in their service for the cattle owners in the villages. The participants may take this forum to have free discussions and share their views to improve and evolve new techniques and modern equipments in the Veterinary surgery for developing this field to a higher standard. I hope the papers read in this conference will be of much use towards this end.

I fervently hope that the scientists, scholars and research workers of the reputed Madras Veterinary College will make good this opportunity to give a leap to the Department of Surgery by their active participation in the deliberations of the conference.

I take this opportunity to welcome all the delegates participating in the conference wholeheartedly, and wish the conference a grand success.

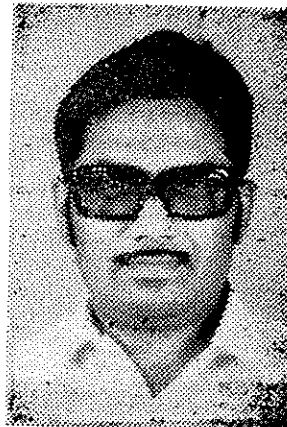
Selvi P. T. SARASWATHI
(Minister for Social Welfare)



FORT ST. GEORGE

MADRAS - 600 009.

28-11-79



MESSAGE

Dear Sir,

I am glad to note that the Indian Society for Veterinary Surgery has proposed to hold its third convention at Madras from 17-12-1979 to 19-12-1979.

The services rendered by the Society in the co-ordination of research work of various veterinary institutions are laudable. By organising the annual conventions in different parts of the country the society is paving the way for sharing of knowledge of Veterinary Science among the Veterinary Surgeons of the teaching and research institutions of India.

I convey my best wishes for the success of this convention.

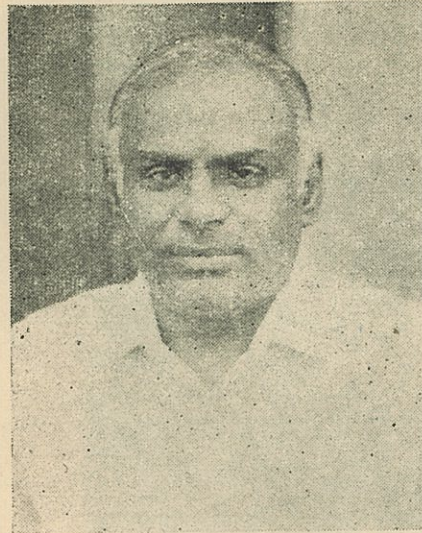
Yours sincerely,

K. RAJA MOHAMED
(Minister for Rural Industries)

A. VENKATARAMAN, I.A.S.
VICE-CHANCELLOR

Tamil Nadu Agricultural University
Coimbatore-641 003

16th November '79



MESSAGE

I am extremely happy to know that the Annual Conference for the 1979 of the year Indian Society for Veterinary Surgery is to be held at the Madras Veterinary College. Considerable progress has been made in Veterinary Surgery to mitigate the sufferings to livestock, especially of bullock-the backbone of Agriculture. I am confident that the meeting of eminent Veterinary Surgeons in India during the Annual Conference would throw more light on latest developments in this vital field and create a better awareness and genuine interest in the maintenance of health status of livestock.

I wish the Organisers of the Conference all success.

A. VENKATARAMAN

M. N. MENON,
Animal Husbandry Commissioner (Retd.,)
and
Former Professor of Surgery
Madras Veterinary College

"Anuradha"
Trivandrum

November 20th 1979

MESSAGE

I am happy to know that a Seminar on Veterinary Surgery is to be held at the Madras Veterinary College under the auspices of The Indian Society for Veterinary Surgery.

From the very beginning we Veterinarians have been recognised as the best agents of rural Socio-economic change. The new brand of university graduates however seem to prefer, more comfortable laboratory and city assignments. The need for a close look has therefore become more emergent than ever before. Let our education lead us to find the substance and not the shadow any more.

In this task The Indian Society for Veterinary Surgery has a very important role to play since, their calling is precise and precision alone helps in the decision making process. I wish the Seminar all success.

M. N. MENON

S. J. ANGELO
VICE CHANCELLOR

Chandra Shekhar Azad University
of Agriculture & Technology,
Kanpur - 208002
November 16, 1979



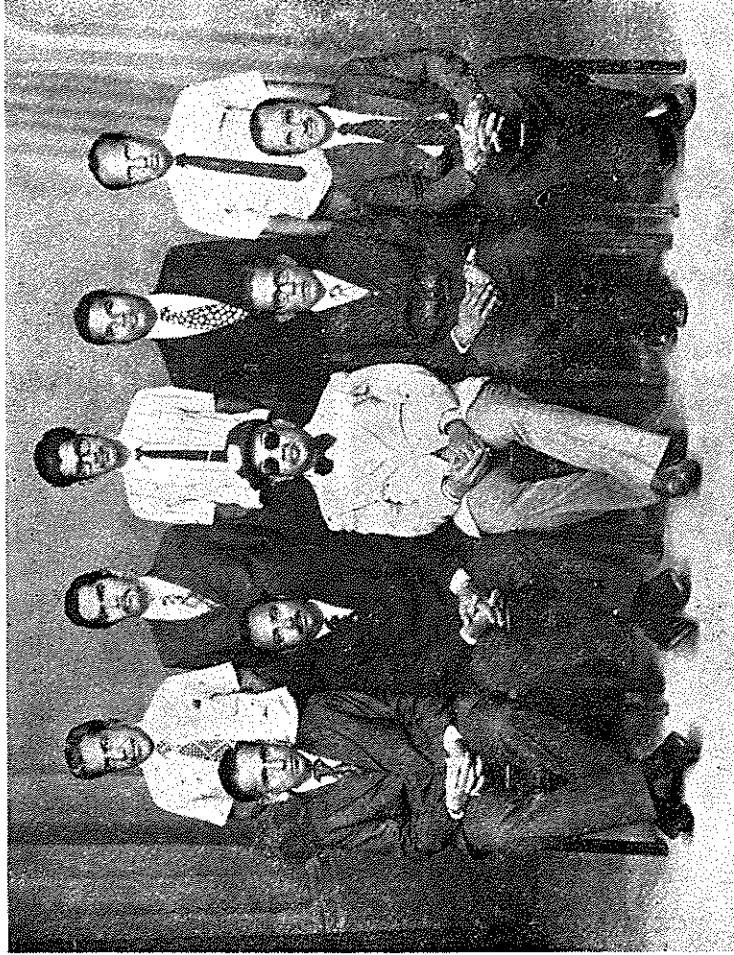
MESSAGE

It is heartening to note that the Third Annual Conference of the Indian Society for Veterinary Surgery (ISVS) is being held at the Madras Veterinary College, Madras, from 17th to 19th December, 1979. The Society has rendered valuable services to the Animal Wealth of India in the field of Surgery. It has contributed its lion's share in promoting co-ordination of research and sharing latest knowledge in the field among Veterinary Surgeons, not only in India but also outside the country. It is earnestly hoped that the Society will come forward in meeting greater challenges in the field of Veterinary Surgery in the times to come. It is also hoped that the papers which will be presented in the Conference at Madras will throw light on new aspects of Veterinary Surgery which will go a long way in the advancement of Veterinary Science.

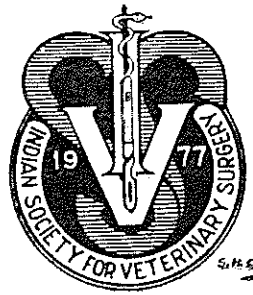
I wish the Conference every success.

S. J. ANGELO
Vice Chancellor

ORGANISERS OF THE THIRD SYMPOSIUM OF THE INDIAN SOCIETY
FOR VETERINARY SURGERY MADRAS. 1979



Sitting Left to Right : Drs. GODFREY DAVID; M. S. DEWAN MUTHU MOHAMMED; F. D. WILSON;
E. I. RAJENDRAN; M. S. GOPAL.
Standing Left to Right : Drs. R. KRISHNAMURTHY; K. AMEERJAN; ARCHIBALD BALRAJ DAVID;
M. G. RICHARD; V. KATHAPERUMAL.



INDIAN SOCIETY FOR VETERINARY SURGERY

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HISTORY OF THE SURGERY DEPARTMENT OF THE MADRAS VETERINARY COLLEGE

E. I. RAJENDRAN,

Professor & Head, Department of Surgery,
Madras Veterinary College.

The Madras Veterinary College is to celebrate its Platinum Jubilee shortly. The Department of Surgery is one of the departments which commenced functioning since 1903 and is now 76 years old.

In the beginning only oral examinations were held, and most of the examiners were British nationals.

In the year 1936, the College was affiliated to the Madras University and the University awarded the Degree of Bachelor of Veterinary Science to successful candidates.

Surgery was not in the degree syllabus but only in the diploma syllabus, for which the G.M.V.C. was conferred. Later it was included in the degree syllabus. Teachers for Surgery in the diploma course included Messrs. D'Silva, Wilson Saunders, Nair, Hurley and Swaminatha Iyer. Later on, two eminent people started teaching the degree course. The first was Dr. M.N. Menon and the other Dr. F.D. Wilson. In 1962 the Department of Surgery was upgraded, to conduct post-graduate studies.

In the early stages, stress was more on Equine surgery. During the tenure of Dr. M. N. Menon, small animal surgery gained prominence. Dr. Menon did his work in the Small Animal Clinic and operation theatre for obtaining the Fellow of the Royal College of Veterinary Surgeons, of the United Kingdom. This included Transthoracic oesophagotomy in canines and caesarean in the pig.

Dr. Wilson, son of late Dr. A.J. Wilson, who obtained his Master degree in Surgery of the Kansas State university was instrumental in popularising spaying in small animals particularly in cats. He has 30 publications to his credit. He was the first recipient of the Rao Bahadur Swaminatha Iyer Gold Medal. His work prior to 1952 includes nerve block anaesthesia for the eye and the fore limb. In Canines, experimental resection and anastomosis of the cervical oesophagus, staphyloctomy, surgery for caecal ileus and perineal hernia are some of his other significant contribution. He also popularised bovine patellar desmotomy in the field, by conducting surgical camps.

