



Press Secretary to the President
President's Secretariat,
Rashtrapati Bhavan
New Delhi - 110 004
November 20, 1985.



Dear Dr. Patel,

Please refer to your letter dated the 29th October, 1985. The President of India is glad to know that the Indian Society for Veterinary Surgery will be conducting the 9th All India Annual Symposium at Anand, Gujarat, under the sponsorship of Gujarat Agricultural University, from January 11-13, 1986. The President sends his greetings to the organisers and the participants and best wishes for the success of the Symposium.

Dr. M. R. Patel,
Dean & Convenor,
Indian Society for Veterinary Surgery,
Department of Surgery,
College of Veterinary Science & Animal Husbandry,
Anand - 388 001.

Yours sincerely,
sd/-
(K. Suryanarayana)



Prime Minister's Office
New Delhi 110 011
November 6, 1985

Dear Shri Patel,

The Prime Minister sends his good wishes for the 9th All India Annual Symposium of the Indian Society for Veterinary Surgery being held in Anand from 11th January.

Shri M. R. Patel,
Department of Surgery,
College of Veterinary
Science and Animal Husbandry,
Anand—388 001.

Yours Sincerely,
sd/-
(Wajahat Habibullah)



Minister of Agriculture
Government of India
New Delhi 110 001
December 6, 1985



MESSAGE

I am happy to note that the Indian Society for Veterinary Surgery is holding its Annual Symposium in January, 1986. Research in veterinary surgery has contributed immensely to the solution of clinical problems in our livestock. I hope the deliberations at the Symposium will focus attention on developing simpler and cheaper surgical techniques and making them available to our farming community.

I take this opportunity to send you my best wishes for the success of the Symposium.

(Buta Singh)



Secretary, Government of India
Department of Agriculture Research & Education and
Director General
Indian Council of Agricultural Research
Krishi Bhawan, New Delhi - 110 001 (India)

MESSAGE

It gives me a great pleasure to know that the Indian Society for Veterinary Surgery is holding its IX All India Annual Symposium from 11th to 13th January, 1986 at the College of Veterinary Science and Animal Husbandry, Anand. Application of sophisticated surgical techniques for the treatment of highly productive and pet animals, no doubt, forms an important facet of well developed veterinary clinics. I feel that this knowledge should be made easily available even at the village levels to alleviate the suffering of all livestock providing valuable support to our agricultural operations. Veterinary Surgery in India has made a commendable progress and it should venture into newer fields like Acupuncture, Anaesthesiology, Cryosurgery and Radiology. I am sure this Symposium will form a common forum to review the work done and to develop suitable strategies for future research and education in Veterinary Surgery.

I wish all success in your endeavours.

N S Randhawa

(N. S. Randhawa)

Dr. R. M. ACHARYA
Deputy Director General
(Animal Sciences)

Indian Council of Agricultural Research
Krishi Bhawan, Dr. Rajendra Prasad Road,
New Delhi 110 001
Dated the 13th November, 1985

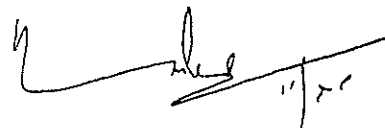
Dear Dr. Patel,

I am very happy to learn that the Indian Society for Veterinary Surgery is organising 9th All India Annual Symposium at Anand from 11th to 13th Jan., 86. The Society has been rendering a very good service to the specialists in veterinary surgery through its publication and organising annual meets. I had a chance to attend the annual conference at Bhubaneswar. I have been requesting your learned Society to consider the need for intensification of research and indicate priority areas and possibly formulate research proposals which the Council could consider for funding out of AP Cess Fund. It is desirable if a small group of experts meet during the annual conference and look into the priority areas of research and possibly give responsibility to some of the senior officers to prepare definite research proposals.

I wish to convey my very best wishes to your Society for successful organisation of the annual symposium and we will look forward for recommendation coming out of the symposium.

With my regards,

Yours sincerely,



(R. M. Acharya)

Dr. M. R. Patel,
Dean/Convenor,
College of Veterinary Science &
Animal Husbandry,
Anand - 388 001
(Gujarat)



DR. V. KURIEN

Chairman, NDDB, Anand

and

Former Vice Chancellor,

Gujarat Agricultural University.

CONTENTS

	PAGE NO.
CLINICAL SURGERY - Farm Animals ...	1 - 13
EXPERIMENTAL SURGERY - Farm Animals ...	14 - 18
EXPERIMENTAL SURGERY - Pet Animals ...	19 - 23
CLINICAL SURGERY - Pet Animals ...	24 - 26
ORTHOPAEDIC SURGERY ...	27 - 32
ANAESTHESIOLOGY ...	33 - 37
CLINICAL SESSION ...	38 - 45



An unusual case of urolithiasis in a Bullock

V. P. Chandrapuria, IVRI, Izatnagar.

A bullock aged about 10 years was referred to the division of experimental Medicine & Surgery, I.V.R.I., with the history of anuria since 15 days. Examination revealed it to be a case of ruptured urinary bladder.

An urethral calculi was removed during the first step surgery from the sigmoid flexure region. Efforts to pass the catheter from either urethral wound or ruptured urinary bladder were not successful indicating probably obstruction at the neck of bladder which further confirmed the cystic calculi at neck of bladder.

Urine present in abdominal cavity was drained and fluid therapy was given, but the animal collapsed on the second day before surgery could be undertaken for relieving the bladder obstruction.

Necropsy findings revealed generalized congestion of skeletal muscles indicating uremia, probably the cause of death. Calculi in pelvis of both kidneys and at neck of bladder were detected which makes this case unusual, by presence of uroliths at three regions simultaneously.

Correction of urethral obstructions in merino ram - A case report

Syed Sajjad Hussain and Bashir Ahmad Moulvi

Faculty of Veterinary Sciences & Animal Husbandry, Srinagar.

Two Merino rams suffering from dysuria were presented. Examination revealed a growth-like structure on the side of penis in one ram and involving the prepuce in the other. In both the cases urethra was obstructed causing painful urination. In the first case the bifid-like growth was removed, exposing the penis at the site and fixing the same with the prepuce.

In the second case so-called circumcision was done. The portion of the prepuce from cranial to the growth was removed and the wound was closed by continuous muco-cutaneous silk sutures.

Both the surgical interventions were carried out under regional anaesthesia. Antibiotic therapy was given for three days post-operatively. Sutures were removed after one week in both the cases. No post-operative complication was encountered.

Treatment of Ruptured Bladder - A case report

Syed Sajjad Hussain and Bashir Ahmad Moulvi.

*Faculty of Veterinary Sciences & Animal Husbandry, Baghi Ali Mardan Khan
Nowshara, Srinagar-190011*

A crossbred male Jersey calf about 9 months age weighing 50 kg. was reported to suffer from retention of urine for last 24 hours. Physical Examination revealed dry prepuccial orifice with chalky white flakes sticking to the prepuccial hairs. The animal was evincing pain while exerting for urination but of no avail. The abdomen showed ventral distention. Surgery was immediately decided and laparotomy was done under local anaesthesia. The bladder was found ruptured and squeezed. Urine from peritoneal cavity was removed. The bladder was washed with normal saline mixed with procaine HCl 2% and tetracyclin solution. The bladder was sutured with chromic catgut number 2 by continuous sutures and a polyvenyle catheter was kept in the bladder after fixing it with the wall of the bladder. Another polyvenyle catheter was kept in the abdominal cavity and fixed with the rectus abdominis muscle for peritoneal lavage which was repeated after every 12 hours for 5 days with the same solution. The condition of the animal improved considerably within 3 weeks time. The outer end of the catheter fixed in the bladder was sealed by flame and urination was encouraged through natural orifice which the animal did successfully after exerting for few hours. The catheter from the abdominal cavity was removed after 5 days post-operatively and that in the bladder was removed on the day the animal urinated through the normal orifice.

Partial Mammectomy in Merino Ewes — A Case Report

Syed Sajjad Hussain and Bashir Ahmad Moulvi

*Faculty of Veterinary Sciences & Animal Husbandry, Baghi Ali Mardan Khan
Nowshara, Srinagar-190011*

Two ewes in Sheep Breeding Farm, Shuhama (Kashmir) were reported to suffer from mastitis. Previously in one such case, antibiotic therapy had been tried but the animal had died and in present two cases on physical examination the right half of the gland was found hard and painful to touch. The whole gland was found pinkish in colour and the condition was diagnosed as gangrenous mastitis and immediate surgery was decided. In both the animals the gangrenous part of the gland and associated unhealthy sclerosed tissues were extirpated under regional anaesthesia. The wound was closed by interrupted sutures. The wound was irrigated for four days with tetracyclin solution mixed with local anaesthetic solution.

A speedy and uneventful recovery took place in both the ewes. After a lapse of 3 months the animals were able to excrete milk through the remaining teat, normally.

