There are different Marine Mammal Rehabilitation Centres around the world that admit seals for rehabilitation. The patients are predominantly motherless pups, which would perish on their own; but also traumatized adult animals, which are injured due to being caught up in fishing nets or other human interference.

Dealing with animals, especially wildlife and their various problems makes every day a special day in a Vet’s working life.

This presentation is aimed to reflect the every day work in a rehabilitation centre for seals and general wildlife and the extraordinary situations we are faced with on a daily basis. It also explains why the rehabilitation of wildlife has become a necessity. It shows the treatments available to weak, dehydrated or injured animals or those that suffer from infections. Finally, it depicts individual steps of care, which are applied in pursuit of our ultimate goal, the animal’s health and release into its natural habitat.

Over the past three years, an increasing number of North Sea seals have been found suffering from lungworm infections, especially those in the tidal areas. The infection is predominantly affecting Common Seals, but it is quickly spreading to Grey Seals also infection.

The rehabilitation of wildlife is an absolute necessity today and sadly, will most probably become ever more important in the future. This presentation is designed to provide you with an overview of a complete rehabilitation programme, from applying First Aid, treatment and recovery right through to the release of the animal into its natural habitat.
GAIT ANALYSIS IN GIANT ANTEATER (MYRMECOPHAGA TRIDACTYLA) USING A PRESSURE-SENSITIVE WALKWAY


Department of Veterinary Surgery and Anesthesiology, School of Veterinary Medicine and Animal Science – Univ Estadual Paulista (UNESP), Botucatu, Brazil

Topic: 8. Exotic Animals and Rare Species / Advanced Mammalian Surgery

The aim of this study was to evaluate the kinetic and temporospatial parameters of clinically healthy young giant anteaters (Myrmecophaga tridactyla) by using a pressure-sensing walkway. Three free-ranging clinically healthy giant anteaters (Myrmecophaga tridactyla), two males (Nos.1 and 3) and one female (No. 2), aged from 7 to 8 months were used. The body mass of anteaters 1, 2 and 3 were 8 kg, 3.8 kg, and 3.25 kg, respectively. For both forelimbs and hind limbs, there was no statistically significant difference between the right and left sides. The velocities were 0.49 m/s, 0.55 m/s, and 0.60 m/s respectively for the anteaters 1, 2, and 3. The frequency of strides (cycles/min) were 67, 85, and 92 respectively for the anteaters Nos. 1, 2, and 3. Although the gait velocity had been similar for all giant anteaters, the stride frequency was higher in anteaters Nos. 2 and 3 than anteater No. 1. The fact was associated with the body size, and also influenced other temporospatial parameters. Percentage of body distribution was higher on the forelimbs than the hind limbs. However, the anteater 1 was walking and the others anteaters were galloping. The contact surface and trajectory of the force of the forepaws differed of the hind paws. In conclusion, the anteaters have gait peculiarities associated with the anatomical differences between forelimbs and hind limbs.
EFFECTS OF DEXAMETHASONE ADMINISTRATION ON THE LENGTH OF THE OESTROUS CYCLE AND CYCLE STAGES IN THE WISTAR RAT

A. I. Nwannenna¹, J. O. Ayo², D. Ogwu¹, E. O. Oyedipe³

¹ Department of Theriogenology and Production, Ahmadu Bello University, Zaria, Nigeria
² Department of Veterinary Physiology, Ahmadu Bello University, Zaria, Nigeria
³ Veterinary Teaching Hospital, Federal University of Agriculture, Makurdi, Nigeria