He was an Emeritus Scientist of the Indian Council of Agricultural Research. Both Dr. Menon and Dr. Wilson, along with Dr. Rathan Singh and Dr. S. R. Hattangadi were elected unanimously as Honorary Members of the Indian Society for Veterinary Surgery last year.

Dr. V. Umamaheswaran succeeded him as Professor. He did his Doctorate under Rosenberger in Hannover (West Germany). His work on rumenotomy in bovines, is a significant contribution.

The Radiology and Physiotherapy unit of this Department with facilities for X-Ray, ultrasonic therapy, diathermy, electrical massage, ultra violet therapy for treatment and sterilization, has developed as a model unit, since the last three decades.

The department is proud of its past grandeur, and its students who had the department of Surgery at Ranchi Anand Trichur and Tirupathy Veterinary Colleges.

Department of Surgery, Madras Veterinary College.

Heads of Departments from 1903.

NAME	PERIOD
Dr. George D' Silvo	1903—1914
Dr. A.J. Wilson	1914—1915
Dr. George D' Silva	1915—1921
Dr. P.T. Saunders	1921—1922
Dr. George D' Silva	1922—1923
Dr. P.T. Saunders	1923—1925
Dr. T.J. Hurley	1925—1926
Dr. P.T. Saunders	1926—1927
Dr. M.R.V. Panikkar	1927—1928
Dr. K. Kailasam Ayyar	1928—1929
Dr. K.S. Nair	1929—1930
Dr. K.S. Nair	1930—1937
Dr. A.K. Mitra	1937—1938
Dr. R. Swaminathan	1938—1945
Dr. R. Swaminathan	1945—1946
Dr. J.D. David	1946—1947
Dr. M.N. Menon	1947—1954
Dr. V. Rayappa Reddy	1950—1951
Dr. P. Satyendra Rao	1951—1952
Dr. M.N. Menon	1954—1957
Dr. F.D. Wilson	1958—1967
Dr. V. Umamaheswaran	1967—1977
Dr. E.I. Rajendran	1977—

IMMEDIATE CHANGES IN VENTILATION, BLOOD GAS TENSION AND ACID-BASE BALANCE IN CALVES FOLLOWING GENERAL ANAESTHESIA

A. K. MITRA and M. R. PATEL,
Orissa Veterinary College &
Gujarat Veterinary College.

GUJARAT/ORISSA

The administration of general anaesthesia in ruminants is usually associated with number of hazards. One such of concern is regurgitation and aspiration of ruminal contents into the tracheo-bronchial tree. A research project was designed to study the same.

The blood gas tension and acid-base balance of 36 normal calves were initially recorded in the experimental model. The tidal volume and the minute ventilation were obtained employing Wright respirometer. Acid-base Analyser PHM 71 and BMS-3 of Radiometer Denmark were used to record arterial blood PO₂, pH and PCO₂. The total and plasma haemoglobin were estimated in EEL haemoglobinometer and a spectrophotometer respectively. The haematocrit was determined in Janetki TH 12 microhaematocrit Centrifuge machine. The plasma bicarbonate and the base excess values were obtained using Siggaard-Andersen nomogram.

The calves were then anaesthetised using a mixture of chloral hydrate and Mag. Sulph. Five minutes after anaesthesia all the parameters noted in the pre-anaesthetic stage were again recorded. Thereafter, the valves were artificially made to aspirate ruminal content. The paper presented, deals with the changes in ventilation, blood gas tension and acid-base balance in the pre and post-anaesthetic stages.

The tidal volume and minute ventilation decreased in the post-anaesthetic stage. A fall in PO₂ and PH and a rise in PCO₂ were observed during the stage of anaesthesia. The base excess was low and the plasma haemoglobin was high in the post-anesthetic stage. It was thus concluded that 5 minutes, after anaesthesia the calves had hypoxia, respiratory acidosis and haemolysis.

ANASTOMOSIS ON TRACHEA IN A HEIFER CALF UNDER ELECTROANAESTHESIA

O. RAMAKRISHNA; K. V. RAO;
A. S. BOSE & K. V. S. REDDY,
College of Veterinary Science,
Tirupathi.

ANDHRA PRADESH

A nondescript heifer calf showed symptoms of dyspnoea and oral breathing following exercise, after it was attacked by a leopard in the forest. A skiagram of the cervical region of the trachea revealed obscure air column between the 2nd and 3rd cervical vertebrae. Following premedication with Siquil, the calf was anaesthetised with a sine-wave electro anaesthetic apparatus. A current of 90 mA and 12 volts produced surgical anaesthesia. The trachea was exposed and the fractured 4th, 5th and 6th tracheal rings were removed. The 3rd and the 7th tracheal rings were anastomosed by interrupted mattress sutures using thick monofilament nylon. The cutaneous incision was closed by routine manner. The animal made an uneventful recovery.

✓ EXPERIMENTAL JAUNDICE IN RELATION TO INTESTINAL HEALING

A. P. SINGH, K. K. MIRAKHUR,
DEVKI NANDAN, KULDIP SINGH &
J. M. NIGAM.

HARYANA

(Abstract)

The present study was conducted on 16 buffalo calves in age group of $1\frac{1}{2}$ to 2 years and were divided equally into two groups. In group-I the common bile duct, approached through right 12th intercostal incision, was doubly ligated and severed in between. The animals were observed upto their death and blood samples were taken at intervals for estimation of GOT, GPT, Alkaline phosphatase and total direct and indirect bilirubins. In group-II, six intestinal anastomoses were performed by Connel technique using chromic cat gut No. 3-0 in each animal. In half of the animals of this group, bile duct ligation was also accomplished alongwith entero-anastomoses, while remaining 4 animals served as control without duct ligation. The animals of group-II were observed upto 9th post-operative day and six anastomoses were resected each on 1st, 3rd, 6th and 9th days

for angiographic and histopathologic studies and for recording of bursting strength of anastomotic sites. Granulation tissue from the anastomotic sites were also collected for Vitamin-C and hydroxyproline estimation.

The results revealed significant increase in values of plasma GOT, GPT, Alkaline phosphatase and total, bilirubin with their peak values on 7th postligation day. The biliary stasis was associated with more than 50 per cent of direct reacting bilirubin.

Observations of bursting strength demonstrated poor holding power of anastomoses in animals with bile duct ligation as compared to control animals upto the end of study. The angiography upto 3rd day revealed avascular zone at the anastomotic site in both the groups with no evidence of vascular crossover anastomosis. However, the regeneration of minute vessels and their crossing over was clearly discernible in control group from the sixth day, while it was evident at few points in duct ligated animals.

In bile duct ligated animals, the values of Vitamin - C and hydroxyproline showed decreasing trends throughout the period of study and always lag behind the control animals.

INJURY ON THE TRUNK OF AN INDIAN ELEPHANT A CASE REPORT

P. O. GEORGE, JACOB V. CHEERAN,
C P. GOPINATHA MENON and T.J. GEORGE,
Department of Surgery, College of
Veterinary & Animal Sciences,
Mannuthy, Trichur.

KERALA

A cow elephant, aged about 30 years and approximately weighing 2.5 tons, was reported to have injured its trunk accidentally. The wound was 20 cm long and 3 cm deep, dividing the nasal septum.

The wound was sutured under general anaesthesia, using Flaxedil (1600 mg), Siquil (300 mg) and IntraVal Sodium (4 G). Novocaine (30 ml) was used for local infiltration. The wound was closed by inserting vertical mattress sutures.

The anaesthetic effect was present for about 30 minutes. Antibiotics (Dicrysticin L. D. 5 vials) were administered daily for five days. The wound healed up in about a month.

CAECO-RECTAL ANASTOMOSIS FOR CORRECTION OF DUOCAECUM IN A CALF

K. N. MURALEEDHARAN NAIR,
S. RAVINDRAN NAIR, & T. SARADA AMMA,
Department of Surgery, College of
Veterinary & Animal Sciences,
Mannuthy, Trichur.

KERALA

A case of duocaecum in a cross-breed calf and its successful surgical correction by caeco-rectal anastomosis is reported.

A calf, 15 days old was presented with the history that it had not passed dung since its purchase seven days back. Anal opening was patent. Rectum could be explored to a distance of 20 cm. Rectum was empty and no faecal matter was expelled even after enema. Abdomen was distended. Distended bowel folds were palpable on the right side. Right flank laparotomy was performed under local analgesia. Caecum and colon were found to have been distended with gas and faecal matter. Exploration revealed that the rectum ended blindly and was not communicating to the colon. There was a gap of 10 cm between the terminal colon and rectum. The caecum was incised and the contents were removed. Rectum was ligated at the pelvic inlet and was anastomosed to the incision on caecum. Laparotomy wound was sutured in the usual manner. The calf passed dung one hour after surgery and was normal in habits thereafter. recovery was uneventful and the sutures were removed on the eighth post-operative day.

HYSTERECTOMY IN A SOW

NARASIMHAN, K.S., THANGARAJ, T.M.,
KRISHNAN, A.R., and NEDUNCHERALATHAN, B.
Department of Obstetrics & Gynaecology,
Madras Veterinary College. &
L. PAUL, Animal Husbandry Department, Madras.

TAMILNADU

This report presents the case of a primiparous non-descript sow, which was brought to the obstetrics clinic of the Madras Veterinary College with the history that it had delivered in the morning a single piglet and a little later prolapsed the uterus. On careful examination the prolapsed uterus appeared to be unicornual. Preliminary attempts at reduction after sedation with largactil having failed, the prolapsed uterus was amputated as per the method of Beswick (1964). Post-operative antibiotic umbrella with terramycin was provided for two days. The animal had an uneventful recovery. This case is unique in that the prolapse was unicornual and the non-gravid horn had herniated into the sac formed by prolapsed horn which has not been reported earlier.