Clinico-Surgical studies on pre and post caesarean section in bovine

O. P. Saxena, A. C. Varshney, V. K. Sharma, Y. P. S. Dabas, Bharat Singh and N. S. Jadon

*College of Veterinary Sciences, G. B. Pant Univ. of Agri. & Tech, Pantnagar
(Nainital)*

Fifty-three (18 cows and 35 buffaloes) cases of dystocia, where caesarean sections were performed form the basis of this report. The clinical cases were evaluated in terms of different sites for accomplishing laparohysterotomy, anaesthetic techniques, suturing techniques of uterus, material recovery and post-operative care. Different abdominal incisions viz., left flank, right flank left ventrolateral oblique (above to the arcus cruralis) and ventral midline were evaluated. Left

ventro-lateral oblique incision proved to be the best site as it makes the approach to uterus easier, takes less time, convenient to the surgeon and free of post-operative complications. Although there was profuse haemorrhage when abdominal muscles were incised, this approach was of special value in cases of dystocia due to uterine torsion. The bowels did not create any problem and exteriorization of the uterus was easier.

Evaluation of various anaesthetic procedures viz. local infiltration, high epidural, paravertebral and lumbar blocks and general anaesthesia were adopted. High epidural anaesthesia was the most promising technique as it also desensitized the peritoneum and minimized the straining. Suture techniques viz. continuous lembert single row, double row, lock stitich and inverted lock stitch were used to approximate the uterine incision. Continuous double row lembert sutures provided proper haemostasis and minimised post-operative adhesions. Overall maternal recovery observed was 79.24%, however, it was 90.47% where the duration of dystocia was 12 hours. The main cause of death was invariably late referring of dystocia cases from the nearby hospitals, and manipulation by local people, when the patient had lost substantial quantities of fluid and electrolytes and severely exhausted.

Intra-arterial administration of Novocain in retention of placenta-Few case records.

B. M. Jani, H. J. Solanki, M. N. Mannari.

College of Veterinary Science & Animal Husbandry, Anand.

Four cases of retention of placenta in buffaloes were successfully treated and quick recovery was obtained with 0.5% Novocain injected through internal iliac artery, bilaterally, in conjunction with antibiotic therapy.

These cases were refractory and did not respond to antibiotic therapy (I. U.) for more than 72 hours, at 24 hours intervals.

But intra-arterial injection of Novocain 0.5% at the rate of 0.5 ml per Kg. produced very profound effect within 24 hours and resulted into increased milk production and improved consumption of concentrates.

The site of puncture was determined at intersection of two lines drawn from sacral tuberosity of the iliac bone to the middle of the greater trochanter of the femur and another from loin to 1st caudal vertebra.

The drug was administered after taking due aseptic precautions and confirming the artery through rectal palpation.

A rare case of Sertoli Cell Tumour in a Bullock

L. L. Dass, P. N. Sahay, U. K. Deckioullyar, H. V. S. Chauhan, J. Prasad and A. A. Khan

Bihar Veterinary College, Ranchi.

A highly unusual case of Sertoli Cell Tumour (SCT) in an adult working bullock of 6 years has been described. The animal was castrated at the age of 1 year by Burdizzo castrator. The tumour developed in a period of 4 months to a very massive size impairing the working efficiency of the animal. After surgical excision, the gross examination of the tumour and histological findings confirmed it to be SCT. Though the etiological factor of SCT in castrated animal is obscure, post castration trauma appeared to be the incriminating factor. Surgery resolved the problem radically in this case.

Abomaso-uterine fistula-a case report.

R. R. Parsania, I. A. Kosada and D. R. Barvalia.

College of Veterinary Science and Animal Husbandry, Anand.

An unusual case of fistula between digestive and genital systems was recorded in a she-buffalo. Clinical signs, laparotomy findings and post-mortem observations were discussed.

Changes in Synovial Fluid of Crossbred Cattle with Bursitis

B. K. Das, S. C. Ojha and J. Mohanty

Department of Surgery, Orissa Veterinary College, O. U. A. T., Bhubaneswar 751003

Synovial fluid samples collected from ten clinical cases of bursitis and tenosynovitis in crossbred cattle were analysed for their physical, cytological and bacteriological characters.

Synovial effusions varied from clear to turbidity. Mucin precipitation ranged from fair to very poor and the pH was acidic in septic cases. Total erythrocyte and leucocyte counts were comparatively increased with increase in neutrophils and degenerated cells. The bacterial cultures were positive for staphylococci sp. in four and for Klebisella sp. in two cases.

Effects of diaphragmatic hernia and herniorrhaphy on plasma/serum cortisol, LDH, hydroxyproline and cholesterol

S. M. BEHL, D. KRISHNAMURTHY AND P. K. PESHIN

Department of Surgery & Radiology, Haryana Agricultural University, Hisar-125004

Twenty one animals with diaphragmatic hernia were included in this study. Three animals died, one prior to surgery and 2 after laparo-rumenotomy. Out of 18 patients subjected to both laparo-rumenotomy and thoracotomy, 10 were discharged successfully and 8 died during surgery/post-operative period.

Plasma/serum levels of cortisol, LDH, hydroxyproline and cholesterol were estimated pre operatively, after 48 hours of ruminal evacuation, on 3rd day of thoracotomy and at the time of discharge.

A significant increase in the plasma cortisol levels was observed in patients. Though the values remained unchanged during the post-operative period, the same started decreasing at the time of discharge. This increase in plasma cortisol level was very high during both pre and post-operative period in non-survival group as compared to survival ones.

A rise in the levels of LDH following surgery was found to be statistically insignificant. Six percent increase in serum LDH levels was observed after herniorrhaphy in survival group against 2 percent increase in non-survival group as compared to their respective pre-operative values.

A decrease of the serum cholesterol was noticed during the post-operative period. The values recorded on 10th post-operative day showed a tendency of returning towards the pre-operative values.

The mean pre-operative level of hydroxyproline was found to be 3.60 ± 0.343 mg/100 ml. The values remained higher up to 7th post operative day and thereafter started declining towards pre-operative values.

Reticular Abscess in a Buffalo-A case Report

L. B. Sarkate and A. P. Bhokre

Department of Surgery, College of Veterinary & Animal Sciences, MAU, Parbhani-431 402.

A non-descript pregnant buffalo of six years age was presented to the Veterinary Polyclinic MAU, Parbhani with a history of chronic ruminal tympany, anorexia, loose faeces, arching of the back and loss of condition since 20 days. Haematological and X-ray examinations revealed it as a case of traumatic reticulitis.

Rumenotomy was performed but foreign body was not recovered. A hard swelling of approximately a child's head size was located on serous surface of reticular wall ventrolaterally on right side. On 15th post-operative day, laparotomy was performed by right paramedian approach and the swelling was found to be an abscess. The abscess was punctured with 14 gauge needle and about 200 ml. of yellowish thick pus was drained out. The animal was injected with Gentamycin 400 mg. daily through intramuscular route for five post-operative days. The animal recovered without any complication.

Some observations on ocular growths in cattle.

V. S. Panchbhaj; P. E. Kulkarni and B. B. Deshpande

College of Veterinary and Animal Sciences, MAU., Parbhani - 431 402.

The information regarding the study of ocular growths in cattle is meagre. In the present study, the observations of 20 clinical cases of ocular growths in cattle, brought for treatment at Veterinary Polyclinic, Parbhani during the period from March 1984 to September 1985, have been presented. The ocular growths of varying sizes from peanut to walnut size were successfully removed surgically under sedation with Siquil, retrobulbar and auriculopalpebral nerve blocks. Amongst the 20 ocular growths, the incidence of squamous cell carcinoma was very high. The other conditions recorded were pterygium and inflammatory growths. The squamous cell carcinoma of eye was more in males of 8-10 years of age compared to females. The recurrence of growth was seen in 2 cases after a period of 5 months amongst the 16 histopathologically confirmed cases of the squamous cell carcinoma. In majority of the cases of the squamous cell carcinoma it was originating from the limbus of the eye and protruding over the cornea.

DESCEMETOCELE : Treatment by conjunctival keratoplasty in goat-A case report.

N. R. Purohit, D. S. Chouhan, and C. K. Sharma.

College of Veterinary and Animal Science, Rajasthan 334 001.

A goat with a descemetocoele in the right eye was successfully treated by performing conjunctival keratoplasty under general anaesthesia.

Scirrhus cord infection in horses

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

College of Veterinary Sciences, G. B. Pant University of Agriculture & Technology, Pantnagar (Nainital)

Two thorough bred horses, 2½–3 years old, were castrated by field veterinarians by open method. Two to three months later, one of them developed lameness and there was a 8–9cm deep sinus opening at the tip of the scrotum whereas the other had a small wound at the tip of scrotum which did not respond to usual antibiotic and antiseptic treatment. The area over the scrotal region was slightly swollen and fibrosed around the cord in both the horses. The cultural examination of discharge revealed the presence of Gram-positive rods which were sensitive to Gentamycin and resistant to other antibiotics. The surgical operation was performed under local infiltration, using procaine hydrochloride 2% and combelen tranquilization. The area around the cord was dissected and fibrous tissue was removed alongwith the sinus tract. The cord was isolated and ligated with chromic catgut size 2. About 1.5 to 1.75 kg fibrous tissue was remove from each animal. The wound was allowed to heal as an open wound. Gentamycin injection and usual antiseptic treatment was practised. In one of the horse complete healing occurred in 15 days but the other showed less tendendy to heal. Blood examination of this horse revealed the horse to be suffering from microfilariasis. After treatment with Heterazan the wound healed completely in about 15 days.

