The Progress of Pregnancy Following Ovariectomy in Camels (Camelus dromedaries)

Musaid M, Al-Elzahh
Professor of Theriogenology, Department of Clinical Studies,
College of Veterinary Medicine and Animal Resources,
King Faisal University, Al-Ahsa, Saudi Arabia
Email: museaid@kfu.edu.sa

The corpus luteum of pregnancy persists throughout the length of gestation in the dromedary camel and thus it is assumed that the ovarian progesterone is mandatory throughout gestation in this species. The objectives of this study were to test the assumption that maintenance of the pregnancy state is dependent upon ovarian progesterone throughout gestation in the dromedary camel. Thirteen parous, 10-11 months pregnant camels were used. The female camels were divided randomly into three groups. Group 1 animals (3) were control. Group II animals (7) were ovariectomized. Group 3 animals (3) were ovariectomized and received daily subcutaneous injection of 100 mg progesterone powder prepared in sesame oil for 60 days. Jugular blood samples were taken in heparinised syringes before and after ovariectomy throughout the experimental period and plasma was obtained and stored at -30°C until analysed for progesterone and oestradiol-17β by radioimmunoassay. Removal of the ovaries containing corpora lutea in group II was immediately followed by abortion or premature birth. The chronic administration of progesterone succeeded in maintaining pregnancy with normal gestation length.

However, fetal viability in the group maintained on progesterone was lower than in the normal controls.

Key words: Pregnancy, Ovariectomy, Camel, Camelus dromedaries
Gastroduodenal Atresia and Associated Anomalies in Ruminants and Equines

Zaghloul A. E., Mostah F. M., Mansi H. A.
Department of Surgery, Anaesthesiology and Radiology, and Department of Thoracic Medicine, Faculty of Veterinary Medicine, Mansoura University, Egypt.
E-mail: Zaghloul2@yahoo.com

The present study was conducted on a total number of 67 animals of both sexes aged from one day to few months and suffering from one or more congenital anomalies. The case records of newborn animals (36 calves, 2 foals, 27 lambs and 2 kids) referred to Mansoura veterinary teaching hospital (MVTH), between January 2005 and October 2007, with the final diagnosis of gastroduodenal atresia alone or associated with other anomalies.

There were 21 atresia ani, 4 atresia ani with anky, 2 atresia ani with very tail, 4 atresia ani with meconium impaction, 5 atresia ani and atresia recti, 10 atresia ani and recti and coli, 3 atresia coli, 2 atresia ani and vuli, 1 atresia ani, recti, vulvi and short tail, 1 atresia ani, vulvi with anky, 11 anus vaginale, 1 atresia ani, vulvi, anky, patent urorectal, and with rudimentary penis, 1 atresia ani, recti, anophthalmia, unsightly herna and knuckling. 1 ectopic head, absence of tongue, buccal cavity, and salivary glands. Diagnosis and surgical management in operable cases was done. Differential diagnosis, surgery outcomes, and economic impact were discussed in this study.

Key words: Atresia, Anomaly, Ruminants, Equines
Effects of Biclofen and CGP 35348 on Thiopental-Induced Anesthesia in Mice

Faezzi M., Karazhi A., Pourghasemi S.
Faculty of Veterinary Medicine, Shiraz University, Shiraz, Iran
E-mail: m.faezzi@shirazu.ac.ir

The mode of action by which general anesthetics induces anesthesia is not fully understood. Although several studies suggest that these compounds act via potentiation of GABA-A receptors, some researchers have demonstrated that anesthetics were antagonized by GABA-B antagonist but not by GABA-A antagonist. The objective of this study was to determine whether GABA-B agonist biclofen or GABA-B receptor antagonist CGP 35348, would modulate anesthetic action of thiopental.

Mice were treated with either vehicle, biclofen 5 mg/kg or CGP 35348 500 mg/kg, fifteen minutes prior to induction of anesthesia by i.v injection of thiopental 10-50 mg/kg. The loss of tail withdrawal reflex (TWR) and the loss of pedal withdrawal reflex (PWR) were recorded along with the duration and quality of recovery.

At low concentrations, thiopental induced CNS excitation with muscle tremor and elevated respiratory and heart rate. An adequate anesthetic level was observed with 30 mg/kg of thiopental. The anesthetic duration was short and did not appear to be sufficient to allow surgical procedures. Higher doses did not increase the duration of anesthesia and were associated with respiratory depression and higher death rates. Neither biclofen nor CGP 35348 showed any significant effect on the potency of thiopental and the duration of anesthesia. These findings suggest that GABA-B agonist and antagonist do not affect CNS depression induced by thiopental, supporting the idea that GABAergic system is diverse in different animals and general anesthetic binding sites are distinct from the GABA binding sites.