EFFICACY OF EISENHUTS METAL EVACUATOR IN THE EXTRACTION OF RETICULAR FOREIGN BODIES

M. G. RICHARD,
Department of Surgery,
Madras Veterinary College.

TAMILNADU

The incidence of metallic foreign bodies in the reticulum of cattle and their pathogenicity is known. A survey was conducted at the slaughter house, dairy farms and animals attending the hospital which showed an incidence as 37.6%. For removing these foreign bodies before they caused harm, by penetration their removal by mechanical means was attempted.

The Eisenhut's metal evacuator, a probang with a magnet at the tip, that could be moved in any direction by levers, was used to remove the metallic foreign bodies from the reticulum. The instrument was tested in 85 animals and it was successful in 80.6% of the cases. Non removal in 19.4% of the cases was due to causes that the foreign bodies were either non magnetic or embedded.

A SUCCESSFUL PREPARATION OF TEASER RAM BY LATERAL TRANSPLANTATION OF SHEATH

D. JOHN,
K. S. NARASIMHAN,
Madras Veterinary College.

TAMILNADU

A simple surgical operation of making a teaser ram satisfying most of the criteria of a perfect method was successfully performed by transplanting the sheath laterally. The cranial end of the penis with the sheath is undermined from its dorsal attachment and fixed laterally to a 'C' shaped incision. The incision at the abdominal wall was closed by sutures.

The operation is simple, economic, eliminates surgical risk. Reversibility of the operation and earliest availability of the teaser are possible with elimination of chances of transmission of coital diseases. The animal showed good sex drive, courtship and foreplay with a reaction time of one minute. Mounting and claspings were perfect with cent per cent chances for brisket raddling to fall on the rump of the mounted female. Penis on protrusion went outside external to the thigh. The operation is described.

A DEVICE TO TAP OVARIAN AND PARAOVARIAN PHYSIO PATHOLOGICAL STRUCTURES IN THE COW

A. PUNNAYYA SASTRY,
College of Veterinary Science, Tirupathi.

ANDHRA PRADESH

A device through which fluids along with their contents can be aspirated from ovarian and paraovarian physiopathological structures in cows was described. Its use and significance in diagnostic and research work was elucidated from its use in 10 animals.

CARDIAC EMBARRASMENT IN A SHE BUFFALO

R. L. NAIK*, S. S. MARUDWAR** &
Dr. P. E. KULKARNI***

MAHARASHTRA

A case of she buffalo of Jafarabadi breed showing all typical symptoms of traumatic pericarditis was presented for treatment. On exploratory puncture intended for pericardiocentesis about 20 ml. clear watery fluid was obtained. Since the fluid was atypical of pericarditis, exploratory thoracotomy was undertaken. On opening the thorax multiple hydatid cysts of varying sizes could be discernible. The cysts occupying the normal cardiac region had displaced the heart and thus causing serious cardiac embarrasment. Most of the cysts were manually removed and thoracotomy wound was closed conventionally. An appreciable improvement was noticed after the operation.

* Assistant Director of Animal Husbandry, Veterinary Polyclinic, Akola.

** Assistant Professor of Surgery,

*** Professor of Surgery, Department of Surgery & Gynaecology, Punjabrao Krishi Vidyapeeth, Akola.

EXPERIMENTAL PERITONITIS IN CATTLE

A. N. ZOPE & DR. P. E. KULKARNI,
Department of Surgery & Gynaecology,
Punjabrao Krishi Vidyapeeth, Akola.

MAHARASTRA

The experimental production of peritonitis in crossbred calves was carried. Calves were within the age group of six months to one year. These calves were divided in three groups each containing five calves. The first group was maintained as control, second group used for induction of diffuse peritonitis by injecting the fresh rumen liquor at the rate of 1 ml./kg body weight intraperitoneally. Third group was used to induce localised peritonitis by using sharp pointed wire coil per le paro-rumenotomy and per trocar and canula in rumen cavity.

During the period of experiment it was observed that symptoms of peritonitis were not specific and hence not helpful in the diagnosis.

Evans blue dye solution (0.5%) was injected intraperitoneally at the rate of 0.5 ml./kg. body weight and plasm. Samples were collected at regular intervals. Estimation of the dye Evans blue (T-1824) in plasma after its intraperitoneal injection five hours after it were found adequately help-ful in diagnosis of the acute peritonitis. Since the results could be obtained within a couple of hours by resorting to this test an early diagnosis could be made and proper line of treatment could be adopted to avoid further irreversible complications.

Serum protein fractionation with paper electrophoresis gave minor support to diagnosis which demands the need of some other quick and better method for the purpose.

Scope of the radiological diagnosis, rapid gamma globulin test, hamematological findings, and exploratory laparotomy is discussed, along with the scope for the treatment of these cases.

Results of clinico-pathological tests interpreted in the light of clinical symptoms is suggested to render valuable help in early and correct diagnosis.

CARCINOGENESIS AS SEQUELAE TO MULLING IN BOVINES

K. G. AVACHAT & Dr. S.S. BHAGWAT,
Veterinary Polyclinic, Nagpur.

MAHARASHTRA

The case history of a growth occurring in a bullock is reported. Though both testicles were mulled, only the right side became carcinogenetic.

The operative technique, quite simple is described :- Histological examination revealed it to be a "Seminoma".

The authors link the "Seminoma" with trauma as a cause of carcinogenesis.

SPLENECTOMY IN BUFFALO CALVES (*BUBALUS BUBALIS*)

S. S. MISRA, Lecturer Radiology &
& S. J. ANJELO, Vice Chancellor,
C. S. Azad University of Agriculture &
Technology, Kanpur.

UTTAR PRADESH

Splenectomized calves are a pressing requirement in the parasitological medicinal experimental techniques and procedures. A simple splenectomy technique was successfully evaluated in six, 1 to 1½ year old healthy male buffalo calves. Adequate tranquilization with Triflupromazine hydrochloride (Siquil, Sarabhai chemicals) was induced by intramuscularly administering the drug, 20-30 minutes prior to Surgery. Left T13 nerve block adopting conventional techniques and linear infiltration analgesia were found to be adequate for making a 15 cm long laparotomy incision. The latter extended, 5 cm below and 3 cm posterior to the posterior border of the last rib. The spleen, lying in the left anterolateral aspect of the rumen was exteriorised by digital dissection and progressive traction. The splenic vessels were ligated at the hilus advantageously with a fabricated device — "Ligature Snare". The later made the ligation, facile quick and effective and avoided traumatic injury to the spleen, likely to be encountered digitally alone. All the six calves recovered uneventfully.

VAGINOPEXY - TECHNIQUE FOR THE MANAGEMENT OF RECURRENT UTERO-VAGINAL PROLAPSES IN BOVINES.

S. S. MISRA, Lecturer Radiology &
S. J. ANJELO, Vice Chancellor,
C.S. Azad University of Agriculture &
Technology, Kanpur.

UTTAR PRADESH

Recurrent utero-vaginal prolapse is a serious gynaecological surgical, breeding and economic oriented malady specially of high yielding cows / buffaloes. It is encountered both preparturient and *Postpartum*. In the latter, it is usually more serious being complete. Reposition and application of external devices for preventing recurrence only cause mechanical obstruction from the exterior and in most cases complicate the malady.

A technique hitherto, not encountered in literature has been clinically evaluated in 22 cases of bovines (18 buffaloes and 4 cows); all with recurrent *Post Partum* uterovaginal prolapse mass, pivoting on the OS under adequate epidural anaesthesia and perivaginal vaginopexy. The latter is done by employing a specially fabricated instrument——“Vaginopexy - Needle”*. The needle is penetrated after making a cutaneous nick in the quarter and driving it till its bevel reaches into the vaginal lumen immediately caudal to the cervix. Thereafter, it is threaded with a suture by the hand already inserted into the vagina. The knots are secured exteriorly and effectively bring to about vaginopexy.

The technique is predictably committal, dispenses with conventional “rope truss” etc. and minimises inherent complications of trivial methods and can be readily applied even in field conditions.
*Fabricated under our technical guidance and supervision by M/s. Gargo. Private Ltd., Bhuteswar, Mathura (U. P.)

ACID BASE STATUS AND BLOOD GAS ALTERATIONS IN EXPERIMENTAL BOVINE URAEMIA.

S N. SHARMA, JIT SINGH, RAMA KUMAR, V.,
B. PRASAD AND R. N. KOHLI,
Department of Veterinary Surgery &
Radiology, Punjab Agricultural
University, Ludhiana.

PUNJAB

Experimental uraemia created by obstructing the urethra of seven cross bred bulls was associated with significant increase in packed cell volume, blood urea nitrogen, arterial and venous pH and P_{CO_2} , and arterial bicarbonate, carbonic acid and base excess values.

Total serum proteins decreased non-significantly. Arterial P_{O_2} decreased significantly during later stages of uraemia. Arterial and venous oxygen saturation, arteriovenous oxygen difference, oxygen extraction ratio, arterial bicarbonate, carbonic acid ratio and arterio-venous pH difference were not affected significantly. Uraemia was characterized by progressive metabolic alkalosis with, as a compensation, hypercapnia, and arterial hypoxemia. There was no evidence of systemic shunting of blood.

ACID-BASE STATUS AND BLOOD GASES IN NORMAL BUFFALO CALVES (*BUBALIS BUBALIS*).

JIT SINGH AND R.N. KOHLI,
Department of Veterinary Surgery &
Radiology, Punjab Agricultural
University, Ludhiana.