Topic: 8. Exotic Animals and Rare Species / Reproductive Endocrinology

The study investigated effects of dexamethasone (Dex), a synthetic analogue of cortisol, on cycle intervals and the periods for the stages of the oestrous cycle in the Wistar rat. Vaginal smears were taken every morning and evening from cycling rats for 30 consecutive days each, before and after Dex treatments. Microscopic examination of smears for cellular characteristics was used to determine the cycle intervals and the period of each stage within an interval. Average cycle length and number of cycles in each 30 days, and average periods obtained for each cycle stage in 30 days were compared between those recorded before and after Dex treatment, and values obtained in the treatment and control groups. Treatment with Dex significantly (P < 0.05) increased oestrous cycle length and reduced the number of cycles within a given length of time in the Wistar rat. The increase obtained in oestrus cycle length in Wistar rats treated with Dex was, apparently, due to a significant (P < 0.05) increase in the period of the dioestrous stage of the cycle. The present study confirmed that Dex administration in cycling animals increases oestrous cycle length by prolonging the dioestrous period. In conclusion, Dex causes infertility and its administration should be done with caution in animals of reproductive importance.
REPAIR OF SEGMENTAL BONE DEFECTS WITH XENOGENEIC BIOTRANSPLANTS IN PIGEONS

S. Horňák, V. Ledecký, D. Harvanová, J. Amrichová, J. Rosocha

Small animal clinic, University of veterinary medicine and pharmacy in Košice, Košice, Slovakia

Topic: 8. Exotic Animals and Rare Species / Advanced Avian Surgery

INTRODUCTION: In case of bone mass loss in a mammal is used to fill the defect by autologous tissue. The size and anatomical structure of birds did not allow taking of cancellous tissue in satisfactory amounts. Aim of this experiment was regeneration of bone defect with xenogeneic cancellous tissue in combination with avian cells in birds.

METHODS: Experiment was performed on pigeons divided into 5 groups. Unilateral mid-diaphyseal segmental defects in pigeons ulna were treated with demineralized and non-demineralized ostrich spongiotic tissue in combination with avian cells as a biotransplants for implantation into artificial defects. Regeneration of bone lesions was evaluated radiographically 1, 2, 3, 4, 5, 6, 9 months after implantation.

RESULTS: The best results were seen in a group of pigeons that have been implanted by demineralized spongiotic tissue in combination with avian cells. Three months after implantation xenograft resorption was observed in the defect area and after 6 months a complete bone remodeling we observed. In groups without application of avian cells was not detected completely bridging of segmental defect. Even though new bone formation and remodeling in the area of original defect was confirmed, 9 months after xenograft implantation thin radiolucent line remain on the X-ray picture. In the control group remained unfilled defect even after 9 months.

CONCLUSIONS: Based on these results, we can conclude that xenogeneic demineralized spogiotic tissue in combination with avian cells like mesenchymal stromal cells had osteoconductive and osteoinductive properties which are necessary for the regeneration of bone defects in birds.
RADIOGRAPHIC AND CLINICAL EVALUATION OF RAPTORS EXTREMITIES FRACTURE BETWEEN 2009-2013 YEARS

M. Kibar¹, M. K. Yonez³, G. Atalan², Z. Dogan²

¹Kyrgyzstan Turkey Manas University, Faculty of Veterinary Medicine, Department of Surgery, Bishkek-Kyrgyzstan
²Surgery, University of Erciyes, Faculty of Veterinary Medicine, Kayseri, Turkey
³Veterinary, University of Gumushane, Kelkit Aydin Dogan VHS, Gumushane, Turkey

Topic: 8. Exotic Animals and Rare Species / Advanced Imaging for Birds

In this retrospective study, raptors referred to Erciyes University Veterinary Faculty Department of Surgery Clinic with various extremities disorders between 2009-2013 years were evaluated and the clinical outcome reported.

A total of 176 wild raptors consisting of 110 hawks, 19 goshawks, 15 owls, 10 eagles, 10 falcons, 6 eagle owls, 5 kestrel and one vulture evaluated based on anamnesis, clinical and radiographic findings.

Major disorders were found in the wing extremities of raptors. 90 raptors had fracture effecting diaphysis of humerus. The other 50 had fracture on the side of antebrachium. The main reason for the fracture was found to be gun shot. The birds were not able to fly. 110 raptors had dislocated diaphyseal fracture and the other dislocated multible fracture. The fractures were treated surgically by using a suitable size of kirschner pinning, plate and wire. After one month hospitalization period, the raptors were evaluated radiographically for bone healing and the pins retracted. Therefore, they were allowed to fly but only 38 raptors flew.