Key words: Biclofen, CGP 35348, Anesthesia, Mice
Abstract

Effects of Nitric Oxide on Thiopental-Induced General Anesthesia
In Mice: An Experimental Study

Najieb-Nejad. 1, Sadeghi O. 2, Aziz E. 1
1 Faculty of Veterinary Medicine, Islamic Azad University of Urmia, Urmia, Iran
2 Faculty of Veterinary Medicine, Tehran University, Tehran, Iran
E-mail: nagatpour@yahoo.com

Nowadays, an increased demand for various surgical operations in animals has raised a need of knowledge over principles and methods used to induce local and general anesthesia. Nevertheless, it is also necessary to gain a deep knowledge over positive or negative interactions of the biogenic substances, present in the body, on the process of general anesthesia. NO is one of these chemicals that has been paid a special attention during last 2 decades. To study the role of NO in the process of general anesthesia and, meanwhile, gaining a suitable method in the administration of anesthetic agents as well as finding a new combination to induce anesthesia, 3 drugs were administered to mice prior to sodium thiopental. For this, 60 male mice were used in 3 periods of studies (20 animals per study). Every 20 animals were divided into 4 experimental groups of 5 each. Each group received either of the following drugs via the subcutaneous route once daily for 3 days: L-arginine (a precursor of NO, 10 mg/kg), nitroglycerine (a donor of NO, 1 mg/kg), methylene blue (an inhibitor of guanyly cyclase, 10 mg/kg). Anesthesia was induced by intraperitoneal injection of thiopental on days 3 and 4. In the 1st, 2nd, and 3rd sets of experiments, doses of 40, 60, and 80 mg/kg of thiopental were used, respectively.

After recording and analyzing of data, it became evident that methylene blue owned the most prominent and consistent effect among the chemicals used. After this, nitroglycerine stood on the 2nd order. It potentiated the anesthetic effect of thiopental so that an accelerated anesthesia induction, an increase duration of hypnosis, a prolonged recovery period, and a deeper level of anesthesia were observed. Nitroglycerine, as an NO donor, increased the anesthetic effect of thiopental. This implies that methylene blue should have deactivated the anesthesia parameters as it opposes the effect of NO, whereas, similar to what seen with methylene blue, it also increased the duration of anesthesia.

In conclusion, nitroglycerine, and perhaps other nitrovasodilators, which release NO in physiological environment, may be used as an adjunct to sodium thiopental as an anesthetic agent. The lack of an expected, inhibitory effect by methylene blue can be related to extra mechanisms implicated in the effects of this chemical.

Key words: Nitric Oxide, General Anesthesia, Mice, Rat
Effects of Tail Fat on Halothane Biotransformation in Fat-tailed Sheep.

Shamsi S. 1, Vasei N. 2
1 Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran
2 Faculty of Veterinary Medicine, Shiraz University, Shiraz, Iran
E-mail: shamsi.shams@shirazu.ac.ir

Inhalant anesthetics are used widely for producing general anesthesia in animals and humans. Approximately 20% of halothane uptake is metabolized via oxidative and reductive pathways during and following halothane anesthesia in humans. Trifluoroethane, difluoroethane, and fluoroethane are major metabolites of the reductive pathway. Some factors, including genetic susceptibility, repeated exposure to halothane, pre-surgical fasting and obesity, have been associated with an increased incidence of halothane-induced hepatic necrosis. The aim of this study is to evaluate the effects of tail fat on halothane biotransformation following similar anesthetic exposure in intact sheep and sheep with ligated median sacral artery. Twelve healthy 10-12-month-old female sheep were selected in this study. The sheep were randomly divided into two groups. Animals were anesthetized twice at two-week intervals. After mask induction with halothane in 100% oxygen, the sheep were intubated and anesthesia was maintained for 3 hours, using a rebreathing system. Serum fluoride concentration (SFC) was measured in control (tail artery not ligated) and experimental (tail artery ligated) groups. Following the first halothane anesthesia, SFCs were significantly increased from 3 to 46 hours compared to baseline. SFCs were significantly higher in intact sheep from 3 to 72 hours compared to MSA-ligated group. The greater extent of halothane biotransformation may be clinically important in both normal and obese patients.

Key words: Tail Fat, Halothane, Sheep
Effect of General Anesthesia on Plasma Cholinesterase Activity in Sheep

Yaseen N., Rezaei Jahromi A., Naeni S.
Faculty of Veterinary Medicine, Shiraz University, Shiraz, Iran
E-mail: rezaei@shiru.ac.ir

Determination of plasma cholinesterase activity in different conditions such as pregnancy, liver diseases, insecticide and organophosphate toxicity in patients which undergo general anesthesia may be clinically important. Some injectable or inhalation anesthetic agents can depress the enzyme activity. Ten fattailed male adult sheep, 12-14 months old with an average weight 29.19 ± 1.15 kg were selected and kept under same environmental and nutritional conditions; for prevention of possible effects of age, sex, and weight on enzyme activity. Measurement of serum enzyme activity was performed by colorimetric methods at the following intervals: 72 hour before anesthesia, immediately before anesthesia, 1, 3, 5, and 15 days after anesthesia. Following premedication with xylazine, anesthesia was induced with ketamine and maintained with halothane in oxygen. Cardiopulmonary parameters (heart rate, respiratory rate and end-tidal CO2) were recorded during anesthesia by pulse oximetry and capnograph. Data analysis was done by one-way ANOVA and values of P<0.05 were considered significant. Enzyme activity in days 72 hour before anesthesia, immediately before anesthesia, 1, 3, 5, and 15 days after anesthesia were 153.48, 143.12, 157.16, 168.91, 152.49 and 137.83 U/l, respectively. There were no significant differences in enzyme activity in different days after and prior to anesthesia. Results of the present study revealed that induction and maintenance of anesthesia does not affect the cholinesterase activity in sheep.