PUNJAB

In a study conducted on ten healthy male buffalo calves (*Bubalis bubalis*), the mean values of arterial/venous pH, P_{CO_2} , P_{O_2} and oxygen saturation were found to be 7.457/7.403, 35.9/43.4 mmHg/35.1 mmHg., and 97/66.8%, respectively. The mean values for actual bicarbonate, standard bicarbonate, base excess (actual oxygenation/fully oxygenated), actual buffer base, arterial carbonic acid and bicarbonate carbonic acid ratio were 24.9, 24.0, 1.5/0.24, 45.7, 1.077 m.mol/l and 23.1, respectively.

PATHO PHYSIOLOGY OF EXPERIMENTAL SEPTIC SHOCK IN BUFFALOES

JIT SINGH AND R.N. KOHLI,
Department of Veterinary Surgery
and Radiology, Punjab Agricultural
University, Ludhiana.

PUNJAB.

Shock induced by strangulating a segment of jejunum in 10 buffalo calves was characterized by coldness of extremities without hypothermia, tachycardia, atrial fibrillation, moderate hypotension, steep fall in central venous pressure; increased blood pH, arteriovenous pH difference, base excess, bicarbonate and bicarbonate-carbonic

acid ratio; systemic shunting of blood in early stages and hypoglycaemia in later stages. Tachypnoea was observed in terminal stages. Arterial hypoxemia, and variations in packed cell volume, total proteins, globulin and albumin were absent. Blood carbon dioxide tension and carbonic acid did not exhibit a consistent trend. Moderate uncompensated metabolic alkalosis was a characteristic feature of all animals. Respiratory failure preceded cardiac arrest in all except two animals where cardiac arrest occurred before respiratory failure. The available evidence indicated that the shock was septic in nature and that the lungs and liver were the possible target organs.

FIBROMA OF ANGLE OF JAW IN A BUFFALO CALF.

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MADHYA PRADESH.

A Murrah buffaloe calf aged one and a half years, was referred to the Department of Surgery for treatment of a hard mass existing near the angle of jaw since last six months (20-11-1978).

On examination a hard, fibrous mass was palpable at the angle of right jaw. The animal was operated under triflu-promazine premedication with local infiltration of 2 per cent Lidocaine hydrochloride.

The macroscopic examination revealed a encapsulated mass. The growth apparently comprised of fibrous tissue and appeared rather avascular on incision. The growth was completely adhered to the skin and not with jaw bone. The weight of the incised growth was 350 gms. and the same did not recur months after its surgical removal.

EFFECT OF SURGICAL METHODS ON CARCASS YIELD AND QUALITY OF MEAT IN BUFFALO CALVES

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PANTNAGAR U. P.

Twenty seven buffalo calves were randomly divided into 9 groups of 3 animals each. The animals of I, II, III & IV groups were castrated at 6 months of age by Burdizzo, open, partial and chordectomy methods. Similarly, the animals of V, VI, VII and VIII

groups were castrated by above technique at 12 months of age. The animals of IXth group were kept as entire. The animals were slaughtered at the age of three years.

The average monthly body weight gain for 6 month castrates using Burdizzo, open, partial and caudectomy techniques was 11.24, 7.56, 12.83 and 12.13 kg. and the corresponding values for 12 month castrates were 8.29, 9.42, 9.96 and 9.78 kg. respectively. The value for entires was observed to be 11.04 kg. Similarly, the live weight at slaughter in respective groups of 6 month castrates was 356.00, 304.00, 414.67 and 356.87 kg. and the corresponding values for 12 month castrates were 398.00, 348.00, 298.00 and 326.66 kg. For entires the live weight at slaughter was 294.33 kg. It was, therefore, revealed that 6 month partial castrates faired better than other groups. Carcass yield in 6 month partial castrates was observed to be higher than that of other groups. The concentration of myoglobin, oxy myoglobin and metamyoglobin was higher in partial castrates and caudectomized animals. The pH, moisture and ash contents did not show any significant variation. The protein and fat percentages were higher in the muscle of 6 month castrates than 12 month castrated animals. Partially castrated and caudectomized animals had higher protein percentage but lower fat percentage in various muscles. The overall palatability score was highest in 6 month partial castrates and lowest in 12 month Burdizzo castrated animals.

In partial castrates and caudectomized animals whereas the mucle fibre number was higher, the fascicular area, the muscle fibre area and muscle fibre diameters were lower in comparison to other groups of animals indicating that the meat of these animals was relatively tender.

USE OF ALOES COMPOUND (VET) IN INFERTILE BROOD MARES.

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Problems of infertility in mares is an increasing attraction of scientists in recent years. Irregularities of oestrous cycle in mares, especially in thorough bred is a problem of great importance.

13 stud mares having irregularities of oestrous cycle viz. 4-anoestrous condition of ovaries; 4-sub oestrus with underdeveloped follicle and 5-oestrus with normal follicle were selected for the study. Ayurvedic drug, Aloes Compound Vet (Alarsin) tablets - 10 twice daily were fed for a period of 7 to 60 days.

The study revealed that Aloes Compound (Vet) treatment was 100% effective in induction of oestrus in all the 13 mares. The overall average period of effective treatment and exhibition of heat was 35-55, and 44-23 days respectively. The Aloes Compound (Vet) bred successfully 53-85% mares in overall conception, and 60-0% in mares having oestruses with normal follicle. This indicates that Aloes Compound (Vet) not only brings about induction of heat in mares but also helps in maturation of graafian follicle and ovulation.

EFFECT OF SURGICAL INTERVENTION (RUMENOTOMY) ON MILKING/PREGNANT BUFFALOES

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Early diagnosis and surgical intervention in cases of foreign body syndrome in buffaloes can substantially restore the economic losses.

A record of 10 Clinical cases of this entity in 5 freshly calved (within 17 to 125 days) and 5 pregnant (13 days to 210 days) buffaloes is presented with a brief mention of clinical signs, diagnosis, treatment measures and recovery in respect of milk production and reproduction.

It was noticed that the milk production was restored to peak within a period of 3 to 40 days after operation. It is also interesting to note that surgical intervention of major nature like rumenotomy has neither affected pregnancy and parturition nor subsequent lactation and conception.

EFFECTS OF TOURNIQUET ISCHAEMIA IN CALVES

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IZAT NAGAR, U.P.

The tourniquet is used frequently by the surgeons with assured safety and accepted low morbidity. However, even today the complications are more common, than may be appreciated and that of tourniquet use is often unrecognized. The present study aims to study, some of the physiological changes in the involved extremity during the ischaemic phase and throughout the recovery phase after release of tourniquet.

In the present study eight cow calves were utilized. A tight rubber tourniquet was applied in the forelimb just lower limb. The disappearance of pulse in the limb distal to the tourniquet was taken as indication for the tightness of the tourniquet. The pH PCO_2 and PO_2 in blood of extremity under tourniquet control were studied at thirty minutes interval after tourniquet application upto 90 minutes. The degree of acidosis was determined at different intervals.

The venous pH decreased significantly from a mean pretourniquet value of 7.37 to a mean of 7.10 after one and a half hour. Concomitantly, the venous PO_2 also fell from mean pretourniquet value of 42.86 to 31.00 mmHg and PCO_2 increased from a mean value of 40.74 to 70.84 mmHg during the same time interval.

The post-tourniquet release phase was likewise studied at a ten minutes interval the period of recovery after ninety minutes of tourniquet ischaemia was greater than ten minutes but always less than 20 minutes.

EFFECT OF DIFFERENT METHODS OF CASTRATION ON URETHRA IN GOATS AND BUFFALOES.

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PANT NAGAR, U. P.

Partial, open, Burdizzo and chordectomy methods were used in goats and buffaloes. The goats were castrated at 15 days, 1 month, 2 months and 3 months of age and buffalo calves at 4 months, 6 months and 12 months of age. Urethra of entire goats and buffaloes served as controls. The goats were slaughtered at 1½ years and buffaloes at 3 year Length of urethra and diameter of urethra at the neck, proximal to sigmoid flexure, distal to sigmoid flexure and at the tip were measured

after slaughter of animals. The length of urethra in entire goats and partial castrates was significantly more than open and Burdizzo castrated animals ($P < 0.05$). The time of castration has no significant effect on the length of urethra. The diameter of urethra in Burdizzo and open castrated goats was slightly less than partial castrates and entire animals.

Partial castrated, chordectomized and entire buffaloes showed greater length of urethra than Burdizzo and open castrated animals ($P < 0.05$). The diameter of urethra at the neck, proximal and distal to sigmoid flexure and at the tip was less in open and Burdizzo castrated animals than chordectomized, partially castrated and entire animals. The age of castration in buffaloes, like goats also, had no significant effect on length and diameter of urethra.

A CASE OF MITRAL INSUFFICIENCY DUE TO A FOREIGN BODY

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MAHARASHTRA

An unusual case of foreign body piercing the heart at the mitral valves, causing its insufficiency and signs of congestive heart failure in a Bullock is reported.

The animal was off feed and it had a stiff gait with the rumination suspended. The temperature was 105°F and the heart rate 102/per minute. The second heart sound was irregular and split. Auscultation of the chest revealed crepitation and moist rales of cardiac lobe of the lung pleural fluid. The limbs showed oedematous swelling. Since pain tests did not indicate foreign body in the reticulum a tentative diagnosis of mitral insufficiency and congestive heart failure was made.

The haemogram revealed

Hb — 11.5 gms %
W. B. C. count — 8000/cmm
P. C. V. — 27%

Differential count :

N — 28%
E — 1%
L — 71%

M	--	Nil
B	—	Nil

The animal was treated with Esgipyrin and Novalgin given Intramuscularly. Lassix 100 mg. was administered intravenously for three days. The animal showed slight improvement with the heart rate at 76 per minute and the temperature 103°F. The appetite had also improved but the animal died one week later.

An autopsy performed revealed oedema of the lungs with no fluid in the thorax and abdomen. No foreign bodies were noticed in the reticulum. There was an abscess between the pericardium and the diaphragm. The pericardium showed fibrous thickening at the site. On opening the abscess a nail 10 cm long was found, piercing the left side of the heart at the junction between the atrium and ventricle. The heart was opened and the nail was found piercing the mitral valves. There was a fibrinous growth on the valvular surface and the cusps were thickened and adherent to the growth. The obvious reason for the mitral insufficiency and ventricular failure was the fibrous growth.