It is concluded that more protective measures should be taken for keeping raptors population.

Key Words: Wild Raptors, Radiology, Retrospective Study
The aim of this study is describe the vasectomy technique on male paca kept in captive. Vasectomy in adult males is an interesting alternative for *Agouti paca* since the animal does not lose libido and maintain cyclicity of females into the enclosure. The animal was submitted to anesthesia using ketamine hydrochloride (25 mg/kg IM) and midazolam (0.5 mg/kg IM) as premedication, and isoflurane in open system by facemask diluted in 100% O2 for induction and maintenance. Immediately after induction, was performed epidural anesthesia using 4 mg/kg of lidocaine hydrochloride without vasoconstrictor associated in the same syringe with 0.2 mg/kg of methadone hydrochloride to promote analgesia. As the testicles in this species are inside the abdomen, the surgical approach was made by parapreputial skin incision and ventral midline abdominal incision. After access the cavity, the testes were located and the vaginal tunics were incised to access the vas deferens. After exposed, both were doubly ligated, sectioned and removed a segment of approximately 1 cm of each duct. Finally, the occlusion of subcutaneous and muscle layers were made using 2-0 absorbable and skin with 2-0 non-absorbable sutures. Postoperatively, benzathine penicillin (30,000 IU/kg IM once), Tramadol (4 mg/kg IM once) and meloxicam (0.3 mg/kg SC SID for 3 days) were administered. Ten days post-surgery, the animal was fully recovered and after twenty days, it was transferred to enclosure of females. This procedure showed to be feasible and an easy implementation for maintenance of the estrous cycle of females.
CHANGES IN PLASMA PROLACTIN CONCENTRATIONS DURING PREGNANCY AND EARLY LACTATION IN MARES

H. R. Shafiei sheykhani

Department of obstetrics and reproductive diseases, urmia university, urmia, Iran

Topic: 8. Exotic Animals and Rare Species / Reproductive Endocrinology

Introduction: The prolactin is main hormone in milk production in many species. In this species, the concentration of circulating prolactin increased in the last weeks of pregnancy. After foaling, prolactin secretion from the pituitary gland in response to sucking continues. It seems that this issue is important in milking. Method: in this study Plasma prolactin concentrations, in five mares were analyzed during pregnancy and early lactation. The aim of this study was to investigate the changes in plasma prolactin during pregnancy and early lactation in the mare. blood samples were obtained from Five pregnant kurdish mares during the last weeks of pregnancy and early lactation in 5-day intervals. Evaluation of estrous behavior in mares by teasing, rectal examination and review of postpartum ovarian follicular development was done. After birth were allowed that the foals remain with his mother to sucking. All samples were analyzed by RIA. Results: Postpartum estrus in mares 1,2 and 5 was observed 6 to 12 days after birth. estrous behavior in mares 3 and 4 was observed Within 18-25 days. in ovary was touched reached follicles (3-5/5 cm) during the estrous. PRL concentrations in all mares in 5 days before calving was down. It was then increased significantly until about 10 days after calving. The prolactin concentrations did not follow a specific pattern and Reduced about 50 days, and was near its base.
The rodents are prone to develop degenerative diseases and the neoplasia is the most common. The frequency of neoplasia diagnosis in histopathological exams was evaluated from 30 suspected surgical cases from rodents presented to Vida Livre Medicina de Animais Selvagens, in Curitiba, Parana, Brazil. The samples were collected from skin (21), liver (seven), kidney (one) and ovary (one). The skin samples revealed eight adenocarcinoma (38.09%), three squamous cell carcinoma (14.28%), two haemagiosarcoma (9.52%), two fibrosarcoma (9.52%), two malignant melanoma (9.52%), one basal cell adenocarcinoma (4.76%) and one epitelioma (4.76%). From the liver it was possible to diagnose five cases of proliferative chronic hepatitis (71.42%), one haemagiosarcoma (14.28%) and one lymphocytic lymphoma (14.28%). Nefrosis was found in the kidney and the ovary sample was inconclusive. The other samples presented tissue autolysis, abscess and granulation. Based on these results the most common skin neoplasia of the rodents was adenocarcinoma from skin.
BARTONELLA SPP. DETECTION IN KING COBRAS, AND THEIR TICKS FROM KING COBRA VILLAGE, KHON KAEN, THAILAND