Key words: Anesthesia, Plasma Cholinesterase, Sheep
Evaluation of Xylazine on the Onset and Duration of Cisatracurium in Anaesthetized Dogs

Shahaboddin M., Kariman A.
Faculty of Veterinary Medicine, Tehran University, Tehran, Iran
E-mail: rahile2002@gmail.com

The purpose of this study was to evaluate the effect of xylazine as premedication on the onset time and duration of cisatracurium neuromuscular blockade in anaesthetized dogs. The study was carried out on 12 healthy dogs aged 0.5-6 years and weighing 9-26 kg undergoing various elective surgical procedures. The dogs were randomly divided into two groups of 1 (test) and c (control), including six dogs each. In group 1, premedication was conducted using acepromazine maleate 0.3 mg/kg and xylazine 0.3 mg/kg and in group c only acepromazine (same dose) was injected intramuscularly 20 min before general anaesthesia. After induction of bilateral paresis, anaesthesia was maintained with halothane in oxygen to deliver an end-tidal halothane concentration of 1.1%. Neuromuscular blockade was induced with cisatracurium 0.2 mg/kg and monitored using the train-of-four (TOF) stimulation pattern applied to the ulnar nerve. The onset time of cisatracurium blockade was 195±38.44 s in test and 163.3±38.16 s in control group. The duration of neuromuscular blockade was 24.8±4.79 min in 1 and 28.3±5.48 min in the c group. Statistical analysis of the data showed no significant differences between groups in terms of onset and duration of neuromuscular blockade.

Keywords: Xylazine, Premedication, Cisatracurium Blockade, Dog
Immobilization and Anesthesia of Brown Bear (*Ursus Arctos*)

3 Cases

*Vesal N., Kawadi I.*

Faculty of Veterinary Medicine, Shiraz University, Shiraz, Iran
E-mail: nvesal@shirazu.ac.ir

Various non-domestic animals in need of chemical restraint and anesthesia are occasionally presented to the veterinary practice. Since physical restraint is dangerous and may result in injury to personnel or animal, chemical restraint has been accepted as a routine procedure. Three male brown bear were presented for surgical treatment (wound management and tooth extraction). General anesthesia was necessary to complete the procedure.

Anesthesia was induced using intramuscular injection of a combination of an 2-alpha-agonist (xylazine 1-1.5 mg/kg or detomidine 25 mg/kg) and ketamine (3-5 mg/kg). All 3 cases were intubated using a 20, 22, or 26 mm ID,uffed large animal endotracheal tube but inhalation anesthesia (halothane) was used to maintain anesthesia only in two dentistry cases (9 and 12 months old). In the adult bear (17 yrs old, 320 kgBW) the faciation repair was performed under field anesthesia. This animal received oxygen via endotracheal tube and additional ketamine was necessary to complete the procedure. Morphine (0.2 mg/kg) was used to provide postoperative analgesia in the dentistry cases. In all cases recovery was smooth and without incident. Combination of an 2-alpha-agonist and ketamine provides a reliable immobilization and surgical anesthesia for short-duration procedures in brown bear. Inhalation anesthesia is recommended for prolonged surgeries. As with domestic animals, monitoring and supportive care should be provided during general anesthesia in wild animals.

Key words: Immobilization, Anesthesia, Brown Bear
The Effects of Fluid Therapy on the Serum Concentration of Sodium and Potassium in Surgical Patients

Yaseen N., Zohrol A., Nazif S.
Faculty of Veterinary Medicine, Shiraz University, Shiraz, Iran
E-mail: nazim_vet77@yahoo.com

In this study, the effects of intravenous fluid therapy on packed cell volume (PCV), hemoglobin (Hb), and serum sodium and potassium concentrations were investigated in 81 surgical patients (22 cows, 14 sheep, 4 goats, 11 horses, 8 dogs and 2 cats) and 23 experimentally anesthetized sheep. Clinical cases received mainly saline-dextrose solution and experimentally anesthetized sheep received only lactated Ringer's during surgery. Blood samples were collected from jugular vein of bovine animals and cephalic vein of small animals before and after fluid therapy. The serum was separated by centrifugation at 750 g for 15 min and stored at -20°C until used.

The concentration of serum potassium, PCV and Hb decreased significantly (P<0.05) in cows, sheep and horses after fluid therapy. In sheep, the concentration of serum sodium increased significantly (P<0.05) after fluid therapy. In goats, no significant differences were observed in serum sodium and potassium concentrations (P>0.05). In dogs, the concentrations of serum sodium and potassium did not change (P>0.05) but PCV and Hb decreased significantly (P<0.05). Overall, PCV, Hb and serum potassium decreased significantly (P<0.05) in surgical patients after fluid therapy.