EXPERIMENTAL STUDIES ON END-TO-END ARTERIAL ANASTOMOSIS AND EVALUATION OF DIFFERENT SUTURING TECHNIQUES IN BOVINE

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BIHAR

In this endeavour end-to-end arterial anastomosis by two different techniques was studied in sixteen male buffalo calves which were divided into two groups A and B each consisting of eight animals. In group A, continuous over and over suture was employed for anastomosing experimentally resected carotid and median arteries in four animals each, while in group B continuous everting mattress sutures were applied similarly.

For accomplishing anastomosis with these two techniques, 5/0 arterial silk armoured with round bodied atraumatic needle was used. Local, regional and systemic heparinisations were done during and after anastomosis so as to preclude the possibility of post-operative thrombus formation.

The success of experimentation was assessed on the basis of observations made up to a period of fifteen days post-operatively.

Gross, radiological and histopathological studies were conducted for ascertaining the flow of blood, patency of the lumen, healing of the vessel and changes at the site of anastomosis.

On the basis of these studies the following conclusions were arrived at.

Continuous over and over suture technique was employed for anastomosis of four carotid and four median arteries. Out of these eight experimentations, seven were successful. The lone failure in median artery occurred due to linear thrombus formation in the lumen of the vessel at the anastomotic site.

This technique was found superior because it was easier to accomplish and comparatively it consumed lesser time to accomplish and comparatively it consumed lesser time in performing anastomosis, yet offered satisfactory results.

There was no evidence of narrowing of the lumen in any of the successful cases. However, in two cases there was slight dilatation which did not impede the normal blood flow.

This technique offered 87.5 per cent success in the present study.

Continuous everting mattress suture technique of anastomosis offered a success rate of 75 per cent, since the experiment proved successful in six animals out of eight. In this technique also the two failures remained confined to median arteries only.

Though the success rate was not very much discouraging with this technique yet it was concluded that it consumed comparatively longer time and was a little cumbersome to apply.

Heparinisations were done in all the experimental anastomoses performed by these two techniques. But the failures were found only in median arteries and thus it was concluded that the chances of failure in the arteries having narrower lumen are greater.

Histopathological studies revealed similar pattern of healing in both the techniques of anastomosis.

Based upon the findings of the present study, it was inferred that continuous over and continuous everting mattress sutures can very well be tried in the above sequence for the repair of major damaged arteries in large animals.

STUDIES ON CLINICO BIOCHEMICAL CHANGES IN EXPERIMENTAL ABOMASAL DISPLACEMENT IN BUFFALO CALVES.

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BIHAR

Experimentations were done on 12 male buffalo calves divided into group I and II. of six animals each. In group I right sided abomasal displacement was created experimentally, whereas group II was kept as control and only laparotomies were performed.

In general, the animals with displaced abomasum exhibited gradual loss of appetite leading to complete anorexia followed by suspended rumination and atonic rumen. The symptoms of dehydration were more marked with gradual loss of body condition. The animals mostly preferred sitting in sternal recumbency.

The animals voided scanty faeces of variable consistency, colour and odour and rectal exploration revealed a little quantity of faeces with mucous. There was asymmetry of the flanks with atypical sounds from right flank on auscultation, percussion and ballotment.

There was non significant fall in B_h% and serum sodium level. Total serum protein level showed significant changes ($P < 0.05$). Serum potassium and serum chloride decrease was highly significant ($P < 0.01$). A highly significant ($P < 0.01$) rise in plasma bicarbonate level was also observed.

The laparotomised animals of group II did not show any abnormal clinico-biochemical changes.

THE DIAGNOSTIC VALUE OF EXPLORATORY RUMENOTOMY IN RECURRENT TYMPANY IN CATTLE

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TAMIL NADU

Highly specialized art of various physical examinations and surgical techniques are interwoven in buiatrics practice. The recent development of modern surgical techniques and protection with antibiotics coverage against infection increased the usage of surgical intervention to diagnose various diseases. The technique of exploratory rumenotomy which is commonly used for the removal of foreign

bodies can be utilised for the diagnosis of various maladies of the rumen and reticulum. The findings of exploratory rumenotomy in cattle may be very useful to physicians to confirm their diagnosis which was arrived carefully after various physical examinations. This study will be very useful to bovine practioners to evaluvate the application and importance of exploratory rumenotomy in day to day practice.

The particulars regarding various diagnostic techniques which were used to diagnose the recurrent tympany in cattle were taken for study and analysed in detail. This study is related to the cases which were admitted in Madras Veterinary College, Large Animal Clinic inpatients only from the year 1971-72 to 1978-79. Totally 264 cattle were admitted in the inpatient unit with history of digestive disturbances alone. Among 264 cases, 42.04% (111) animals were admitted with the history of recurrent tympany. Of which 86 were diagnosed for different etiology of non-surgical intervention by applying various physical examination techniques. 25 cases (i.e. 22.5%) were referred to surgery for diagnosis by exploratory rumenotomy.

Based on the surgical findings the patients were classified into 4 groups as follows.

- Group I** The cases with foreign bodies and localised upcomplicated traauatic reticulitis. (36%)
- Group II** The cases with complications caused by foreign bodies. (36%)
- Group III** The cases showed the clinical signs suggestive of foreign body syndrome but are found to be suffering from some other conditions on exploratory rumenotomy. (16%)
- Gqoup IV** The cases suggestive of foreign body syndrome in clinical examination but no visble abnormality could be detected on surgical examination. (12%)

A CASE OF ULCER IN A COW - TUBERCULOSIS

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TAMIL NADU

Tuberculosis lung is a common ailment in cows and in a few instances tuberculosis of uterus has also been observed. Tuberculosis tongue is very infrequently reported and in this case it is interesting to note that the tongue was affected with tuberculosis sparing other organs.

A debilitated cross breed cow had frothy salivation and a few shallow ulcers on the tongue. In spite of treatment the ulcers grew and the borders of the tongue became elevated and prominent on the ventral surface. The animal could not close its mouth interfering with mastication. Histological examination of the growth revealed tuberculosis organisms with calcification and giant cells.

SUCCESSFUL SURGICAL CORRECTION OF A FEMALE DOUBLE MONSTER CALF (BUBALIS) BUBALIS

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PUNJAB

A hitherto unreported successful surgical correction of a female double monster calf, with anterior appendage and posterior duplication, has been described. Anterior appendage, hind quarters, limbs, an aberrant clump of intestines, functional alimentary canal from caecum to rectum, urachus with a small bladder and a vestigial uterus of the confined twin were dissected out. The ileum was anastomosed with the caecum of the main body. Surgical correction, done under halothane anaesthesia, resulted in uneventful recovery of the calf.

STUDIES ON DIFFERENT SURGICAL REPAIRS TO DAMAGED PERIPHERAL NERVES IN CANINE

S.S. MARUDWAR* and Dr. P.E. KULKARNI**

MAHARASHTRA

Experimental neurectomies are carried out in left sciatic nerves in dogs. These dogs were subjected to primary suture and secondary suture technique of repairs, using silk as suture material in one group and human hair in the other group.

Findings on electric excitability, autopsical appearance and histopathological studies of operated nerves were recorded. The correlation of these findings with the clinical observations made on operated animals were studied.

From these experimental studies it could be assumed that the hair can well be used for suture repair of an injured peripheral nerve. Irrespective of the type of technique used for repair and type of suture material used, the placement of sutures during the process of suturing is important and intraneurally placed sutures always are detrimental to the peripheral nerve regeneration.

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EFFECT OF DIFFERENT TREATMENTS ON THE TOXICITY OF THE PERITONEAL FLUID RESULTING FROM STRANGULATION OF INTESTINES

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ORISSA STATE

Considering the importance of toxic agents for high mortality rate in strangulation of intestines with obstruction, it was sought to elucidate the role of bacteria and their toxins on the lethal nature of the peritoneal fluid. Hence Dogs were subjected to different treatments. In this study, two groups of adult mongrel dogs, consisting of 18 in each were subjected to small intestinal strangulation with obstruction, out of which one group received antibiotic treatment (kanamycin @ 250 mg. each intramuscularly at 12 hourly intervals, althrough the period of study with instillation of one gram of neomycin into the strangulated loop at the

time of operation) while the other group did not receive any such treatment. Toxicity of the raw peritoneal fluid and of the peritoneal fluid samples subjected to different treatments such as (i) kanamycin-mixed @ 50 mg/c ml fluid, (ii) seitz-filtration and (ii) heating at 60°C for minutes, was assayed in white albino mice.

With raw peritoneal fluid obtained from untreated dogs, highest mortality of 83.33 per cent was found in mice while the mortality rate was 31.46, 24.07 and 16.66 per cent in the groups of mice which received antibiotic-mixed, heated and seitz-filtered samples of peritoneal fluid respectively. The corresponding values in the groups of mice receiving peritoneal fluid samples from treated animals were 9.26, 6.48, 5.55 and 2.78.

Considerable differences in the mortality rate of mice when challenged with different samples of fluid from either groups of untreated and treated dogs tend to support the significant role of bacterial factor and their toxins (both exo and endotoxins). The use of antibiotics in the treated series of dogs inhibited the growth and multiplication of microorganisms and concurrent reduction of toxins. It is the presence of different microorganisms in the peritoneal fluid produce exo and endotoxins, which get absorbed into circulation and bring about severe systemic disturbances resulting in death.

CONGENITAL ACHALASIA OF THE OESOPHAGUS IN A DOG

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TAMILNADU

An Alsatian dog aged one year was unable to retain food, inspite of a good appetite since puppyhood. Swallowing was difficult and the regurgitated vomitus consisted of undigested food, mixed with saliva. Ballooning of the cervical oesophagus was noticed when the animal closed its mouth and lowered the head. Radiographs confirmed saccular dilatation of the thoracic oesophagus.