Digestive Disorders in Equines

Dr. S. S. Rathore, Director of Vetn. Clinics, College of Vetn. Sciences, P A U, Ludhiana.

The digestive disorders in equines include the affections from mouth to anus and can be categorised as follows.

(i) Affections of mouth cavity–

Teeth
Tongue
Cheek
Pharynx.

- (iii) Affections of oesophagus: obstruction of the oesophagus.
- (ii) Affections of gastrointestinal tract.

Colic – Spasmodic colic,
Flatulent colic,
Impactive colic,
Obstructive colic due
to calculi, Impaction,
Twist of intestine, and
Verminous and Sand Colic.

Foals : (i) Retention of meconium,
(ii) Diarrhoea.

1. **Colic** : It is a set of symptoms indicating violent abdominal pain.

Etiology. Small stomach, inability to vomit, large size of intestines which holds food and foreign bodies, intestinal worms, irregular feeding as insufficient water, large feed, long fasting, etc. Change of diet, sudden change in feeding schedule and contents. Damaged mouldy food. Strangulation of intestinal loop, herniation into epiploic foramina. In young foals, it may be due to intussusception of the intestines. Intestinal tympany.

General treatment :

The importance of early detection of colic in horses cannot be overlooked. The author has noticed that whenever a case of colic is detected at an early stage and attended as soon as possible, the chances of recovery can be increased.

First of all, the animal be given analgesic, antispasmodic drugs by injectable routes, along with this, linseed or mineral oil 2-3 litres, turpentine oil 60 ml or Blotosil 200 ml Chloral Hydras 30 gm be given by stomach tube. In case the symptoms persists, the injectable medicines are repeated. Animal should not be allowed to lay down and roll. Keep the animal walking. Normal saline 4-8 litres I/V may be given. Novocain 2% 4-6 ml I/V in saline can also be given to ease the pain. Procain hydrochloride 1% 40-70 ml slow I/V. Enematas are not much useful in colic cases.

Rupture of stomach :

Impaction, Tympany, sudden fall with full stomach.

Symptoms : First, before the rupture of stomach, all symptoms of colic will be showed with marked pain.

Afterwards - respiration is catchy, trembling of muscles of fore leg with cold patchy sweating M. M. red pulse running down and slow, temperature rises to 105°-106°F, animal sits on hunches, attempts to vomit and death occurs within a few hours.

2. Retention of Meconium :

Common in day-old foals, specially in male foals. In confined cases, it is prevalent. Mares who have lost cholestrum by dripping of milk before foaling and foals born weak and are unable to consume cholestrum within 1-3 hrs. will be highly prone to retention of meconium.

The caretaker should see that foal gets up within 1-2 hrs. after birth and be able to suck cholestrum in good quantity. Cholestrum along with its antibody concentration also acts as a mild laxative. After the foal has consumed some milk, an ounce of liquid paraffin be given orally and lukewarm soap water enema with liquid paraffin should also be given routinely to avoid the retention of meconium. Even after all above mentioned care, retention of meconium cases are encountered. Such cases should be explored per rectally very gently and try to dislodge the meconium ball. Normal saline 500-1000 ml I/V will be helpful. If the foal lies down and roll, this may lead to intestinal torsion or intussusception. In foals, these conditions can be successfully operated under general anaesthesia.

The cutaneous cysts in camel.

N. R. Purohit, D. S. Chouhan, R. J. Choudhary, and U. K. Vyas.

College of Veterinary and Animal Science, Bikaner, Rajasthan 344001.

The dermoid cysts of 6 to 15 cm. diameter were recorded in 4 camels. The predilection seat was on the upper part of the neck just over jugular vein. The contents of the cysts were, mass of hair in the greasy material surrounded by a coffee coloured thin fluid.

Epidermoid cysts of 3 to 5 cm. diameter were present anterior to the base of each ear in a camel, The cysts contained brownish thin fluid and a tuft of hair.

The rate of enlargement was extremely slow. Surgically, the cysts were enucleated followed by histopathological examination. These appeared to be congenital

However, cysts enclosing unusual osseous growth, surrounded by straw-coloured, viscous fluid were also recorded at the thoracic vertebral region and lateral to the chest pad, in three camels.

An Unusual Case of Cervical Cutaneous Growths In A Patanwadi Ram-A case report

K. Sukumaran, A. J. Dhami and K. S. Prajapati.

College of Veterinary Science and Animal Husbandry, Anand.

A patanwadi ram aged approximately 12 months was presented to the Veterinary College Clinic, Anand, for removal of two ugly looking cutaneous growths, one on either side, in the mid-cervical region. On clinical examination, a pinkish-red structure resembling penis was observed protruding from these cutaneous growths. The protruded part was found to be hyperaemic, hard fibrous structure about 2-3 cms long was freely moving inside the cutaneous pouch which was filled with foul smelling smegma - like substance. The frequent protrusion and withdrawal of the penis-like structure caused embarrassment to the owner and his family members and so, the animal was brought to the college clinic for surgical removal of these growths. Except for these growths which were not interfering with the animal's normal functions, the animal was perfectly healthy. The animal was, therefore, operated upon and the growths removed. Post-operative care included dressing and parenteral administration of Oxysteclin (4 ml. I/m daily for three days). The stitches were removed on the eighth post-operative day and animal made uneventful recovery.

On histopathological examination, the tissue revealed a central cartilagenous portion with partial calcification. This was covered by thick fibrous connective tissue. Bands of striated muscles were found around these structures. Blood supply to the tissue was abundant. Tissue at the orifice (opening in the skin) revealed normal structure of skin with hair follicles, sebaceous glands and sweat glands.

A note on hemodynamic studies for evaluation of cardiovascular deformities in cattle, pigs, sheep and goats.

A. K. Bhargava, I. V. Mogha. Gajraj Singh & O. P. Gupta. IVRI, Izatnagar.

It has been established beyond doubts that the study for cardiac dynamics and various hemodynamic responses in animals is important for the diagnosis of cardiovascular diseases and also to evaluate the postoperative/ operative complications. Increased or decreased pressures remain indicative of various conditions including overloading of heart, luminal stenosis, atherosclerosis, and hypovolumic shock. The study was conducted to establish various pressures from aorta, carotid & ventricles following catheterization in cattle, pigs sheep & goats in normal vascular diseases and during thoracotomies. Few of the findings were significant

- Increased ventricular pressure in arterial deformities;
- Maintenance of normal pressures following thoracotomy till 25-30 minutes in cattle without positive pressure,
- No significant changes in pressure following thoracotomy under positive pressure in sheep & goats.
- Ventricular pressure returns to normal immediately following thoracotomy if purse string suture is applied without loss of time.
- Unlike in pigs, coronary ligation in sheep remains lethal within 15 minutes.

Effect of high altitude on foetal and dam blood oxygenation in sheep

I. V. Mogha

Division of Experimental Medicine & Surgery., I. V. R. I., Izatnagar

Six pregnant Merino sheep in last phase of their pregnancy were used for the purpose. The carotid artery and jugular vein of dam and foetus were cannulated. These animals were placed in hypoxic chamber and conditions for high altitude were created. Arterial and venous blood samples were collected in heparinized

syringes, for estimation of haemoglobin, oxygen content, oxygen tension and pH, from dam and foetus simultaneously before, during and after exposure to high altitude.

The blood samples of all sheep contained less haemoglobin where as blood samples of foetus showed higher percentage of haemoglobin. No significant change in arterial blood pH was observed at high altitude, similarly venous blood pH also remained unchanged.

Significant decrease in oxygen content was observed at high altitude in dam. On second and third postoperative days, the oxygen content of arterial blood was 25 to 55 percent of the values obtained before placing them at high altitude. There was no significant difference in oxygen tension and saturation of the foetal blood from shed values (control values), despite a marked reduction of oxygen tension in the dam vessels. The rise of oxygen in foetal vein was parallel to a rise of oxygen tension in maternal vein.

The average percentage of oxygen saturation of dam blood was more before placing them on high altitude. The oxygen saturation returned to its previous level when they were placed back to shed.

Experimental Hernioplasty using preserved Homologous Pericardium in Buffalo-Calves.

U. K. Deokiuiliyar A. A. Khan, P. N. Sahay, R. Prasad

Ranchi Veterinary College, Birsa Agricultural University, Ranchi-834007.

Efficient repair of massive hernias having voluminous sac becomes impossible and it becomes necessary to provide a graft or prosthesis to effect successful repair. Glycerine preserved pericardium of buffalo-origin has been utilized to evaluate its suitability for the closure of enormous hernial gap. Pericardial implants were sutured into the abdominal defects of 12 buffalo calves using interrupted mattress sutures of silk thread. The functional and histological studies were made for 16 weeks. All the animals/tolerated the operative procedures well and none showed any evidence of infection. The pericardial implant became firmly incorporated into the host tissue with minimal foreign body reaction. Ingrowth of surrounding collagenous tissue and progressive proliferation of microcapillaries produced

firm union between the homologous graft and the host tissue. The graft tissue was gradually absorbed and was replaced by fibrous tissue. The study revealed that preserved pericardium was an excellent material for closure of hernial gap, requiring no second operation for obtaining the material as in case of autologous graft.

Deep Freeze Preserved Conchal Cartilage For Tracheal Grafting In Sheep

I. V. Mogha, G. R. Singh and M. HOque.

Division of experimental Medicine and Surgery, I. V. R. I., Izatnagar. (U P.).