In experimentally anesthetized sheep receiving lactated Ringer's solution, no significant changes were observed in serum sodium and potassium concentrations (P>0.05). The results of this study showed that intravenous administration of fluids containing no potassium may lead to severe hypokalemia. Therefore, in surgical patients, administration of a balanced electrolyte solution containing potassium chloride is recommended.

Key words: Fluid therapy; Serum; Sodium; Potassium
Effect of Intratesticular Injection of Ketamine on Feline Castration

A. Amri Y., Shimaszadeh Rezaei F., Dalir Naghadeh B.
Faculty of Veterinary Medicine, Urmia University, Urmia, Iran
E-mail: yashmaami@ipm.ir

In this study, intratesticular administration of ketamine in comparison with intravenously and intramuscular routes was examined in order to achieve a proper anesthetic method for feline castration.

Fifteen adult male cats were separated randomly into three distinct groups. Animals in all groups received 0.6 mg/kg, 2% xylazine intramuscularly as premedication. Subsequently, 30 mg/kg, 13% ketamine by intravenous, intratesticular and intramuscular delivery protocols was administered. Model animals were castrated immediately after induction of general anesthesia.

There was no time interval between ketamine injection and onset of anesthesia in intravenous group. However, the parameter was longer in intratesticular group than in intramuscular group, but the difference did not reach statistical significance (p>0.05). On the other hand, duration of anesthesia determined by the time taken to unaligned walking and also interval between sternal position and walking were significantly shorter in response to intratesticular administration of ketamine compared to the other groups (p<0.05).

Regarding to results of this study it is concluded that, intratesticular injection of ketamine in order to its ease of administration and rapid recovery without side effects could be used as the method of choice for induction of anesthesia in cats to perform castration.

Key words: Ketamine, Feline Castration
A1-12-Paper:

Comparison of Effect of Acepromazine and Propofol Sedative Doses on Splenic Size

A. Vakili, R. Ghaedi A., Negarpour H., Taliq Taber M.
Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran
E-mail: reansvah@yahoo.com

A wide range of conditions causes generalized splenomegaly. Anesthetic induced splenic enlargement in fracture dogs may interfere with radiographic interpretation of their pathologic splenomegaly. The aim of this study was to compare sedative effects of acepromazine (0.5 mg/kg, IM) and propofol (8 mg/kg, IV) on splenic size in dogs using radiography.

Ten young (1-4 years old), clinically normal mongrel dogs (20-25 kg) were used in this study. Left and right lateral and ventro-dorsal radiographs were prepared prior to, and 10, 30, 60, 120 minutes as well as 24 hours after administration of each drug. The greatest length and width of the spleen was measured using caliper in millimeter. All data were presented as mean ± SD. A paired two-tailed Student’s T-Test was performed for assess differences between several measurements of the spleen using SPSS statistical software. In analyzing the data, a significant difference in the means was defined as a P-value less than or equal to 0.05.

Significant splenic enlargement was seen 10 and 30 min after administration of acepromazine (P<0.05), but no significant enlargement was seen after intravenous injection of propofol. In conclusion, acepromazine is not a suitable sedative drug for chemical restraint in abdominal radiography of dog. In contrast, propofol is a rapid and short acting anesthetic drug that can be administered without any complication in fracture dogs before clinical and radiological examinations.

Key words: Acepromazine, Propofol, Splenic Size.
Sedation with Xylocaine-Diazepam and Epidural Administration of Lidocaine and Xylazine for Castration and Ovariectomy in Cats


Faculty of Veterinary Medicine, University of Shahrekord, Shahrekord, Iran
E-mail of biyani@gmail.com

The aim of this study was to determine whether anaesthesia including sedation induced by intramuscular administration of xylazine-diazepam and lumbar regional analgesia induced by epidural anaesthesia of lidocaine and xylazine is useful for castration and ovariohysterectomy in cats. 6 adult cats (3 male and 3 female cats) were used in this study. Cats were sedated with xylazine (0.2 mg/kg IM) and diazepam (0.2 mg/kg IM) and 5 minutes later a 2% solution of lidocaine (1ml/4.5kg) and xylazine (0.05 mg/kg) was administered into the lumbar epidural space. Cats were positioned in dorsal recumbency, and open technique castration or ventral midline ovariohysterectomy was performed. The body temperature, heart rate and respiratory rate were in normal range. Cats maintained adequate cardiac output and oxygen delivery throughout the procedure but were hypotensive. All cats were able to stand within 90 minutes. Intramuscular administration of xylazine for sedation and epidural administration of lidocaine and xylazine for anaesthesia provided acceptable anaesthesia for castration and ovariohysterectomy in cats. The epidural anaesthetic protocol is most useful when respiratory compromise or costs are concerned and the surgical procedure can be completed in less than an hour.