Thoracotomy was performed and respiration: were maintained with Bird Mark 9 automatic respirator. The 7th rib was resected on the left chest wall. A saccular dilatation of the oesophagus could be visualised and there was no tone.

Oesophagomyotomy was performed for a distance of 5 cm on the ventral surface of the terminal oesophagus to provide for dilatation and easy passage of food into the stomach. The stomach tube could now be passed with ease. The thoracotomy incision was closed in the conventional manner and the animal made an uneventful recovery and was discharged. The owner was advised to feed the animal on liquid or semisolid food, by raising the bowl to aid swallowing and passage into the stomach.

SURGERY FOR VENEREAL HISTOCYTOMA IN BITCHES

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and ARCHIBALD BALRAJ DAVID,
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TAMIL NADU

Veneraeal growths in bitches when removed locally are bound to recur. No encouraging results are achieved also by the injection of drugs like Anthiomaline locally or by the parenteral route.

Total extirpation of the female genitalia was carried out in three bitches with extensive veneraeal growths by the technique of ovariectomy followed by vulvo vaginectomy and perineal urethrostomy.

Surgery for the condition was performed on these animals in two stages. In the first stage, Panhysterectomy was performed by the right flank, single incision, muscle separation technique. After two weeks the second stage operation was performed by vulvo vaginectomy and perineal urethrostomy. The results are very encouraging although there was urinary incontinence in one bitch for a few days. In another animal the urethra and bladder slipped into the abdomen, due to suture disruption and so an emergency prepubic midline laparotomy had to be performed for refixing the urethra in the perineal region.

EFFECT OF LUMBAR SYMPATHECTOMY IN THE TREATMENT OF ARTHRITIS OF THE STIFLE JOINT IN DOGS.

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TAMIL NADU

Lumbar sympathectomy is the surgical denervation of the various parts of the various parts of the lumbar sympathetic trunk in the treatment of certain clinical conditions.

The principal indications for this operation are traumatic arthritis, chronic arthritis, post-traumatic dystrophies and congenital megacolon.

Work on this subject, in the veterinary patient, has not attracted as much attention, as in the human. This study was undertaken to explore the potentialities of the technique in canine surgery, with particular reference to its curative value in traumatic arthritis of the stifle joint.

Arthritis was induced by the injection of agents like calcium chloride 10%, copper sulphate 2% and Pelican drawing ink. Of all these, Pelican drawing ink appeared to be the best agent for the production of arthritis in the stifle joint.

While not directly linked with the primary purpose of the study, various tests like, temperature variations of the parts after sympathectomy; plethysmograph; blood pressure recording of the femoral artery after sympathetic denervation; the sweating test and the electrical skin resistance test were conducted.

For reaching the lumbar sympathetic trunk, on experimental animal, the ventral approach was utilized and in two other animals the paracostal approach was performed. On seven experimental animals the approach adopted was identical. On these, an incision was made, immediately behind the lumbocostal arch, extending posteriorly parallel to the paramedian line in the flank region. The principal advantage of this method was less trauma to abdominal organs. The disadvantage was that only unilateral sympathectomy could be undertaken, by this approach. The ventral approach provides space for bilateral sympathectomy, though it entails manipulation of the abdominal organs. The paracostal approach provides poor visibility and relative inaccessibility to the trunk.

To observe the effects of sympathectomy of the lumbar trunk, the following were carried out. On one animal, temperature variations were observed and the plethysmograph was recorded in the other. On two animals blood pressure recording was conducted and in another two the sweating and the electrical skin resistance tests were performed.

In conclusion it is suggested that the lateral approach and the total removal of the parts of the trunk of the region of the 3rd to the 4th lumbar level, will provide increased blood flow to a particular hind limb. Further, basing on this fact, any pathological processes in the limbs as arthritis associated with atrophy of the muscles and bones, post-traumatic dystrophies, which may originate due to deficient blood supply to the limb, could be treated by the lumbar sympathectomy.

PROSTATECTOMY IN CANINE

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TAMILNADU

Experimental total prostatectomy was performed on 26 dogs studying the abdominal and perineal approach. In both the techniques after haemostasis and vasectomy the prostate gland was removed after a transurethral incision, caudal to the prostate gland and by a transvesical incision cranial to the prostate gland. Anastomosis of the vesico pelvic urethra was performed carefully.

The advantages in the midline abdominal approach were that there is greater visibility of all the structures at all stages of the operation. The method was simple and direct, haemorrhage being minimal. The perineal site for prostatectomy was ideal for the removal of the normal gland as the space available is limited. Perfect haemostasis and vesico urethral anastomosis is difficult in this approach. The complications in this technique are urinary incontinence and urinary fistula.

AN EXPERIMENTAL STUDY ON RIGHT HEART BY-PASS IN DOGS

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The dog is chosen as an experimental model to perform right heart by pass. This experiment is designed so that the same procedure could be used in pulmonary valvular stenosis in human patients.

The dog is prepared and anaesthetised. Through a left thoracotomy, pulmonary artery is canulated. The canula is brought out and the chest is closed. The dog is turned to the other side, and right thoracotomy is performed. Through the right atrium the cranial and caudal vena cavae are canulated. Both these canulae are connected to the pulmonary arterial canula through a 'Y' connection and the clamps are released. The blood flows from the cranial and caudal vena cavae through the canulae into the pulmonary artery by passing the right ventricle.

RADIOLOGICAL DIAGNOSIS OF CHEST CONDITIONS IN LARGE ANIMALS.

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MADRAS

Chest Radiography in large animals is difficult due to large and roomy thorax. In a single large size film available, the thorax could not be accommodated fully. In the Radiology section, Madras Veterinary College more than 500 radiographs of chest were taken since 1972. The thorax is divided into two areas, chest view I and chest view II. Chest view I comprises the lower portion of chest cavity which includes a portion of the heart, reticulum and the diaphragm in between and ventrally the sternabrae. The left view is taken mostly for foreign bodies. Chest view II is taken mostly on the right upper area. This includes the dorsal vertebrae, anteriorly the scapula, posteriorly the diaphragm and ventrally the diaphragmatic lobe. The central beam is focussed to the middle of the 7th rib. The diseases diagnosed were pulmonary Tuberculosis, Pneumonia, Hydatidosis and diaphragmatic Hernia.

VERTEBRAL VENOGRAPHY : AN EXPERIMENTAL STUDY.

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IZATNAGAR, U.P.

Generally, myelography, using water soluble or oil soluble contrast materials, is used for the diagnosis of spinal compression, resulting from disc protrusion, malformation of spinal canal or meningeal tumour. More recently vertebral venography has been proposed to locate these lesions.

The present study was conducted in normal goats, pigs and dogs (six each). Triflupromazine hydrochloride was given half an hour earlier. The procedure was performed under local infiltration.

For thoracolumbar, a bone marrow biopsy needle (6" long) was used to drill into the body of 6th or 7th lumbar vertebra. The body of vertebra was approached ventrolaterally beneath the wing of ileum in all the species. The location of the point of

needle was confirmed either by fluoroscopy or by exposing a plain film before injecting the contrast material. The animal was placed in lateral recumbency with head lower than the pelvis. Heparinized normal saline was used to flush the marrow cavity. About 10cc of Conray-420 (sodium iothalamate) was injected slowly and then rapidly. The radiograph was exposed as the last ml. of contrast material was injected.

Cervical vertebral venography was performed by drilling into the wing of atlas and injecting the contrast material with simultaneous compression of jugular vein.

RADIOGRAPHIC STUDY OF BOVINE FOOT DISEASES

J.M. NIGAM & A.P. SINGH

(Abstract)

The present study was based on total of 104 cases of foot affections brought to the Veterinary Clinic, Hissar for their diagnosis and treatment. The cases were referred for radiography and radiographic diagnosis was tabulated as per affections, age and sex of animals. The observations revealed that bovine foot affections represents about 24.1 percent (104 out of 424 cases) of limb injuries and other affections. There appears higher incidence of foot affections in male (88.7 percent) than in female animals (19.3 percent). The incidence of different foot affections were: Arthritis-34.6 percent, fracture-38.4 percent, dislocation-5.7 percent, periostitis/exostose-19.2 percent and solar penetration 2.8 percent. Majority of foot affections were presented in age group of 4 years and above.

Out of total of 40 phalangeal fractures, highest incidence (45 percent) involved 1st phalanx, followed by third phalanx (37.5 percent) and lastly second phalanx (17.5 percent). The fractures were either chip, slab, transverse or comminuted, however, mostly these were of chip type. Furthermore, most of the fractures were noticed in hind limbs (36 out of 40 cases) against only six cases in fore-limbs.

The incidence of arthritis comes next to the fractures, which were more in hind feet (66.6 percent) than in fore feet (33.4 percent). The majority of cases of pedal arthritis were of septic in nature. The incidence of dislocation of different joints of foot and solar penetrations were quite low and represented only 5.7 and 2.8 percent respectively.

✓ FRACTURE IN ANIMALS: A RADIOGRAPHIC STUDY OF THEIR INCIDENCE AND ANATOMICAL LOCATIONS

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A radiographic study was undertaken to know the incidence and anatomical locations of fractures in cattle, sheep and goat, dogs, horse and camels. The present report is based on total of 511 clinical cases of fractures brought to the College Clinics, College of Veterinary Sciences, Hissar during the period of 7 years (1972-1978) and subjected to radiography. Radiographic diagnosis of these fractures were complied according to the bone involved, type of fractures, age and sex of animals.

In cattle the highest incidence of fractures (28.7 percent) involved the tibia; followed by the fractures of metatarsus (21.2 percent), phalanxes (13.6 percent), radius and ulna (11.1 percent), metacarpus (10.8 percent), humerus (7.4 percent) and femur (4.8 percent). The incidence of fractures of other bones accounted only for about 2 percent out of total of 268 cases.