W. Srisanyong, F. Suksawat

Veterinary medicine, KKU, Khonkean, Thailand

Topic: 8. Exotic Animals and Rare Species / Reptilian Patients in Australia

At least 15 species of *Bartonella* spp were reported from sucking arthropod, many animal and human in Thailand. Wildlife animals can serve as reservoirs for *Bartonella* spp. Many *Bartonella* species were detected in many new species or new hosts in all parts of the world. This is the first report of *Bartonella* species detected in blood and ticks from the king cobras. Blood samples were collected from 28 king cobras and 20 ticks were collected from the snakes. By conventional and real-time PCR, *Bartonella* DNA were detected from 8/28 blood king cobra snakes and 4/20 were from ticks. This is the first detection of *Bartonella* spp from snakes in the world that being reptile carnivores animal and detection of *Bartonella* spp. in *Aponomma* spp. ticks. The result from this study suggests that king cobra snakes and their ticks can be potential reservoir for *Bartonella* spp.
SEVOFLURANE AND ISOFLURANE ANESTHESÍA INVESTIGATION OF THE EFFECT OF RABBITS IGM

A. Uyaroğlu¹, K. Özkan²

¹ Menderes District Directorate of Food, Agriculture and Livestock, Republic of Turkey Ministry of Food, Agriculture and Livestock, İzmir, Turkey
² Department of Surgery, University of Selçuk, Faculty of Veterinary Medicine, Konya, Turkey

Topic: 8. Exotic Animals and Rare Species / Focused on Rabbits

Selected anesthetic agent, and the agent technique, closely related to the incidence of postoperative infection. Anesthetic agents used in the postoperative period, the smaller the effect on the immune system, immune system, decreasing the risk of complications due to less affected.

The aim of this study was to determine precautions in order to have uncomplicated post operative time following Isoflurane and Sevoflurane anesthesia affecting immunologic system.

Total of 48 rabbits were used in this study as in Isoflurane and Sevoflurane groups. These two groups were divided to 4 sub groups including anesthesia, anesthesia/antibiotic, anesthesia/surgery and anesthesia/antibiotic and surgery. IgM was evaluated as to determine the differences among groups.

Designed for the first of four sub-set of notes for each anesthetic agent only anesthesia, the second procedure, in addition to the anesthesia groups called penicillin application, anesthesia and laparotomy groups called the third application, while the fourth groups called anesthesia, laparotomy was performed, and the implementation of penicillin. One of the animals before induction of anesthesia, post-anesthesia in the 1 hrs, 2 time, 24 time, 48 hrs, 1 week 2, weeks and 3 week intervals, blood samples were obtained at the time.

As a result, although the use of sevofluran is more advantages clinically, it is more adverse reactions on immunological system compared to isoflurane.

(This study was summarised from a PhD thesis and supported by SUBAPK, Project No:2004:058)