Key words: Lidocaine, Xylazine-Diazepam, Castration, Ovariectomy, Cats
Evaluation Effect of Naloxone on Ketamine–Induced Anesthesia in Chicken

Gholami Boyarofkoei J., *Elahi Kharean B., Najafzade H.
Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran
E-mail: sr.504@gmail.com

Ketamine does not induce suitable anesthesia in chickens, thus usually for balanced anesthesia, drugs used with it for muscle relaxation and decreased probable convulsion. Naloxone as antagonist opioid receptor, have clinical usage. Through opioids play the important role in regulation exchanging of nervous massages. The document was not observed in related by effect of naloxone on anesthesia quality in chicken. In this study above subject evaluated.

So in one group of Ross breed chickens ketamine was only administered and in the other group before administration of ketamine, naloxone was used. Then anesthesia quality compared in view of pedal comb, cornea reflexes and respiratory condition and heart rate in the both group. Ketamine increased the heart rate but naloxone prevented of increasing the heart rate. In addition, naloxone was not abolished the reflexes, and adequate anesthesia did not obtain for surgery.

In both group, respiratory rate almost increased as, also naloxone can stable the effect of ketamine on heart, but decreased the depth ketamine-induced anesthesia.

Key words: Naloxone, Ketamine, Anesthesia, Chicken
Studies on the Safety of Daily Administered Epidural Neostigmine Methyl Sulfate in Cow

Zakhravesh M.
Faculty Veterinary Medicine, Razi University, Hamadan, Iran
Email: mzakhravesh@yahoo.com

The spinal delivery of the cholinesterase inhibitor neostigmine yields analgesia in rats and augments the analgesic effects of alpha 2 agonists in sheep. To assess its activity in cows, preclinical toxicology studies to define its safety were required in these species. For this study, female cows were prepared following rigid aseptic precautions epidural injections. Cows epidural received daily injections of 0.025 – 0.040 mg/kg neostigmine (n = 6/group) for 4 days and were observed for general behavior and analgesic effect via pick of pin neural region with a needle and second group received normal saline at the same volume of neostigmine. In cows, neostigmine produced a dose-dependent increase in needle test, and no tolerance was observed. Micturition was observed but was not debilitating. A mild inflammatory reaction to the needle in the site of injection was observed in both groups. In cows, neostigmine produced bradycardia and an increase in muscle tone. Cerebrospinal fluid protein, specific gravity, and glucose were elevated in neostigmine group. No group differences in general condition were observed. These results suggest that, there is no evidence of toxicity that can be attributed to the neostigmine.

Key words: Neostigmine Methyl Sulfate, Cow
Anaesthetic Effects of Benzocaine and Etomidate on the Gold Fish (Carassius auratus)

Nemati K., Mohammad K., Ebrahim Sadegh A.
Faculty of Veterinary Medicine, Shiraz University, Iran
E-mail: nematik@yahoo.com

General anaesthesia provides not only important advantages to the fish, but also to the veterinarian, fish handler, fish farmer and researcher. Analgesia remains a viable objective of fish anaesthesia, although scientists still debate whether fish perceive pain or not. Various methods can be used to relieve fish from pain and stress. The preferred methods are in the chemical category and involve the use of an anaesthetic agent.

In this study, the efficacy of etomidate was investigated and compared to the efficacy of benzocaine in goldfish (Carassius auratus) using immersion method. Forty fish of 0.1 kg average weight were obtained from a commercial fish farm and kept in three aquariums (100-liters), containing aerated re-circulating well water around 26°C for one week prior to experimentation. Etomidate was tested at different concentrations (2, 3, 4 and 5 mg/l). After a rest period of two weeks, experiments were started with the benzocaine anaesthesia. The benzocaine powder was solved in ethanol (0.1g/ml) and kept in a dark flask. Four concentrations were tested, namely 20, 40, 60 and 120 mg/l. The responses of the fish against anaesthetics were examined in each two minutes which was the main index for efficacy of the anaesthetics. Stages of anaesthesia like increased respiration, erratic swimming and reduced activity were monitored and also ability of fish handling for inter-anastominal injection was assessed. It is concluded that in goldfish benzocaine at a concentration of 120 mg/l while satisfactory results with rapid induction and recovery and also etomidate at concentration of 5 mg/l was preferred.

Key words: Benzocaine, Etomidate, Gold Fish
Effect of Intratesticular Injection of Xylazine/Ketamine
Combination on Feline Castration

Naddaf H.1, Rasekh A.2, Alizadeh H.3, Ghanbari H.4
1 Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran
2 Faculty of Computer and Mathematical Sciences, Shahid Chamran University, Ahvaz, Iran
E-mail: treddy88@yahoo.com

This study was performed to compare the effect of intratesticular (IT) injection of xylazine/ketamine combination for feline castration with intramuscular (IM) injection. Xylazine (4mg/kg) and ketamine (10mg/kg) were administered intratesticularly (IT group), and intramuscu-
larly (IM group). Mean induction time, mean arousal time, mean waking time and cardiopulmo-
nary function during anesthesia were monitored after the xylazine and ketamine administration for
1 hour. In IT and IM groups, heart rates were significantly increased 10 minutes after xylazine and
ketamine administration (P<0.05). Respiratory rates were significantly decreased in the IT and IM
groups (p < 0.05).