In ~~sheep and~~ goat the highest incidence (32 percent) involved the femur; followed by tibia (21.7 percent), metacarpus (15.3 percent), metatarsus (10.2 percent), phalanx (6.4 percent), humerus (5.1 percent), radius and ulna (3.8 percent and ulna and pelvic bones with 2.5 percent each out of total of 78 cases.

In dogs, total of 121 cases were included in this report, which constituted highest percent of fractures of femur (35.5 percent), followed by tibia (22.3 percent), radius and ulna (16.5 percent), humerus (13.2 percent), jaw (4.1%), ulna (2.4 percent), vertebrae (2.4 percent) and the fibula with the lowest incidence of 1.6 percent.

In horse and camels only 22 cases each were recorded, which showed highest incidence of femoral fractures in horses (22.6 percent) and of mandibular fractures in camels (72.7 percent) respectively.

Results of this study revealed that there appears to be higher incidence of fractures in male than female animals except in sheep and goats, where the incidence was higher in female in comparison to male population.

Most of fractures were recorded in age group of 1 to 3 years in cattle, sheep and goat, while majority of cases were presented in animals below one year of age in dogs and horses.

Regardless of the species of animals most of the fractures involved the shaft region and were either comminuted, oblique or transverse in nature. However, in cattle highest percentage of fractures were comminuted, followed by oblique and transverse types, while in goats, majority of fractures were of oblique in nature, followed by comminuted and transverse type.

ANGIOGRAPHIC EVALUATION OF UTERINE HEALING IN SWINE

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The vascular supply to the injured/operated part also play an important role during the healing process of female genitalia as is true in other body tissues/organs. The available literature shows that uterine healing is generally evaluated on the basis of gross and histological observation, but the authors failed to tract the studies pertaining to the vascular changes during uterine healing. Therefore, we initiated the present study to observe the vascular pattern of single and double layer suturing technique by angiography during the healing process.

Total 96 hysterotomy wounds were made in 16 female pigs divided equally into four groups depending upon the technique used for suturing. The four suturing patterns used were, single layer continuous lembert's sutures, continuous lock stitch, double layer lembert's and interrupted lemberts. All the operations were performed under general anaesthesia using thiopental sodium. On 3rd, 5th, 7th and 21st post-operative day, the six biopsies of each pattern were resected for angigraphic studies. The vascular bed of the collected biopsies were flushed with heparinized saline. Two to three milliliters of Conray 420 was then infused through the needle and radiographs were made at 10 mas 45 Kvp and 36" FFD. These specimens were again flushed with normal saline and filled with 20% Lead oxide suspension in soap water. The radiographs were then made using radiographic factors of a tubular uterine horn. The uterus was then incised longitudinally and it was spread over the cassette and then radiograph was taken.

The observations revealed that interrupted lemberts sutures are best to provide adequate healing with minimal destruction of vascular supply. The tissue reaction was maximum in double layer lembert's sutures with increased area of uterine lumen. Lock stitch did not show any extra advantage over interrupted lembert's sutures. Still it was superior to double layer lembert's suture techniques. Aqueous contrast angiograms were adequate in delineating the arterial supply with an added advantage of venous visualization in follow up films. Lead suspension angiogram were good for co-relative anatomical relationship within the individual arterial branches.

SPINAL SURGERY IN CAPRINES WITH SPECIAL REFERENCE TO MYELOGRAPHY

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In recent years the clinical application of surgical methods for decompression and relief of spinal compression has been widely accepted. The dorsal laminectomy and dorsolateral hemilaminectomy have been used most extensively for treating these conditions. Spinal immobilization by means of various types of metal plates has been the methods most successfully and widely used in dogs.

Surgical approach to the vertebral column in fracture and cord compression in experimentally created disorders of the vertebral and spinal cord was made in eight goats. It was subsequently evaluated by myelography. In five animals spinal plating was done as corrective measures and three animals were kept as control. The immobilization of the dorsal spine was done by means of Meuring Williams spinal plates with nuts and bolts. The incision site padded on the back with cotton and gauge and an aluminium splint was applied to strengthen the internal fixation.

A supporting cart with wheels was devised to keep the animal standing for 2-3 hours a day.

In control group of three animals the lumbar vertebrae were fractured and dislocation created. Injury to the spinal cord was allowed to take place. Myelography was similarly done. The operative site was similarly closed without applying corrective measures like spinal plating.

Light plane of anaesthesia using thiopental sodium at the rate of 15 mg/kg body weight along with local infiltration of 2% Xylocaine provided adequate anaesthesia in the present study for spinal surgery.

All the experimental animals which were subjected to fracture and dislocation and subsequent treatment by Meurig William's spinal plates could withstand the damage and surgery, except two animals. In two cases the spinal cord and meninges were damaged, which proved fatal.

The blunt dissection of the musculature in spinal surgery at the lumbar region helped in minimum haemorrhage and damage of the adjoining vessels and nerves.

In the control group, aftercare and physical therapy did not help in the restoration of motor functions of the limbs as the spinal cord and meninges were damaged and proved fatal.

RADIOGRAPHIC DIAGNOSIS OF DIAPHRAGMATIC HERNIA IN BOVINES

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Despite anatomical and other limitations, plain and contrast skiagrams of the reticulophrenic region of 250 adult female buffaloes (*Bubulus bubalis*) clinically suspected to be suffering from diaphragmatic hernia proved to be of fairly good diagnostic value when properly taken and interpreted. The barium meal radiographs better depicted the nature and extent of hernia and aided in early detection and differential diagnosis of the disease from pleurisy, soft tissue growth in thorax, pericardio-phrenic adhesions and phrenic abscess, etc.

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A REVIEW OF CHEST X-RAYS IN DOGS WITH A SPECIAL REFERENCE TO THE OESOPHAGEAL CONDITIONS

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TAMIL NADU

It is difficult to undertake chest Radiography in dogs than in man and it could prove just as important an aid to the investigation and diagnosis of thoracic disease, because of difficulties in depth, shape lack of patient co-operation and low power of the examinations (Douglas 1970).

In the Radiology section, Madras Veterinary College 2849 dogs were radiographed during 1971-75. 322 were for chest Radiography. 163 Barium swallows were performed. Mostly lateral positions were taken with factors of 20mAs. 29-55 Kvp and 70-90 cmsFFD. A few were examined flouroscopically. The following conditions were diagnosed. PNEUMONIA 11, FLUID IN THORAX 5, S.O.L. LUNGS 1, HPOA 2, Emphysema 3, Secodaries 1. Foreign bodies 18, Spirocerca 24, Megaoesophagus 12 and Neoplasm 2. 11.5% cases were radiographed for chest conditions. Out of this 36% were of lung and 64% were of oesophageal conditions.

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ACUPUNCTURE IN VETERINARY PRACTICE IN INDIA

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ANDHRA PRADESH

Veterinary acupuncture dates back to 4000 years and is reported to be extensively practised for anaesthesia and therapy by the orientals. Europeans and recently by the Americans. Analgesia is relatively a new development in acupuncture and the first operation in human beings under acupuncture analgesia was performed at Shanghai in the year 1958. This prompted the study of this branch from the year 1972 and by the end of 1977 an Electro-acupuncture unit was designed and fabricated with the help of the Electronics department of the S. V. University Engineering College Tirupathi. The acupuncture needles were got from Austria.

The actual experiment was started in 1978 and the acupoints given in the literature for cattle and dogs for analgesia and therapy were tried on experimental animals. During this year (1979) the work has been extended to the Clinics of the College of Veterinary Science, Tirupathi. Abdominal operations are being done under acupuncture analgesia. Cases of paralysis, prolapses, digestive and female reproductive disorders are being treated successfully with acupuncture. So far 25 abdominal operations were performed under acupuncture analgesia on experimental buffalo bull calves and cattle. (7 Laparotomies at the flank and paracostal sites, 16 Rumenotomies viz. 11 in buffalo calves and 5 in bullocks, 2 Abomasotomies viz. one in a buffalo bull calf and one in a bull calf, and 6 abdominal operations in Clinical cases viz. 1 Rumenotomy 1 repair of abnormal abdominal vent in a bullock and 4 herniorrhaphies).

Eleven major abdominal operations in dogs were successfully performed (2 Gastrotomies, 9 ovariectomies viz. 8 in experimental animals and 1 in a Clinical case).

So far 25 Clinical cases were treated with acupuncture (5 cases of Ruminal impactions, one cow with radial paralysis, 1 She Buffalo with a rectal prolapse, 1 bull with Coxitis and 18 Cows and She buffaloes of anoestrus).

To detect acupuncture points in cattle, buffaloes, dogs and cats one acupuncture search probe is under fabrication, with the help of the Electronics Department of S.V. University Engineering College, Tirupathi.

Further trials on acupuncture analgesia and therapy are under progress.

HALOTHANE ANAESTHESIA IN SHEEP WITH THIOPENTONE INDUCTION - AN EXPERIMENTAL STUDY


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S. C. PATHAK.

HARYANA

(Abstract)

Anaesthesia in twelve healthy adult sheep weighing between 18 to 20 kg. was induced with bolus injection of 5% thiopentone and 15 minutes later connected to 2% Halothane (Semiclose - Magill system); for 1.5 hours. No significant changes in rectal temperature and respiratory rate was observed but a significant fall in minute volume has been recorded during halothane inhalation. Heart rate was slightly increased. Central venous pressure did not show significant change. Hypotension was observed during halothane anaesthesia. The average maximum rise of 138.5360 ± 16.6300 ($\bar{x} \pm S.E.$) torr and average maximum fall of 92.223 ± 7.8231 torr in blood pressure was recorded during intubation (immediately after thiopentone injection). Electrocardiographic studies did not reveal any prominent conduction abnormalities except in two animals, transient ectopic beats were observed. Sialagugic effects of thiopentone were evident within 9.5 ± 2.0340 minutes after its administration.