Deep freeze preserved conchal cartilage was used to repair the tracheal defects in six sheep. Conchal cartilage was collected from fresh bovine cadavours. After removing the skin covering, the cartilage was rinsed in normal saline containing ampicillin and then preserved in deep freeze atleast for 48 hours before using them to repair the tracheal defects.

Rectangular tracheal defects were created under local infiltration by removing three tracheal rings at ventral aspect. The capillary bleeding was checked with digital pressure and grafts were secured over outer surface of trachea using interrupted mattress stitches. Broad spectrum antibiotics were given for five days post-operatively.

The vital signs like temperature, respiration and pulse were recorded regularly till the end of experiment. The tissues for histopathological examination were collected at 15, 30 and 60 days interval after euthenizing two animals at each interval.

The temperature, pulse and respiration remained within normal limits throughout the observation. Grossly, a slight constriction was observed at the site of repair. The graft became soft, having mild adhesion with adjacent tissues. A fibrous tissue covering was also present on either side of the graft. Histopatnological observations were indicative of gradual replacement of cartilage with fibrous tissue.

Use of Metal Detector and Caged Magnet in Diagnosis, Prevention and Treatment of Traumatic Reticulitis in Bovine.

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

Department of Surgery, Ranchi Veterinary College, Birsa Agricultural University, Ranchi-834 007.

The efficacy of metal detector and caged magnet was evaluated in clinical cases of traumatic reticulitis. Preventive use of caged magnet was also studied in 45 animals of breeding age in an organised form. In clinical cases, combined therapy of magnet feeding and administration of antibiotics appeared superior to the conservative therapy of antibiotics alone. Metal detector and caged magnet were found to be of value in diagnosis and treatment of TR caused by ferromagnetic objects. Caged magnet ensured 100% protection to the animals under study.

Evaluation of *Adhatoda Vasica* (Adalsa) as a wound healing agent in buffaloes

M. K. Bhargava, Harpal Singh and Amresh Kumar

College of Veterinary Science, Pantnagar (UP).

Therapeutic effects of *Adhatoda vasica* (leaves) was studied on experimental wounds in 36, 12-18 months old buffalo calves. *A. vasica* was used in the forms of powder, alcoholic extract and chloroform extract ointments.

The wound contraction, healing rate and epithelialization were faster in the alcoholic extract ointment treated wounds than the controls and other two preparations. The breaking strength, tensile strength, extensibility and energy absorption were higher in the alcoholic extract ointment treated wounds than the other two preparations and controls. Collagen hydroxyproline and elastin contents were also higher in the alcoholic extract ointment treated wounds than the control and other two preparations treated wounds. Minimum hexosamine was recorded in the wounds treated with alcoholic extract ointment of *A. vasica*.

Blood electrolyte changes in cases of recurrent tympany of cross-bred cattle.

Rout, R. K., Mitra, A. K., Mohanty, J., Tripathy, S. B., Ray, A. K., and Bose, V. S. C.

Orissa Veterinary College, Bhubaneswar-751003.

An investigation of blood electrolyte levels in normal cross-bred cattle was done. An identical observation was also made in cross-bred cattle before and after rumenotomy following recurrent tympany which has been discussed.

Improvised rumenotomy set for field veterinarians.

Rout, R. K., Mitra, A. K., Mohanty J., Bose, V. S. C., & Ray, A. K.

Orissa Veterinary College, Bhubaneswar 751003.

A rumenotomy set was fabricated using locally available iron ring, iron wire and plastic sheet. The usefulness of this cheap yet efficient set has been discussed.

Auto and Allogenic viable jejunal segment transplantation as a substitute of stomach wall in dogs - An experimental study with and without immunosuppression.

M. Thakur and S. C. Pathak.

Dept. of Surgery & Radiology, C. V. Sc., Khanapara, GHY-22

Autogenic and Allogenic transplantation of approximately 3 cm. in diameter of viable jejunal segment to gastric fundus in dogs were carried out in an experimental study involving 18 mongrel dogs in three groups. Cyclophosphamide, an immunosuppressive agent, was also used in the 3rd group.

Animals of group I and III only remained alive upto 30th post-operative day. There was significant fall of Hb, TEC, TLC neutrophils and eosinophils in the second group which could be due to rejection process while, in the cyclophosphamide treated group, TLC, neutrophils and Hb significantly dropped. Lymphocytes and monocytes increased significantly in the second group, which could be due to activation of T-Lymphocytes. In the cyclophosphamide treated group, this increase (Monocyte & Lymphocyte) was significant only after 15th and 30th post-operative day when the drug was discontinued.

Total protein, albumin and globulin were nonsignificant in all the three groups.

Conditions like loose faeces, vomition, tendency to lie down were observed in all the animals in the cyclophosphamide treated group and all the animals died between 10th—26th post-operative days.

Histopathology revealed smooth healing in the first group, whereas it revealed degeneration and necrosis with increased number of mononuclear cells infiltration and vascular endothelial damage in the second group. In the third group, increased mononuclear cell infiltration was predominant.

Angiography revealed distinct vascular proliferation with good patency in the first and third groups. In the second group, blood supply around the grafted part was cut off and no vascular patency was observed.

Although allogenic gut tissue transplantation is possible with immunosuppressive therapy, some major difficulties are encountered which have to be managed. The animal needs daily monitoring.

Clinical Studies on the effects of Extensive Segmental Resection of Urinary Bladder on the Micturition Act in Mongrel Dogs.

T. B. Sen, & D. B. Mukherjee

Department of Veterinary Surgery & Radiology, BCKV.

Segmental resection of urinary bladder to the tune of 50% and 75 % was done on eight, adult, male, mongrel dogs. Every experimental animal prior to resection served as its own control. Resection of 50% or more of urinary bladder, resulting in its reduced capacity is expected to be followed by various post-operative changes in the act and frequency of micturition and subjective bladder symptoms.

Unfortunately traceable records do not throw much light on this aspect of important obligatory surgical operation.

Detailed clinical examination daily during the entire post-operative period, especially on the act and frequency of micturition and fortnightly qualitative examination of urine, revealed good control of micturition and the frequency and act of urination in all the experimental animals upto the fourth month post-operatively and no significant difference was observed in the qualitative urinalysis during the preoperative and postoperative period.

The present study, therefore, invites more elaborate work in the context of the present findings in cases of extensive segmental resection of bladder.

Repair of tracheal defects by conchal cartilage and fascia lata in dogs.

Amresh Kumar, N. S. Jadon and Bharat Singh

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Experimental defects of size $1\frac{1}{2}$ -2 cm were created in the cervical part of trachea of 3-4 years old healthy dogs. The defects were repaired either by a piece of tensor fascia lata from the same animal or by conchal cartilage of about

one month old pups. The grafts were apposed with chromic catgut size 00 using simple interrupted sutures. The healing of defects was evaluated clinically, mechanically and by histopathological examination of biopsy specimens from healed defects. The breaking and tensile strengths and extensibility gradually increased upto 2 months in both the groups of animals and it was significantly higher in repaired defects by tensor fascia lata at respective intervals ($P < 0.05$). Both the grafts were taken up well but the healing was comparatively better in defects repaired by tensor fascia lata. The healing was not complete in one of the dogs of conchal cartilage grafts even at 2 months however there were no signs of rejection. No complication was observed in any of the animals except slight coughing for about 3-4 days after surgery.

Gastrorrhhexis and its surgical repair in a dog.

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

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A 3-year crossbred alsatian dog was presented with the history of recurrent but scanty haematemesis in the past six hours and discomfort throughout the previous night. The dog had killed a hen and eaten away most of it in the previous morning. A plane lateral radiograph of thoracoabdominal area exhibited moderate quantity of free gas in the abdominal cavity. Based upon history, physical examination, symptoms and spontaneous pneumoperitoneum, rupture of stomach or bowel was suspected and coeliotomy was performed. Exploration of abdominal cavity revealed 8 cm. irregular tear in the stomach wall along the greater curvature. The pieces of bones from the stomach and abdominal cavity were carefully retrieved and the latter was flushed with isotonic saline. Gastric tear was debrided and sutured. Abdomen was closed routinely after placing a drainage tube, standard post-operative measures of gastric surgery were adopted and recovery was uneventful.

Cyclophosphamide induced variations in liver and kidney functions in dog.

M. A. Jalil and S. K. Pandey

College of Veterinary Science and Animal Husbandry, Jabalpur.

The experiment was carried out in 5 healthy mongrel dogs of either sex weighing between 12 to 22 kg body weight. Cyclophosphamide was given intravenously @ 5 mg/kg body weight for 6 successive days during 1 week and thereafter once in a week for another 20 weeks and weekly blood samples were collected upto 21 weeks for estimation of different liver and kidney functions.

A significant increase in SGOT level from 11 to 21 weeks, SGPT level from 15 to 21 weeks and alkaline phosphatase level between 17 to 21 weeks, was noticed. Icterus index and thymol turbidity tests did not show any significant changes. Total serum protein and globulin were significantly high from 2 weeks and 1 week respectively while serum albumin was significantly decreased from 13 weeks onwards upto 21 weeks.