The route of administration did not affect rectal temperature. Mean induction time and mean
arousal time were not significantly different between IT group and IM group. Mean waking time
was longer in IM group than in IT group. These results indicated that intratesticular injection of
xylazine/ketamine for castration has several advantages such as less fluctuation of cardiopulmo-
nary function, fast recovery from anesthesia without severe complications, and effectiveness for
castration in small animal practice.

Key words: Feline. Castration, Intratesticular, Ketamine, Xylazine
A-025-Poster

Hematocochemical Changes Following Epidural Analgesia by Bupivacaine, Ketamine, and Their Combination in Chah Sheep

Najafpour A., Dastakh H.
Faculty of Veterinary Medicine, Islamic Azad University of Urmia, Urmia, Iran
E-mail: haldastakh@yahoo.com

At present time, one of the most common routes of analgesia in small ruminants, especially sheep, is epidural method. Various analgesic agents are used in sheep. The objective of this study is to evaluate effects of three analgesic agents, Bupivacaine, Ketamine and their combination, on some of the hematocochemical parameters in chah sheep following caudal epidural injection.

9 healthy chah sheep (4 males, 5 females) with average weight of 38.89 ± 15.12 kg were selected randomly and divided into three groups. All animals, in group I, received 0.5 mg/kg Bupivacaine. In group II, received 2.5 mg/kg Ketamine, and in group III, received combination of 0.25 and 1.25 mg/kg bupivacaine and ketamine, respectively. All injections were performed in epidural space and blood samples were obtained before injection (Baseline) and 30 min thereafter. The amount of Glucose, BUN, Creatinine, TFP, Albumin, SGPT, Na+ and K+, for biochemical evaluation and amount of hematocrit, RBC, WBC and differential count of WBC for hematologic evaluation were measured.

On the basis of obtained results, significant differences which can be assigned to synergic effects of combination of bupivacaine and ketamine on spleen and circulatory system, observed in amount of RBC and TFP in group III (P < 0.05). Blood glucose showed significant changes in groups 2 and 3 (P < 0.05). Other parameters did not show significant differences (P > 0.05). It is advised, in sheep with disorders of liver and kidney, we should use mentioned drugs separately and not in combination in epidural analgesia.

Key words: Hematocochemical, Epidural Analgesia, Bupivacaine, Ketamine
Evaluation of Sedation Induced by Use of Midazolam in Pigeon

Nassafi H., Barati H., Esrafil Giri M., Baridi Am.
Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran
E-mail: 9133134322@yahoo.com

The study was carried out to evaluate the sedative properties of 3 dosages of a benzodiazepine tranquilizer, midazolam, as a means of chemical restraint by intravenous injection in pigeons. 15 pigeons were randomly assigned to receive midazolam at a dosage of 2, 4, and 6 mg/kg body weight (5 birds/dosage). Degree of sedation was evaluated by the use of a numerical scale according to reaction to different reflexes including pedal, cere, feather plucking and peak time of adequate chemical restraint were determined. Administration of 6 mg/kg of midazolam induced the highest degree of chemical restraint without causing alteration in cardiorespiratory function and thermal regulatory system. The peak time of sedation was 5 minutes after intravenous injection; however, administration of 4 mg/kg of midazolam also induced a high degree of sedation, but for a short period. Administration of midazolam to pigeons induced adequate sedation. Result of the study reported here may be extrapolated to other species including raptors and possibly, pet birds.

Key words: Midazolam, Pigeon, Chemical Restraint
Analgesic Effect of Caudal Epidural Tramadol in Cattle

#Borsehara A, Sabari Atiher F, Ahmadian F.
Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran
Email: aliciahorsehara@gmail.com

Tramadol is an opioid analgesic agent. It has proved to be an effective analgesic drug in human and some animals when given oral, intramuscularly, intravenously or by epidural route.
This study was performed to clarify the analgesic effect of tramadol injected into the sacrococcygeal epidural space in standing cattle.

Methods: Five native adult female cows were randomly received 3 treatments at least 1 week interval: 1, 2 and 3 mg/kg of tramadol. Sedation and ataxia in animals and analgesia of tail, anus, perineum, vulva, femoral region, caudal area of mammary gland and caudal quarters of mammary glands, and heart rate, respiratory rate, rectal body temperature and rumen contraction were assessed before tramadol administration and until 120 minute.

Analgesia (in all treatment groups) with slight to mild sedation and ataxia (in dosage 2 and 3 mg/kg) were shown. The duration of analgesia was significantly (P<0.05) increased according to dosage of tramadol. For example, the mean of duration of complete analgesia in perineum, suitable for surgery, was 38 minute for 1mg/kg, 60 minute for 2mg/kg and 92 minute for 3 mg/kg of tramadol. There were minimal effects on heart and respiratory rates, temperature and rumen contractions.