Excellent anaesthesia remained for 1.5 hours (duration of halothane inhalation). Three animals showed shivering during late halothane anaesthesia. All animals were aesthetic by 15-20 minutes after disconnection of halothane.



AN EXPERIMENTAL STUDY WITH PROPANIDID ANAESTHESIA IN DOGS

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HARYANA

(Abstract)

Animals were atropinized at the rate 0.04 mg/kg B.W. subcutaneously. After five minutes triflupromazine was administered i.m. @ 0.5 mg/kg. B.W. and fifteen minutes later propanidid was given intravenously at the rate of 50 mg/kg. B.W.

Intravenous administration of propanidid produced onset of weak time in 41.1667 ± 5.2325 seconds and animals laid in lateral recumbency by 63.3334 ± 2.8427 seconds. Palpebral and corneal reflexes were abolished. Cutaneous analgesia (based on needle prick) remains for 16.8 ± 2.3034 - minutes. Animals tolerated endotracheal tube for 17.5834 ± 0.9331 minutes. Belching was noticed in 5 dogs, barking in two dogs and defecation in 4 dogs. Head rightening reflex and animals standing with ataxia was observed at 23.9157 ± 1.8152 and 29.5834 ± 2.1408 minutes respectively. Electroencephalographic studies revealed high voltage low frequency complexes during propanidid anaesthesia.

Slight change in respiratory rate was seen. There was transient hyperoxemia and hypocarbia after propanidid administration.

Rectal temperature was slightly decreased.

Tachycardia, hypotension and decrease in central venous pressure were also observed. Electrocardiographic studies did not reveal severe conduction abnormalities.

Haemocytological and blood biochemical studies have also been described.

INTRAVENOUS LOGAL ANALGESIA IN CLINICAL CASES OF LIMB SURGERY

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ANDHRA PRADESH

This technique was not routinely tried in day to day clinical application of limb surgery, eventhough the authors feel it is quite simple and effective than other conventional methods of local analgesia.

The present paper deals with few clinical cases (admitted to the department of Surgery, College of Veterinary Science, Tirupati) involving surgical affections of limbs of Cattle and sheep. In all cases analgesia and muscular relaxation was satisfactory after injection of 2% xylocaine into superficial vein below the tourniquet. But in most of the cases analgesia was not developed at interdigital space. In case of forelimb when the cephalic vein was used for injection, the posterior part of the elbow joint was not desensitized in majority of cases. In all cases the tourniquet was maintained until the completion of operation; thus a minimum period of 30 minutes and maximum of 90 minutes was recorded. All the animals tolerated the analgesic effect well and there were no untoward effects observed after the release of tourniquet.

EFFICACY OF CANNABIS INDICA AS PREANAESTHETIC IN DOG.

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Ten dogs of varying body weight between eight kg. to fifteen kg. was selected for the experiment and received three different types of treatments at an interval of five days. Temperature, pulse and respiration were recorded in each dog before experiment and values acted as control. In the first treatment, Cannabis indica (Bhang) (5% petroleum ether extract) was injected intraperitoneally at the rate of 1 ml. / kg. body weight. In the second treatment, only Thiopentone sodium (2.5% solution) was injected intravenously till the loss of pedal reflex. In the third treatment, Cannabis indica was injected 50 minutes prior to the administration of Thiopentone sodium which was injected intravenously till the pedal reflex was abolished. In all these treated animals temperature, pulse, and respiration were recorded at an interval of five minutes upto twenty minutes and thereafter at an interval of fifteen minutes upto sixty five minutes. The behavioral changes, dose of barbiturate required to produce surgical anaesthesia, duration of surgical anaesthesia and sleeping time were recorded.

After administration of Cannabis indica, dropping of head either downward or laterally with occasional alertness was noticed. While sleeping occasional awakening was noticed even with the slightest noise. However, spontaneous awakening was also observed during deep sleep. During recovery the hindlegs were kept extended backward while standing with backward and forward movement as well as swaying of the body. On movement inco-ordination of the legs was evident. While sitting on ground the dog slept with raised head.

When barbiturate alone was given the average dose requirement was 19.91 ± 1.19 mg./kg. body weight with average duration of surgical anaesthesia and sleeping time as 11.30 ± 1.19 minutes and 0.95 ± 0.19 hour respectively. However, the average dose of barbiturate was reduced to 6.68 ± 0.87 mg./kg. body weight with average duration of surgical anaesthesia and sleeping time as 18.60 ± 2.22 minutes and 2.63 ± 0.01 hour respectively in Cannabis indica premedicated animals. The narcotic affect of Cannabis indica was evident after an interval of 12 minutes and persisted for an average of 8.16 hours. The Cannabis indica treated dogs did not exhibit any sign of anaesthesia.

No significant change in body temperature was noticed in all the three treated groups. Initial rise in pulse rate was recorded in all the

three treated groups and existed at the elevated level upto sixty-five minutes. The use of Cannabis indica alone or in combination with thiopentone-sodium did not show any significant change in respiration. The barbiturate treated group showed a decreased respiration rate upto fifteen minutes followed by a rise upto sixtyfive minutes.

EVALUATION OF LIDOCAINE HYDROCHLORIDE* AS SPINAL ANAESTHETIC IN DOGS

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The present study was aimed to assess the efficacy of Lidocaine hydrochloride as spinal anaesthetic in terms of loss of different body reflexes with complete recovery.

The experiment was carried out in ten healthy mongrel dogs weighing between eight to fifteen Kg. Lidocaine (2%) and Procaine hydrochloride (2%)* were administered in 3 different doses in the same animal with the interval of 6 days.

Lidocaine was administered with dose rate of 0.15 ml. per Kg., 0.25 ml./kg., and 0.40 ml/kg. body weight, while Procaine was administered at the rate of 0.2 ml/kg., 0.3 ml/kg. and 0.4 ml/kg. body weight.

Candal reflex disappeared in less than one minute when lidocaine was injected while in procaine treated animals in 1 minute 16 seconds to 1 minute 52 seconds. The thigh muscles were desensitized in 1 minute 45 seconds to 3 minutes 15 seconds in lidocaine treated animals. In procaine treated animals the desensitization of thigh muscles was noticed only between 3 minutes 42 seconds to 3 minutes when procaine was injected in three different doses. The reflexes below the hock (including pedal) were absent between 2 minutes 57 seconds to 4 minutes 27 seconds when three different doses of lidocaine were injected. In case of procaine administered animals these reflexes were lost in 5 minutes 42 seconds to 8 minutes 24 seconds. The reflexes from the sacral region were absent between 1 minute 59 seconds to 2 minutes 56 seconds in lidocaine administered animals while in animals of procaine administered group the reflexes were lost only between 3 minutes 11 seconds to 4 minutes 9 seconds. The loss of reflex from the posterior lumbar region was noticed between 2 minutes 43 seconds to 4 minutes 45 seconds in lidocaine treated animals while it disappeared only between 4 minutes 17 seconds

to 6 minutes 21 seconds in procaine treated animals, Loss of reflex from the ventral abdominal region was noticed in 2 minutes 39 seconds to 5 minutes 7 seconds in lidocaine treated animals. In procaine treated animals the loss of reflex from the abdominal region was noticed between 4 minutes 22 seconds to 7 minutes 50 seconds.

The reflex started returning after 62 minutes to 1 hour 35 minutes in lidocaine injected animals while it returned between 22 to 47 minutes in procaine treated animals. Complete recovery from anaesthesia was noticed between 1 hour 37 minutes to 2 hour 27 minutes in lidocaine treated animals the sensation was regained between 46 minutes to 1 hour 15 minutes.

*Xyocaine-Suhrid Geigy, Ahmedabad, India.

**Novocain-Hoechst Pharmaceuticals Ltd., Bombay, India.

TRANQUILIZERS AS MAINTENANCE AGENTS IN CANINE SURGERY

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Surgical anaesthesia was induced in 36 dogs after administration of thiopental sodium @ 22-28 mg/kg. body weight intravenously. Atropine sulphate was administered intramuscularly @ 0.05 mg/kg. body weight as a preanaesthetic 15-20 minutes earlier. At the onset of surgical anaesthesia, maintenance was done with chlorpromazine (largactal) in 18 dogs, and triflupromazine (siquil) in 12 dogs and xylazine (rompun) in 6 dogs. Chlorpromazine and triflupromazine were administered approximately @ 1.5 mg/kg intravenously and xylazine 0.15 mg/kg intramuscularly. Duration of anaesthesia with thiopental lasted 12-20 minutes. Administration of chlorpromazine and triflupromazine increased the duration 55 to 80 minutes and xylazine 70 to 100 minutes. Recovery depended upon the duration of anaesthesia and was complete in $2\frac{1}{2}$ to $4\frac{1}{2}$ hours. Surgical operations performed were gastrotomy (7), enterotomy (5), cystotomy (4), amputation of leg (5), ovariectomy (5), repair of fracture (3), nephrectomy, (3), and to end anastomosis of intestine (4). Chlorpromazine and triflupromazine administration caused a slight increase in heart rate, and respiratory rate whereas that of xylazine a decrease in heart and respiratory rates. Rectal temperature in all the animals decreased gradually with a maximum decrease of 36.8°C .

A mild decrease in blood pressure was observed after thiopental administration and chlorpromazine caused a slight further decrease with a maximum decrease of 70.2 mm Hg. EKG was essentially unchanged, after tranquilizer administration.

ELECTROWNAESTHESIA IN VETERINARY SURGERY - AN EXPERIMENTAL AND CLINICAL STUDY

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ANDHRA PRADESH

A locally fabricated electroanaesthetic apparatus capable of generating a power of 0 to 100 mA, e.m.f.o. of 0 to 50 with alternating current, and with a frequency of 0 to 820 cycles per second is used for performing major and minor surgery both in large and small animals. The various operations performed on experimental and clinical cases since 1974 are described.