Key Words: Rabbit, anaesthesia, IgM.
Cervids can be affected by viral hemorrhagic diseases, such as Epizootic hemorrhagic disease (EHD), Bluetongue (BT), and Adenoviral hemorrhagic disease (AHD). Once that gross lesions, among them, hemorrhagic enteritis, pulmonary edema, petechiae and suffusions in several organs, are similar, it is necessary to use accurate techniques to the definitive diagnosis. From the archival material (paraffin blocks) available in the Department of Veterinary Pathology of Univ Estadual Paulista, Jaboticabal Campus, Brazil, 42 Brazilian deer, both free living and captive, were selected because the suggestive lesions of hemorrhagic viral disease. The samples analyzed, using Immunohistochemistry, were all negative for adenovirus. Using real time RT-PCR for EHD, the results were also negative. The same technique applied to BT virus showed seven positive animals (16.66%) also confirmed by agarose 4% gel electrophoresis (Fig. 1) and gene sequencing. The main macroscopic changes observed were hemorrhagic intestinal contents, reddish mucous membrane of the gastrointestinal tract, ulcers on tongue and petechiae in various organs. Mostly histological changes observed were inflammatory infiltrate, hemorrhage, and congestion in various organs. All positive cases were from captive animals, three females (two young and one adult), and four young males. BT is an arthropod-transmitted viral disease of wild and domestic ruminants, responsible for impact on animal health and animal economies worldwide. This was the first time that the genome of BT virus was identified in Brazilian cervids.
VIDEOLAPAROSCOPY OVUM PICK-UP IN AGOUTI PACA: TECHNIQUE PRACTICE DESCRIPTION


Department of Preventive Veterinary Medicine and Animal Reproduction, School of Agrarian and Veterinary Sciences, Sao Paulo State University, Jaboticabal, Brazil

Topic: 8. Exotic Animals and Rare Species / Advanced Mammalian Surgery

The aim of this study was to describe the technique of videolaparoscopy ovum pick-up in Agouti paca. The animals in supine position have the abdominal area shaved, followed by antisepsis and local anaesthesia using lidocaine hydrochloride (2mL) to skin incision at portal sites. After anaesthetic maintenance establishment, the females are Trendelenburg positioned. The technique uses three portals in triangular arrangement. A 5-mm trocar is introduced on right hypochondriac region using the Hasson technique, establishing pneumoperitoneum under 2 L/min. CO₂ flow rate and the intra-abdominal pressure should be between 5 and 10-mmHg. Thus, the 6-mm trocar is introduced on the ventral midline and the 11-mm trocar is introduced on the left hypochondriac region, both using the laparoscopic-assisted technique. Laparoscope is positioned on the ventral midline portal and a 10-mm Babcock atraumatic forceps and a 5-mm atraumatic grasping forceps are introduced through the 11-mm and 5-mm portals, respectively. Puncture must be performed moving the ovaries in different positions with the manipulation atraumatic forceps. The needle by trans abdominal access is carefully moved to ensure that all the follicular content is aspirated. Vacuum pressure must be maximum 50 mm Hg, using a single lumen system with an 18G needle. After that, ovaries are washed with 10mL of 0.9% NaCl solution to avoid adherences. Skin suture uses horizontal “U-shaped” suture pattern. Thus, the procedure is efficient and has great potential for assisted reproduction improvement in this animal species.
PYOMETRA IN A LION (PANTHERA LEO) – CASE REPORT

A. E. Kawanami¹, J. P. Oliveira¹, A. A. A. Torres², K. Werther¹

¹ Veterinary Pathology, Unesp Univ Estadual Paulista, Jaboticabal Campus, Jaboticabal, Brazil
² Veterinary Pathology, Unesp Univ Estadual Paulista, Araçatuba campus, Araçatuba, Brazil

Pyometra is a common disease that occurs frequently in canids, but there are few cases reported in zoo felids. This infection of the uterus may affect all ages, despite the occurrence is higher in older females. A female lion, 11 years old, from a local zoo was submitted to the Department of Animal Pathology, from Unesp Univ Estadual Paulista, Jaboticabal Campus, Brazil. The lion was lethargic and anorexic and died 12 hours later. Necropsy findings were abdominal cavity with approximately 1L of opaque, viscid, red-brown content (Fig. 1); a cystic area in the right cornua with a 10 cm diameter associated to ventral rupture area (Fig. 2), presenting irregulars edges, uterus mucous layer was diffusely blackened with mild amount of red-brown liquid. Microscopically, lumens of endometrial glands were enlarged and with mild amount of degenerated neutrophils, all organs were in advanced autolysis. The animal died due to peritonitis and septicaemia caused by the rupture of a closed-cervix pyometra. Pyometra should be considered as a differential diagnosis in anorexic and lethargic intact felids.
KETAMINE MIDAZOLAM RESTRAINT AND ISOFLURANE ANESTHESIA OF THE AGOUTI PACA – PILOT STUDY