Blood urea nitrogen was significantly decreased from 2 weeks onwards upto 21 weeks while uric acid and creatinine elevated from 4 and 9 weeks onwards upto 21 weeks, respectively.

Cyclophosphamide induced neoplastic changes in urinary bladder of dog.

S. K. Pandey and Maj. G. C. Mishra

College of Veterinary Science and Animal Husbandry, Jabalpur.

Sixteen healthy dogs of either sex were divided into 8 groups consisting of 2 dogs in each group. Cyclophosphamide @ 5 mg/kg was administered intravenously daily for 6 days in first week and twice in a week thereafter as per time schedule of 3, 6, 9, 12, 15, 18 and 21 weeks. Two dogs were treated as control. The dogs were sacrificed on these schedule dates and urinary bladder was collected for histopathological examination after routine processing and staining with haemotoxyline and eosin.

In dogs of 3 weeks, large patches of haemorrhage, oedema, hyperaemia and large areas of coagulative necrosis were prominent. At 6 weeks necrosis of submucosa was also evident. The urinary bladder at 9 weeks showed numerous haemorrhagic patches and hyperplasia of epithelial cells. At 12 weeks, granulation tissues were formed in areas of haemorrhage and necrosis. The 15th weeks dogs revealed greater number of fibroblasts and desquamation of epithelial cells. In 18 weeks treated dogs cystitis and coagulative necrosis were evident. One of the dogs of 21 weeks treatment revealed infiltration of anaplastic cells and group of neoplastic cells in subepithelial tissues accompanied with extensive fibrosis.

Studies on sutureless nephrotomy closure in dogs.

Deepak B. Patil, M R Joshi and R. L. N. Rao.

College of Veterinary Science, Rajendranagar, Hyderabad-30

Studies on sutureless nephrotomy closure were done in 12 mongrel dogs of either sex. The dogs were randomly divided into 2 groups of 6 animals each. Longitudinal and transverse sutureless nephrotomies were performed in groups I and II respectively. The dogs in each group were sub-divided into 2 batches of 3 animals each and were sacrificed at 20 and 60 days intervals respectively. Clinical signs were noted following surgery. Radiological examination of the kidneys was conducted employing intravenous pyelography. The dogs were sacrificed and the operated kidneys collected. The operated kidneys were examined macro and microscopically. The merits of the two techniques were adjudged based on clinical, radiographic, gross pathological and histopathological examinations.

It was concluded that transverse sutureless nephrotomy was better of the two techniques studied.

Transthoracic Oesophageal Obstruction in Canine-A Case Report.

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A case of thoracic oesophageal obstruction was suspected in an adult male Lasha dog, confirmed by X-ray and an attempt to remove the obstruction by gastrotomy was made. As the site of obstruction was 4 to 5 inches anterior to the opening of oesophagus into the stomach, it was not very difficult to remove the piece of vertebra from the thoracic oesophagus through the gastrotomy incision,

An unusual Case of Canine Transmissible Venereal Sarcoma with Extragenital Metastases,

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Ranchi Veterinary College, Birsa Agricultural University, Ranchi 7.

A very rare case of Canine Transmissible Venereal Sarcoma (CTVS) with highly extensive metastases in a 2 year old mongrel male dog has been described. The dog was presented for the treatment of left eye ball protrusion and ulcers at inner thigh. Several pea sized tumours at the left periorbital region and blindness of the left eye were detected. Multiple isolated as well as clustered tumours varying from grape's size to water chestnut or bigger were present on the thoracic and abdominal walls on the either sides. A pedunculated, cauliflower like growth at the caudal penis and multiple cutaneous lesions of ulcerating and bleeding type at the prepuce and inner thigh were discernible.

Tumour pieces from different regions were taken for histopathological examination, till then local treatments of eye ball protrusion and ulcers were done CTVS was confirmed histologically and the tumours from where pieces were obtained grew up rapidly. Extirpation of eye ball and protracted medicinal therapy were suggested for tumours. The owner refused mainly due to unsightly and highly extensive nature of the neoplasms and so the dog was euthanized on his request.

Leiomyosarcoma of urinary bladder in a young dog— A case report

S. B. Thakur, G. E. Kulkarni M. D. Narkhede and M. W. Kakade,

Nagpur Veterinary College, Nagpur.

A Doberman Pinscher dog, aged one year was presented with the history of haematuria and difficulty in urination. Earlier the animal was treated elsewhere with antibiotics, corticosteroids, urinary antiseptics and alkalizers without any response. The cultural test was negative and the plain radiographs did not reveal any calculi. On palpation the bladder was found to be enlarged and tense, suggestive of some tumorous growth. The animal was having 105°F temperature. Immediately the animal was put on a course of Nitrofurantoin tablets and when the temperature returned to normal on third day, cystotomy was performed through right paramedian incision. The bladder wall was found to be thick and congested and the lumen was filled with the tumorous growth of the size of a cricket ball. The growth was dissected out from the bladder wall. On palpation of both the kidneys small projections could be felt. The incision was closed in the routine fashion. The animal showed improvement for a few days, but again the symptoms recurred and the animal died after 1½ months post-operatively.

The histopathological examination of the growth showed strap-like smooth muscle fibres having cigar shaped nuclei and mitotic figures indicative of leiomyosarcoma.

A Review of Twenty Five Cases of Panhysterectomies in Dogs

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Panhysterectomy was done on twenty five female dogs over a period of two years at the Veterinary Polyclinic, Kalpetta, Kerala. The animals aged 2 - 6 years were subjected to two types of anaesthetic procedures for surgery. In one group of 10 animals, premedication with Siquil/Camlpose/Fortwin was followed by

intravenous administration of thiopentone sodium for anaesthesia to effect. In the second group of 15 animals, premedication with largactil and atropine was followed with ether administration in the semi-open method using a cotton mask. Surgical exposure was done through the midventral line and hysterectomy was completed. Abdominal incision was sutured in different layers. Antibiotics (Penicillin/Strepto penicillin) were administered during the post-operative period. Out of the 25 animals, one dog died of respiratory arrest during intravenous anaesthesia and another one during administration of ether. Wound disruption was noticed in 3 dogs. The remaining twenty dogs had an uneventful recovery.

Complications of tubectomy in bitch.

R. R. Parsania, and Deepak B. Patil,

College of Veterinary Science and Animal Husbandry, Anand.

Three bitches were operated for tubectomy at the Surgery department, College of Veterinary Science and Animal Husbandry, Anand. Tubectomies were performed to prevent breeding. Complications following tubectomy, were discussed.

Effect of Low Voltage Electric Stimulation on Fracture Healing in Experimental Calves

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Midshaft transverse tibial fractures were created and repaired by transfixation technique in nine calves, divided in three groups equally. Immobilisation was achieved with iron and/or wooden plates and resin filled polythene tubes. Electrical stimulation of 20 and 30 microampere current intensity was given at the fracture site in two groups and the third group served as control.

Radiographs of 20 microampere group demonstrated bridging of the fracture gap with evidence of callus formation. In the 30 microampere group, although evidence of newly formed osseous tissue bridging the fracture gap was seen, the tissue reaction at the cathode was more significant. Histopathological changes suggestive of fibrous and cartilagenous callus formation, were more advanced in the experimental group than in the control group.

Foot Disorders in Sheep

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The study was conducted on 3720 sheep for foot disorders at local HAU Sheep Breeding Farm, and State Sheep Farm, Hisar. Foot abnormalities accounted as much as 6.6% which includes overgrown hoof, foot rot, scald, foot abscess, skin hyperplasia and traumatic injuries. A majority of cases were found in females and were above 3 years age. Overgrown hoof was main problem in stall-fed animals whereas infected foot disorders was common in grazing animals. Some of the affected animals were evaluated by plain radiography and angiography.

Shoulder luxation and its surgical repair in goats.

N.R. Purohit, R. J. Choudhary, D.S. Chouhan, & S.K. Sharma.

College of Veterinary and Animal Science, Bikaner, Rajasthan 334001

Repair of shoulder luxation was successfully done in five goats by open reduction and fixation of the joint with nylon ribbon. Post-operatively the limb was immobilized by applying a modified velpeau dressing. The recovery was uneventful.

Evaluation of treatments of disorders leading to lameness in hind quarters of camels.

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

College of Veterinary and Animal Sciences, Bikaner (Rajasthan)

With the past experience and records of 15 years, camel was found to suffer from a variety of ailments leading to lameness in hindquarters. Few of them include avulsion of toe nail, fracture and osteomyelitis of phalanges, punctured foot, fracture of metatarsal, tarsal, tibia and femur bones, arthritis and dislocation of hip, stifle, hock and fetlock joints, upward fixation of patella, displaced tendoachilles, of paralysis peroneus tertius, thoroughpin, kumri etc.

Due to lack of appropriate but species specific literature, many treatments were derived on the guidelines of bovines and equines whereas some other treatments proved unique and effective for camels. The relative efficacy, success and prognostic utility of the treatments tried is discussed.

Management of oral wounds in compound and bilateral mandibular fractures in camels.