The present study showed that caudal epidural tramadol administration induced analgesia with slight to mild sedation and ataxia in cows, and the duration of analgesia was dose dependent. The duration of analgesia after 2 and 3 mg/kg tramadol administration is long enough for common surgical procedure and pain relief of perineum. Further studies are needed to show the possible side effects of epidural tramadol in cattle.

Key words: Caudal Epidural Tramadol, Cattle, Analgesic
The rabbits are widely used as laboratory animals for experimental surgery. Anesthesia of the rabbits may present complications unless the method is easy to apply and safe to use. In present study effects of vitamin C on thiopental induced anesthesia in 25 New Zealand white male rabbits were studied. In normal rabbits cranial pedal, corneal and pinch reflexes return mean time were 6.4±1.7, 6.6±2.7 and 6.0±2.6 min, respectively. Pre-treatment of rabbits with 30, 90 and 240 mg.kg-1 IV of vitamin C followed by thiopental 20 mg.kg-1 (IV) resulted in significant (p<0.05) increase in cranial pedal and pinch reflex return mean time to 13.0±2.2 and 11.6±4.2 min, respectively. There was also significant (p<0.05) decrease in the heart rate following induction of anesthesia in the animals pre-treated with 30 and 90 mg.kg-1 IV vitamin C and no change in those of animals pre-treated with 240 mg.kg-1 IV vitamin C. Serum analysis indicated a significant (p<0.05) increase in blood glucose. These results suggest that premedication of rabbits with vitamin C despite potentiating of thiopental anesthesia in rabbits is not dose dependent.

Keywords: Thiopental Anesthesia, Rabbits, Vitamin C
The Comparative Effects of Propofol, Diazepam, Ketamine, Zylazine-Ketamine and Morphine-Ketamine on Hemogram, Cardiovascular Status, Vital Signs and Anaesthesia Quality in the New Zealand Rabbit

Khamene Dahiordi M., Yadegari M., Koohpayeh A., Farid M., Saghaei F.
Faculty of Veterinary Medicine, Islamic Azad University of Shahrood, Shahrood, Iran
Email: ms_lamivet60@yahoo.com

For routine clinical pathology in laboratory rodents blood samples are commonly collected by puncture of the orbital sinus which is potentially stressful for the animals and should therefore be conducted under anaesthesia. The aim of this study were to evaluate the effects of a propofol anaesthetic protocol in New Zealand Rabbits on hemogram, respiratory rate, heart rate, reflexes of sensitivity to pain, breathing depth and cardiovascular status (by electrocardiography) and to compare it to three commonly used anaesthetic protocols.

20 adult rabbits were anesthetized using 4 different protocols: Group 1 (Propofol) were anesthetized with intravenous injection of propofol (10mg/kg),
Group 2 (Morphine-Ketamine) were anesthetized with a subcutaneous injection of morphine (3mg/kg) followed by an intramuscular injection of ketamine (35 mg/kg).
Group 3 (Diazepam-Ketamine) were anesthetized with an intramuscular injection of diazepam (2mg/kg) followed by an intramuscular injection of ketamine (35 mg/kg).
Group 4 (Zylazine-Ketamine) were anesthetized with intramuscular of zylazine (5mg/kg) and ketamine (35 mg/kg). There were significant differences (p<0.05) in heart rate between the groups with the highest rate recorded in the diazepam-ketamine group and the lowest heart rate recorded in the propofol group. Lightening of the anaesthesial level was detected by increasing heart and respiratory rates and pedal and palpebral reflex that are proved to be reliable signs of recovery. Rabbits in the Zylazine-Ketamine group appeared to be in a deeper anaesthesia plane. In conclusion the most rapid-onset anaesthesia is provided by propofol in less than one minute with the lowest respiratory side effects. We concluded that propofol is a suitable and safe drug for maintenance of anaesthesia in adult rabbits.

Key words: Anaesthesia, Propofol, Ketamine, Morphine, Zylazine, Diazepam, Rabbit
The Analgesic Effects of Clove Oil in Dog

Habibian S.1, Shadders M.1, Hasanvand A.1, Al E.1, Juharbaad S.1, Jafari M.1
1 Faculty of Veterinary Medicine, Shiraz University
2 Private Practitioner
E-mail: mJ2097@gmail.com

Clove oil is currently used as an anesthetic and sedative agent in fish industry and as an antimicrobial and local analgesic in dentistry. The present study was carried out to find out the suitability of clove oil as an analgesic in dog. For this purpose, 10 healthy male dogs with similar age and weight were used. Before the experiment, blood samples of all animals were collected and clinical parameters including temperature, heart rate, respiratory rate and blood pressure were measured. Then animals were stimulated using an electrostimulator, immediately after animal reflex, current was recorded and interrupted. Afterwards, clinical parameters were measured again. After one week rest, animals were divided into two groups, randomly. The first group received 20mg/kg (IV) clove oil and group two received 2mg/kg (IV) lidocaine. Then electrical stimulation was performed and current was recorded. Measuring clinical parameters were performed in intervals of 15 minutes to 2 hours. In the second week, after injection of drugs, electrical stimulation was given every 15 minutes for 2 hours. Measuring clinical parameter was done immediately after each stimulant. These results showed that in the group one which received clove oil, there are lesser changes in the clinical parameters. In addition, clove oil increased threshold to respond to electrical stimul following injections of lidocaine. The results of the present investigation suggested that clove oil can be used as an analgesic agent in dog.