Department of Preventive Veterinary Medicine and Animal Reproduction, School of Agrarian and Veterinary Sciences, São Paulo State University, Jaboticabal, SP, Brazil

Topic: 8. Exotic Animals and Rare Species / Advanced Mammalian Surgery

A. Paca is a neotropical rodent with zootechnical interest that require chemical restraint or anesthesia for handling and surgical procedures due to its aggressive nature and susceptibility to stress. To evaluate a ketamine midazolam restraint and isoflurane anesthesia, 4 female adult pacas, weighing 9.4±1.34 kg, were physical restraint and receives intramuscular injection of 25 mg/kg of ketamine and 0.5 mg/kg of midazolam. Femoral arterial and cephalic venous catheters was placed and preemptive tramadol (4 mg/kg IV) and meloxicam (0.2 mg/kg IV) analgesia were applied. Hearth rate, pulse oximetry, invasive arterial pressure, respiratory rate and corporal temperature was monitored after instrumentation and each 5 minutes after isoflurane anesthetic induction and maintenance, by facial mask in FiO₂ 1.0, to obtain surgical anesthetic plane for laparoscopy obstetric intervention, once finalized this procedure time and quality of recuperation were evaluated. In all animals restraint and anesthetized was successful, ceased to react to manipulation in 7.5±1.7 minutes, anesthetic induction at 5V% of isoflurane occurred in 2.3±0.5 minutes, the procedure took 77.5±16.5 minutes and all animals recovered uneventful and the time to ambulation resumed 54±5 minutes. The cardiorespiratory parameters stayed within the expected range for this type of mammals at the restrained moment and anesthetic procedure, HR 191±19.4; 141.6±12 beats/min, RR 63±20.2; 25.8±2.8 cycles/min, MAP 95±23.5; 72.8±9.4 mmHg, SpO₂ 97.8±2.1; 99.8±0.1 %; temperature 36.1±1.1; 35.6±0.7 ºC, respectively. The restrained and anesthetic protocols were safe for both animals and humans, without anesthetic intercurrences and may be indicated for the proposed procedure in A. paca.
ANATOMICAL AND SCANNING ELECTRON MICROSCOPIC CHARACTERISTICS OF THE TONGUE IN THE PAMPAS DEER (CERVIDAE: OZOTOCEROS BEZOARTICUS, LINNAEUS 1758)

S. Erdoğan¹, W. Pérez²

¹Department of Anatomy, Faculty of Veterinary Medicine, Dicle University, 21280 Diyarbakir, Turkey
²Department of Anatomy, Faculty of Veterinary Medicine, University of the Republic, 11600 Montevideo, Uruguay

Aim: This study represents first definitive anatomical description of the tongue and lingual papillae of the pampas deer which is considered to be in extreme danger of extinction.

Materials and Methods: Four adult and one fetal deer were used. The tongues were washed in 0.1M chilled phosphate-buffer, fixed in 2.5% glutaraldehyde for 6h and again washed twice in 0.1M phosphate-buffer. Then, specimens dehydrated by acetone, they were critical point dried and coated with gold palladium. The specimens were observed under SEM.

Results: The filiform papillae on the lingual apex were smaller than the ones on the dorsal surface of the lingual body. Two secondary papillary projections were found to emerge from the bilateral sides of some filiform papillae. Spherical fungiform papillae were distributed among filiform papillae on dorsal surface of the lingual body and ventral surface of the apex. Developed conical papillae were observed in the caudal half of the torus, while the rostral half of the torus had smaller conical papillae. Each conical papilla included shallow longitudinal groove on its anterior surface, and some conical papillae on the torus had bifid sharp apices. On the caudal portion of the torus, we also observed a few fungiform papillae. There were no lenticular papillae on the lingual torus, and five to nine round or oval circumvallate papillae were situated on each caudolateral side of the lingual torus.