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College of Veterinary and Animal Sciences, Bikaner (Rajasthan)

Present paper is based, on cases recorded in surgery clinic between 1979 and 1985. Ninety percent of the mandibular fractures were compound and bilateral in nature with wounds in oral cavity. The pointed and sharp broken edges of the fractured bones separated the gums across the fractured area leading to a gap with infected wounds in oral mucosa. Infection developed due to accumulation of saliva and ingesta in the wounds. The gap of gums in oral wounds was reduced by reduction of fracture by a suitable immobilization technique. A lapse of 48 hours to one week between fracture and its repair allowed potential infection to develop in oral wounds. Both oral wounds were found to be communicated with submucosal tract. Oral cavity was flushed with 1:5000 solution of potassium permanganate followed by irrigation of tract with either 10 % tetracycline or 10 % furacin solution till infection subsided. In infected cases (10%) the submandibular abscess developed after 7 to 10 days which was incised, drained and irrigated with anti-septic solution as described above. With the effective drainage the oral mucosa healed and accumulation of saliva in the wounds also stopped. In cases where immobilization or repair was delayed for more than 10 days (10%), severe osteomyelitis took place leading to delayed healing or non-union. Broad spectrum antibiotics were also used to check infection for one to two weeks.

Cholecystography in Goats

Gaj Raj Singh, H. C. Setia, I. V. Mogha and N. N. Pandey

Division of Experimental Medicine & Surgery, I. V. R. I., Izatnagar.

In this report our attempt had been to compare the techniques of oral and intravenous cholecystography to describe the normal radiographic anatomy of gall bladder and to evaluate the utility of cholecystography in the diagnosis of liver and gall bladder diseases in goats.

Ten apparently healthy adult goats of either sex were used in this study. In six goats intravenous cholecystography was performed after injecting Biligrafin forte intravenously. Lateral and dorsoventral radiographs were taken just before and at 30, 45, 60, 90 and 120 minutes after injecting of contrast material.

In another group of four goats oral cholecystography was performed after administration of 6-12 tablets of Osbil. Radiographs were taken after 12, 24, 36, and 48 hours of oral administration of contrast agent.

Eromosulfophthlein (B.S.P.) retention test was also performed to evaluate the liver function.

Following oral cholecystography gall bladder could not be visualized even after 24 hours of administration of contrast agent. However, after intravenous administration of contrast agent, gall bladder could be visualized in all the animals. The visualization time varied from 30 to 120 minutes in these animals. A definite relationship between the time of visualization and B.S.P. retention was observed.

Normal radiographic anatomy of gall bladder was studied in relation to anatomical landmarks. It was observed that the time of visualization after intravenous administration of contrast agents and anatomical location of gall bladder provide important means for diagnosis of certain liver and gall bladder diseases.

Experimental infectious arthritis in cattle – A clinical and radiographic study

S. K. Chawla, Jit Singh, I. S. Chandna, P. K. Peshin and S. M. Behl

Department of Surgery & Radiology, College of Veterinary Sciences, HAU, Hisar.

Infectious arthritis of right metatarsophalangeal joint was produced experimentally by giving intra-articular injections of rumen fluid in eight animals and *E. coli* suspension in other eight animals. These animals were observed for 45 days. Distention of the joint capsule, reluctance to bear weight, and hot and painful joints were observed in all the animals. Soft tissue swelling around the joint, gas pockets, increased metatarsophalangeal joint spaces, new bone formation along axial and abaxial surfaces, intracapsular and extracapsular periostitis were observed radiographically. Osteolytic changes and displacement of proximal sesamoids were also evident in severe cases. Lateral radiographs clearly demonstrated articular destruction and necrosis with increased joint spaces. Intensity of these changes were more in animals where ruminal fluid was injected.

Evaluation of Barium Sulphate Contrast Media for Bronchography in Dogs.

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(Department of Surgery and Radiology, College of Veterinary Sciences, BIKANER)

Thirty apparently healthy mongrel dogs were divided into three equal groups, for evaluation of barium sulphate contrast media for bronchography. Efficacy and suitability of each medium was evaluated on the basis of clinical and radiological observations. Right unilateral bronchography was performed in each case.

In group-I plain barium sulphate, in group II micropaque and in group III micropaque with carboxymethyl cellulose were used as contrast for bronchography. Rise in temperature was observed in two dogs in group-I, in none of the dogs in group-II and in three dogs in group-III. Increase in respiration rate was

observed in five dogs in group-I, and increase in pulse rate was found in four dogs in group-I, in three dogs in group-II and in five dogs in group-III. In all groups radiological contrast was satisfactory. Alveolar filling was moderate in group-I, severe in group-II and mild in group-III.

Elimination of contrast was completed in one to four weeks in group-I, ten to more than sixteen weeks in group-II and four to six weeks in group-III.

Post-bronchographic lung complications and related abnormal respiratory symptoms were not observed in any group.

Micropaque with carboxymethyl cellulose was evaluated to be most suitable for bronchography.

Present study revealed that barium sulphate (Micropaque with Carboxymethyl Cellulose) is efficacious as well as innocuous contrast medium for bronchography in dogs.

Limb affection in cattle- A radiographic report.

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The present investigation was based on 104 clinical cases of limb affections in cattle referred to Univ. Vety. hospital and confirmed by radiographic examination, revealed higher incidence in hind limbs than in forelimbs. Animals within age group of 6-8 years were most commonly affected and male animals were frequently affected than female ones. Knee and Hock joints showed higher involvement as compared to other joints. Incidence of various limbs affections i.e. exostosis, arthritis, Hygroma, chronic tendinitis, periostitis, chronic laminitis, carpalis and synovitis, etc. are discussed.

A trial on Doxapram as an antagonistic agent to Xylazine sedation in calves.

K. K. Sarma and S. C. Pathak

Department of Surgery & Radiology, College of Veterinary Science, A A. U., Khanapara, GHY-22.

A total number of eight calves were sedated by intramuscular injection of Xylazine at the rate of 0.2 mg/kg. body weight. Doxapram was injected intravenously @ 1 mg/kg body weight to the deeply sedated animals and all animals recovered within eight minutes. Doxapram was thus found to be an effective antagonist to the Xylazine.

BUPIVACAINE HcL AS CAUDAL EPIDURAL ANALGESIA IN BUFFALOES

Syed Sajjad Hussain and Amresh Kumar

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In order to provide prolonged, satisfactory and effective caudal epidural analgesia in chronic rectal tenesmus, associated with irritation of perineum, anus, rectum, Bupivacaine HcL alone and repeated administration of Bupivacaine HcL, were tried in two groups of 6 clinically healthy buffalo calves.

- i) Bupivacaine hydrochloride 0.75% with adrenaline was given epidurally at the dose rate of 0.1 ml/kg body weight.
- ii) Bupivacaine hydrochloride 0.75% with adrenaline at the dose rate of 0.1 ml/kg body weight was given epidurally. It was followed by repeated injections of Bupivacaine hydrochloride. A total of four injections were given. The maximum dose per injection did not exceed 10 ml.

The onset of analgesia varied from 14.0 ± 8 to 15.00 ± 8.0 minutes in both the groups respectively and the duration of analgesia lasted from 270.0 ± 5.0 minutes in a single administration and 14.0 ± 2.0 hours with repeated administration of Bupivacaine HCl.

The degree and extent of caudal analgesia was determined by observing the flaccidity of tail, sensory reaction to pin pricks at the tip and root of the tail, perineum, inner aspect of thighs and the skin around anus, and the suspended defecation. The overall performance of Bupivacaine HCl as caudal epidural anaesthetic was rated good in both the groups. These anaesthetic combinations do not have any deleterious effects on various organ systems and can be used safely in clinical cases.

Droperidol as a preanaesthetic to thiopentone sodium anaesthesia in goats.

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College of Veterinary Sciences

G.B. Pant University of Agriculture & Tech., Pantnagar Nainital, (UP)

Droperidol administration @ 2mg/kg I. V. in atropine pretreated animals reduced the dose of thiopentone sodium by more than 27% and produced surgical anaesthesia lasting for 39.75 minutes with good muscular relaxation and analgesia. The animals started showing signs of recovery after 40.50 minutes, were able to stand after 85 minutes and completely recovered in 128.75 minutes. The salivation was mild and there was a significant ($P \leq 0.05$) increase in heart rate and decrease in respiration rate and rectal temperature. The MAP initially increased significantly at 5 minutes and later declined reaching pretreatment levels by 45 minutes. There was no appreciable effect on CVP and ECG. The PCV and Hb contents showed a non-significant ($P > 0.05$) fall during the period of anaesthesia. The acid base changes included a significant increase in PaCO_2 and a decrease in pH during the period of anaesthesia. There was no significant effect on serum OCT, bilirubin, blood urea nitrogen, blood creatinine and serum electrolytes (Na^+ , K^+ and Cl^-) but a significant increase in blood glucose levels upto 6 hrs. after thiopentone administration was observed, which gradually returned to pretreatment levels by 12 hours. The plasma thiopentone concentration showed a gradual decline and was not related to anaesthetic effects.

Diazepam with and without atropine as tranquilizer in goats.