Conclusion: Morphological features of the tongue in the pampas deer were more similar to wild ruminant species than they were to domestic species.
ARterial vasculaRization and morphological characteristics of adREnal glands in the pAmerican deer (OzOtOceros bezoarticus, linnaeus 1758)

S. Erdoğan¹, W. Pérez²

¹Department of Anatomy, Faculty of Veterinary Medicine, Dicle University, 21280 Diyarbakir, Turkey
²Department of Anatomy, Faculty of Veterinary Medicine, University of the Republic, 11600 Montevideo, Uruguay.

Aim: This research presents morphological characteristics of adrenal glands and demonstration of arterial vascularization in the Pampas deer which is considered to be in extreme danger of extinction.

Materials and Methods: Ten deer constituted the material of the study. Vascularization of twenty organs were investigated by using latex injection technique. The organs were measured by digital caliper.

Results: Left adrenal gland was basically supplied by celiac, cranial mesenteric, renal and lumbal arteries. In two examples, branch of the lumbal artery divided into phrenic caudal artery and branch of adrenal artery. In six examples, caudomedial and ventral regions of the left adrenal gland was supplied by thinner branches which stemmed from second left lumbal artery. Besides celiac artery, cranial mesenteric artery also gave off cranial adrenal artery supplying the cranial region of the left adrenal gland in five examples. Two branches was originated from abdominal aorta directly for supplying left adrenal gland in only two examples. In four examples, two caudal adrenal artery were stemmed separately from left renal artery in a short distance. Arterial vascularization of right adrenal glands was more constant and supplied by lumbal and renal arteries. The adrenal glands was generally oval or round shaped. There was no any significant difference (P>0.05) in sizes between right and left adrenal gland.

Conclusion: The present study is considered to contribute to the understanding of the morphological features of glands and specialization of arteries in adrenal glands and thereby, to aid in the evaluation of arterial variations and deer anatomy.
INNER VENTRICULAR STRUCTURES AND VALVES OF THE HEART IN WHITE RHINOCEROS (CERATOTHERIUM SIMUM)

S. Erdoğan ¹, M. Lima ², W. Pérez ²

¹Department of Anatomy, Faculty of Veterinary Medicine, Dicle University, 21280 Diyarbakir, Turkey
²Department of Anatomy, Faculty of Veterinary Medicine, University of the Republic, 11600 Montevideo, Uruguay.

Aim: We aimed to describe the internal structures of ventricles and the valvular apparatus of the heart.

Material and Method: The heart of a white rhino obtained from necropsy at a local zoo was dissected after fixation in 10% formaldehyde. The length and width of papillary muscles and lengths of cusps and semilunar valves were measured with digital callipers.

Results: In the right heart, three papillary muscles were found in septal and marginal walls and m.papillaris magnus was the biggest. There was only one m.papillaris parvus in the right ventricle. The right atrioventricular valve was tricuspid, and the parietal cusp was longest. Within the left heart two papillary muscles found on the septal wall and subauricular was the biggest. The left atrioventricular valve was bicuspid and parietal cusp was longest. There were no nodules in the valves of pulmonary trunk and aorta, and the semilunar valves had many fibrous folds and transparent parts. Within the cardiac skeleton there was a cartilago cordis which occupied small part of the right fibrous trigone. While the right ventricle included only one septomarginal trabecula, there were many trabeculae in the left ventricle. In both ventricles, the endocardium was thin and the subendocardial network was visible. We also found many trabeculae carneae dorsal part of the ventricles.

Conclusion: Anatomy of the heart and its inner components in white rhinoceros, other rhino species and horse, which are the member of the same order, Perissodactyla, showed little differences and overall their cardiac morphological features were immensely similar.