Bharat Singh and Amresh Kumar

*College of Veterinary Sciences,
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The onset of tranquilization after intravenous administration of diazepam @ 0.5mg/kg body weight occurred in 1.75 minutes and the peak tranquilizing and analgesic effects lasted for 15 minutes. The animals started showing signs of recovery after 37.5 minutes, and completely recovered in 82.50 minutes. There was fairly good muscular relaxation and analgesia. Pre-administration of atropine @ 0.5 mg/kg body weight 15 minutes prior to diazepam administration hastened the onset of analgesia and reduced the duration of peak effect. However, the extent of muscular relaxation and analgesia were not affected but there was absence or reduction in extent of salivation. There was an initial increase in heart rate at 5 minutes which then showed a fluctuating trend while atropine pretreatment accelerated the heart rate. The respiration rate and rectal temperature non-significantly decreased upto 15 minutes and 60 minutes respectively after diazepam administration. The atropine administration did not affect the trend of respiration and rectal temperature. There was no significant change in MAP, CVP and ECG during the period of tranquilization. However, atropine pre-treatment produced a significant increase in MAP at 5 minutes. The PCV and hemoglobin contents fell at 15 to 45 minutes after diazepam administration. Acid-base changes included a slight increase in PaCO_2 , decrease in pH and slight changes in standard bicarbonate and base excess. Diazepam administration did not affect the serum ornithine carbamyl transferase, serum bilirubin, blood urea nitrogen and blood creatinine levels. However, it caused a significant increase in blood glucose levels. The serum electrolyte (Na^+ K^+ and Cl^-) remained within physiological limits during the period of study.

Additional advantage of caudal epidural anaesthesia in bovine.

Mitra, A. K., Mohanty, J., Ray, A. K., Bose, V. S. C., Pathy, T., Mohapatra, R. B. and Mishra, P. C.

Caudal epidural anaesthesia has been more effective in Imperforate Ani, Recto-vaginal fistula, Urethral catheterisation in calves and exteriorisation of Os uterus in cows. The results are discussed.

Comparative Evaluation of Different Concentrations of Centbucridine and Xylocaine in Epidural and Infraorbital Nerve Block in Cattle.

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Department of Surgery and Gynaecology, Punjabrao Krishi Vidyapeeth, AKOLA.

Epidural and infraorbital block with Centbucridine in the concentrations of 0.125%, 0.25% and 0.5% and Xylocaine in the concentrations of 0.25%, 0.5% and 1.0% was carried out in six healthy non-descript male buffalo calves and four crossbred bull calves.

The dose of solutions used for producing epidural and infraorbital blocks was 5 ml and 4 ml respectively. It was found that the mean latent periods with epidural injection 0.5%, 0.25% and 0.125% of Centbucridine was 1.999 minutes, 3.368 minutes and 4.746 minutes respectively, and with Xylocaine in concentrations of 1.0%, 0.5% and 0.25% the mean latent period was 3.969, 5.44 and 7.48 minutes respectively.

The mean duration of analgesia with epidural injections of 0.5%, 0.25% and 0.125% Centbucridine was 179.82 minutes, 96.00 minutes and 59.141 minutes respectively. While with 1.0%, 0.5% and 0.25% Xylocaine the duration was 45.215, 30.959 and 21.035 minutes respectively.

The mean latent period of analgesia with 0.5%, 0.25% and 0.125% Centbucridine for producing infraorbital nerve block, was 3.142, 5.391 and 7.366 minutes respectively, and with 1%, 0.5% and 0.25% Xylocaine the mean latent period was 6.089, 7.488 and 8.466 minutes respectively. The mean duration of analgesia produced by Centbucridine in concentration of 0.5%, 0.25% and 0.125% was 156.502, 75.929 and 49.368 minutes respectively, while with 1.0%, 0.5% and 0.25% Xylocaine it was 40.076, 25.47 and 16.877 minutes respectively.

It was found that every increase in the concentration of both analgesic solutions resulted in reduction in latent period and increase in duration of analgesia.

No side effects were observed in any animal with the use of Centbucridine as well as Xylocaine. The Centbucridine 0.5%, 0.25% and 0.125% concentration for epidural block showed mild degree of staggering gait. It was found that Centbucridine at 0.5%, 0.25% and 0.125% concentration was superior to the corresponding double concentrations of Xylocaine so far as latent period and duration of analgesia was concerned. In conclusion it could be said that Centbucridine is a highly potent analgesic without side effects.

Effect of Diazepam, Pentazocine and Procaine hydrochloride with Thiopentone sodium as general anaesthetic in dogs.

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The effect of diazepam, pentazocine and procaine hydrochloride as maintenance agents in thiopentone sodium anaesthesia were evaluated in three different groups of mongrel dogs. Each group contained six animals. All the dogs were preanaesthetized with atropine sulphate at the dose rate of 0.04 mg/Kg body weight and anaesthetized with 25 mg/Kg body weight of thiopentone sodium. Diazepam, Pentazocine and Procaine hydrochloride were given individually as maintenance agents, after ten minutes of anaesthesia, at the dose rate of 2mg, 2mg and 3mg/kg body weight respectively in three different groups.

Average duration of surgical anaesthesia was statistically significantly high ($p < 0.01$) with diazepam group (61.83 ± 10.45 min.) than with pentazocine group (32.66 ± 4.88 min.) and procaine hydrochloride (25.83 ± 1.78 min.). Diazepam produced good muscle relaxation during anaesthesia, while pentazocine and procaine hydrochloride had produced moderate degree of muscle relaxation. Mean arousal time, mean walking time and period of complete recovery were statistically significantly high ($p < 0.01$) in diazepam group than with pentazocine and procaine hydrochloride. There were no major complications and recovery were quiet and smooth in all the groups.

In all the groups rectal temperatures decreased non-significantly at the peak of anaesthesia but the decrease seen at the end of anaesthesia and at arousal time were statistically significant ($p < 0.01$). In all the groups pulse rates increased significantly ($p < 0.05$) and respiratory rates decreased significantly ($p < 0.01$) during all the periods of anaesthesia.

Epiphyseal Fracture In a Lion

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A male lion, about 4 years old, belonging to the Venus Circus was brought to the Dept. of Surgery with the history of lameness of the left hind limb. The previous day it fought with another lion and sustained injuries on the stifle region. The animal was anaesthetised by IM administration of 375mg xylazine and 400 mg ketamine (3ml + 1ml) as a single injection. The anaesthetic effect was noticed in 15 mts and radiographs of the stifle joint revealed an epiphyseal fracture of the proximal end of tibia with evulsion of the anterior tuberosity. It was decided to conduct open reduction of the fracture. The medial side of stifle was prepared for surgery, and the fracture was exposed. The epiphysis was immobilised by wiring to the shaft of tibia. The evulsion was left undisturbed. A second dose of 1ml of the combination of Xylazine and ketamine was administered when the animal showed signs of recovery. The skin wound was sutured and the limb was immobilised in a plaster cast. Antibiotics were administered for 7 days and the sutures were removed on the 20th day. The animal started using the limb by 3 weeks and was normal by 7 weeks. When last seen - after 7 months - the animal was performing on the ring.

Surgical Approach to the Bovine Nasal Cavity and Posterior Nares

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A surgical approach to the bovine nasal cavity and posterior nares has been designed. The site was over the midline between the muzzle and line connecting the bases of the supraorbital processes. After preparation of the site, local infiltration anaesthesia was induced over the site using lignocaine 2% solution. A skin incision, 8-10cm was made to expose the inter nasal and inter frontal sutures. The periosteum was incised over the midline and reflected to either side. The

inter nasal and the fronto nasal sutures were separated using a chisel. The cartilagenous extension of the nasal cavity was divided at its junction with the nasal bone. The nasal bone was gently elevated and reflected to one side using bone holding forceps. This exposed the nasal mucosa and the turbinates. If both the nasal cavities were to be exposed, the bones of both the sides were reflected. The nasal mucosa was divided at its junction with the nasal septum and was retracted. The surgical opening was about 4-6cm long and 2-2.5cm wide, which was adequate for manipulation of the nasal cavity and the posterior nares. Closure of the surgical opening was done by suturing the nasal bones by wire sutures after drilling holes on both nasal bones, the periosteum by simple continuous sutures and skin with interrupted sutures.

Chloral Hydrate for General Anaesthesia in Goats.

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The effects of Chloral Hydrate 6% solution i/v was studied in 36 goats divided into 2 groups. In the first group of 18 animals, 3 doses of Chloral Hydrate solution (1ml/kg, 1.5ml/kg and 2ml/kg) were administered. In the second group of 18 animals premedication with Triflupromazine hydrochloride 0.2mg/kg was followed by administration of chloral hydrate solution i/v, in the three doses as in group 1. The clinical symptoms, hematology, time of onset, duration and recovery from anaesthesia were studied. Increasing doses of Chloral Hydrate with or without premedication hastened the onset of anaesthesia and prolonged the duration. There was reduction in rectal temperature upto 1°F and the initial increase in respiration and pulse rate came to near normal levels when anaesthesia deepened. Haematology indicated a non-significant reduction in total RBC count, Haemoglobin and PCV with an increase in WBC count. Chloral Hydrate 6% solution at 2ml/kg was found to produce anaesthesia of 30 mts duration and premedication with Triflupromazine gave better results.

Cystoplasty using Formalin Preserved Urinary Bladder in Buffalo Calves

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Subtotal cystoplasty was accomplished in 16 apparently healthy male buffalo calves using formalin preserved urinary bladder. Clinical observations of the operated animals, even upto 120 days, did not reveal any untoward symptom. They also remained in good health. The level of urea nitrogen in the blood fluctuated within the normal range. Cross and histological studies revealed that the preserved bladder acted as a temporary scaffold around which there was regeneration of the bladder tissues within 120 post operative days.

"New Education Policy with special reference to Clinical Education in Veterinary Colleges in the Country,"

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The organisers of the Symposium deserve rich compliment in selecting this topic for talk and discussion in view of the nation-wide wave of consideration of wide range changes in the education being imparted at various levels and in various branches, and whether such an education is worthwhile in so far as the present day challenges are concerned. Moreover, with the advances in soft ware technology computers are posing bigger and bigger demands to feed its ever increasing hunger of analysing and producing the answer to the problems being faced by human race. As mentioned by the Prime Minister of India, the nation has to be educationally, psychologically and morally ready to accept the challenges of the Twenty-first Century. Educationists in Veterinary Science have to come together, think, discuss and evolve a guideline to mould the veterinary education particularly clinical sciences education in such a way as to meet the requirements of the next century which is just 15 years ahead.

Education is expected not only to make the individual knowledgeable but also to culture his mind and heart so as to make him/her a respectable being in the Society in which high moral and principles are respected. Incorporation of moral education in the course of veterinary science at some level is, therefore, very necessary. Such an education may preferably be combined with the ethics of the profession and Veterinary jurisprudence so that a good continuity and linkage could be established.

Another important factor which decides the value of the education is its utility to the Society. If a person having received education in a particular branch serves the society to its entire satisfaction, not only he but the whole community which has received similar education is also respected. Utility of person is also closely linked with economic values. If a person with his knowledge either saves or enhances income his status in the society is esteemed high. It is on these considerations attempts are made to evaluate the importance of veterinary education in the past during present time and also in future. Based on this consideration, endeavour will be made to suggest the changes in the educational policy in so far as it relates to veterinary education in general and clinical courses in particular.

It is needless to emphasise that agricultural, livestock and village craft education should get highest priority in the planning of vocational training in India mainly because 70% population of the Country inhabitates in villages. It is very high time that planners give top priority to this point if the fabric of the society and rich heritage of the country has to be preserved while bringing about economic improvement of the rural poor. Since independence, it is constant observation that the rural youth is compelled to rush to urban and metropolitan places in search of jobs as they fail to earn their livelihood in the villages. This exodus has created enormous problems for Government Municipal Corporation, Law and order maintenance and all others. The situation could be controlled if the rural youth finds a job and earns livelihood at his native place. Vocational training in Agriculture and Livestock Management therefore deserves a topmost priority. A large section of rural population either does not understand the importance of education or they are conomically so weak that they are forced to keep the children off the school to earn money to support the family. This vast number of rural children will have to be cared for. Non-formal education in Livestock Management including handling of milk and livestock products on scientific lines is the need of the day. These children and the youth could attend the classes either early in the morning or late in the evening and satisfy the thirst for knowledge while rendering a helping hand to the needy family. This non-formal lower Livestock Management education should be made available to those who can read and write, and should be extended over about 40-60 weeks. Details of topics and their levels, arrangement of the classes etc. could be worked out if the proposal is accepted in principle.

Another important point which has not yet been given its due importance is the special nature of organising animal health care. Opening of well-equipped polyclinics alone is not going to solve the problem. Crux of the problem is the difficulty and expenditure involved in shifting the sick animal from its abode to the clinic. On umpteen occasions the owner is helpless to take the animal to the dispensary in time and loses his precious animal which has remained without treatment. Ideal solution would be to increase the activity of Veterinary Ambulatory clinics which, to start with, should be 3-5 per Taluka and later on further increased to such an extent that there would be an Ambulatory clinic per 5000 livestock units. To man this activity which is mainly concerned with the treatment of commonly occurring conditions and minor surgical affections, a veterinary graduate may, perhaps, not be required. It could well be managed by a diploma holder with 2 years intensive practical-oriented training after passing out 10+2 i.e. higher secondary school certificate examination. These diploma holders would be willing to work in the villages and discharge their duties. This training of 2 year diploma course should be entrusted with the Agricultural Universities and not with the Directorate of Vocational training for the simple reason that the

curricular contents, conduct of examinations, selection and appointment of teachers, assurance of academic standards etc. could be well guarded and supervised by the academicians in the University, On no account this education should be allowed to fall in the clutches of administrative department. It is very highly imperative that the syllabus must be practical-oriented and only such theoretical base be provided as would be essential to understand the importance of the practicals. This course should have 80% weightage for clinical subject and 20% for production subjects (mainly animal nutrition and fodder production). The syllabus prepared by administrative Departments in some states need be scrupulously scrutinised by panel of experts in the University before it is too late because a top heavy syllabus will not only dilute the standard but will also unnecessarily give a handle to the diploma holders to argue that they too have undergone all such courses that have been learnt by a degree holder.

After independence the requirement of the educated youth has undergone a tremendous metamorphosis. A strong nation is built on the shoulders of morally sound and educationally well-trained youths. Unfortunately though the planners very much wished to shape the youth in such a fashion, they could not do it for a variety of reasons. The net result of that is the production of a vast number of graduates moving in search of a job and ultimately getting frustrated either for not getting the same or for getting a job which is not of their choice. Fortunately such a position did not develop in so far as the veterinary education in the country after independence is concerned. During last 36 years there is not only a quantitative increase in the institutes imparting veterinary education but also a tremendous qualitative change has taken place. The level of veterinary education has been upgraded from that of diploma to a degree. Post-graduate education in all disciplines as a natural corollary has commenced in late fifties or early sixties. Specialization within the discipline has also begun in the recent past. The syllabus for the degree programme has been revised from time to time and the next change is on the horizon. It is proper time for us now to take stock of the situation and to seriously think as to in which way the further education in veterinary science should go and how this education would keep its close links with the changes that are taking place in the Society. A closer look at the syllabus of the B. V. Sc. and A. H. programme would clearly indicate that the subjects concerning the Animal Health Care have been treated more or less on par with the subject concerning with Animal production. The revised syllabus which is likely to come in the near future has further introduced livestock production technology as the 3rd component in the degree programme. In order to accommodate this 3rd component the planners have proposed to increase the duration of the B. V. Sc. and A. H. degree programme by one more semester. While doing all this, though planners have taken to consideration the requirement of the society, it is felt that the prime importance of the clinical education of

the Veterinary graduates has been lost sight of. There are no two opinions that livestock production and production technology are equally important but a serious consideration is required to find out the requisite number of the experts in the field of animal production to enhance production and to accelerate the productivity. The requirement of Nutritionist, Genetisist and livestock production experts, in my opinion, is comparatively much less than those who are entrusted with the responsibilities of animal health care. Nobody would deny that the productivity of the genetically potential animal also depends upon its proper health, and hence the importance of clinical education cannot be overlooked.

Comparative study of the weightage given to practical clinical training in the advanced countries and that in India would clearly show that we in India are not very serious about the practical clinical training to the under-graduate students. A student after the graduation should go out of the University with the full confidence that he would be able to handle the commonly occurring conditions with full confidence and competence. Let us have an introspection in this particular area. Accepting that the infrastructural facilities such as a good clinic and adequate number of cases suffering from different types of diseases, are limited, do we make the maximum use of the cases that are brought to the college/ University clinics ? It is a fact that we cannot increase the number of cases nor can we artificially create the varieties of conditions. What should be done ? All that we can do is to take the students to the different nearby places and search out the cases of interest and make the student work on the rural background. In other words we have to strengthen the activity of ambulatory clinics and taking the students in batches of 8 to 10 to the fixed centres where there is a potential for good clinical cases.

With the increase in the number of production animal and also with the increase of the cost of the animals it is obvious that the needs of veterinarians for treating the livestock will be ever increasing both quantitatively and qualitatively. The clinical education will have to be so tailored as to suit the new demands to the 21st Century. A look at the increase in the financial outlay earmarked for the development of the Agricultural livestock, and taking into consideration the target fixed for achievement, it would be clear that Government is giving due importance for both the Agriculture and livestock. It is very augery that in some states in the country the emphasis is being given on the ambulatory clinic. It would be therefore necessary for those concerned with the practical clinical education to train the students in such a way as to make them duly equipped to meet the challenge.

Under the semester and trimester system of education, a discipline is divided into different courses and each course has been assigned with a particular number

of credits. The credit is again defined in terms of clock hours of education per week. Unfortunately the clinics are given only 3 credits under semester system which means that the students should attend the clinics only thrice a week. Though many of us insists on the students and the staff in the deparment that they should work in the clinics every day including Sunday and holidays so that they can have a continuous and regular follow-up of the cases being treated how far it would be correct to do so without proper recognition of this extra work at the higher levels ? In my opinion, either the definition of clinics credit should be changed or number of credits for clinics be suitably increased so that students will attend the clinics on all the working days of the week.

The complete documentation and on the basis to the experience gained at the clinics, experience of other colleagues in the country and abroad, a possibility should be considered to involve monitoring and/or computerising the analysis. Such data analysis will be the basic requirement of the 21st Century which can be easily said to be the Century of Computer and computerisation. Introduction to the new technology filed due to advance in bio-engineering technology will also have to be considered and training in Endoscopy, Microanalysis, feeding the data to computer, radioisotopic studies will have to be thought of as the new horizon in the clinical training of veterinary graduates in next 15 to 20 years.