Key words: Clove Oil, Analgesic, Dog
Abstract

Analysis of Effect of Cranial Epidural Ketamine in Cattle for Teat Surgery

Hajighahramani Sh, Sooshtezari A.
Faculty of Veterinary Medicine, University of Larestan, Khoramabad, Iran
E-mail: hajighahramani@gmail.com

Cranial or high epidural analgesia may be used for teat surgery in cattle. This study was performed to clarify the analgesic effect of ketamine injected into the sacrococcygeal space in recumbent cattle for teat surgery.

Twelve adult cows, used in this study were divided equally in three groups. Each group received ketamine hydrochloride 5% as cranial epidural anesthesia after diluting in sterile normal saline as below: group I 1mg/kg, group II 2mg/kg and group III 4mg/kg.

There was no sedative effect in any three doses of ketamine. The onset of analgesia was almost similar in all treatment groups. Analgesia of upper half teats and adductor for surgery was shown after 4 mg/kg ketamine treatment only. The duration of analgesia was significantly increased according to the volume of ketamine (P<0.01). Slight ataxia was observed after 1mg/kg treatment in all cows. All cows after 2mg/kg treatment showed moderate ataxia and 2 cows were recumbent, but analgesia of teat was not shown. After 4mg/kg treatment, all four cows were recumbent and teat surgery was performed uneventfully. Although heart rate showed some significant changes after 2 and 4 mg/kg administration, these were within normal ranges. Respiratory rate, rumen motility and rectal temperature did not show any changes during procedures.

This study showed that cranial epidural ketamine administration induced analgesia without sedation in cows, and the dose and duration of analgesia were dose dependent. Although there were no significant effects on cardiopulmonary and rumen functions at any dose, ataxia was dose dependent. In a point of clinical view, cranial epidural administration of 4mg/kg ketamine is suitable for recumbent surgery of teat in cattle.

Key words: Epidural, Ketamine, Teat Surgery, Cattle
Long-Term Intraperitoneal Anesthesia in Rat

Hajighahramani S1, Vessal N2
1 Faculty of Veterinary Medicine, University of Larestan, Khoramabad, Iran
2 Faculty of Veterinary Medicine, University of Shiraz, Shiraz, Iran
E-mail: hajighahramani@hotmail.com

Although inhalation anesthetics are generally safer than injectable anesthetics in rat, their use may be limited by lack of equipment. Small airways diameter and the anatomy of the oropharynx prevent routine endotracheal intubation in rats. Therefore, injectable anesthetic agents are used intraperitoneally (IP) as a single injection in the laboratory setting. The objective of this study was to evaluate possibility of long-term anesthesia by intraperitoneal infusion of several anesthetics in rat. Following close determination of anesthetics in a pilot study, one hour infusion of drug combinations (including propofol (P), xylazine-propofol (X-P), midazolam-propofol (M-P), ketamine-propofol (K-P), xylazine-ketamine (X-K), midazolam-ketamine (M-K) and midazolam-xylazine-ketamine (M-X-K)) was evaluated in 7 groups of 10 rats with the following rates:
- Propofol (60 mg/kg/h)
- Xylazine (1 mg/kg/h)- Propofol (40 mg/kg/h)
- Midazolam (3 mg/kg/h)- Propofol (50 mg/kg/h)
- Ketamine (30 mg/kg/h)- Propofol (50 mg/kg/h)
- Xylazine (2 mg/kg/h)- Ketamine (75 mg/kg/h)
- Midazolam (3 mg/kg/h) – Ketamine (75 mg/kg/h)
- Midazolam (5 mg/kg/h)- Xylazine (12 mg/kg/h)- Ketamine (75 mg/kg/h)

Surgical anesthesia occurred only in 3 groups, K-P, X-K and M-X-K. Induction time with ketamine combinations was faster and the shortest induction time was related to M-K combination which was significantly different compared to other groups (P<0.05). No significant difference was observed in sleep and waking times. Rats in X-K, M-P and M-X-K groups showed the greatest respiratory depression, but apnea and cyanosis were not observed. Respiratory and heart rate of M-K combination were significantly higher than other combinations (P<0.05). In conclusion, the results of this study showed that an acceptable surgical anesthesia can be provided by long-term infusion of M-X-K combination. P, K-P, M-K and M-P combinations are useful for light anesthesia.

Key words: Rat, Long-Term, Intraperitoneal, Anesthesia
Echocardiographic Evaluations of the Effects of Some Anesthetic and Pre-Anesthetic Drugs in Rabbits

Yadegari M. 1, Karimi Dakhki M. 1, Sanei S. 1, Vashaki A. 2, Koohpayen A. 1, Saghafi F. 1, Shafee A. 1
1 Faculty of Veterinary Medicine, Islamic Azad University of Shahrekord, Shahrekord, Iran
2 Faculty of Veterinary Medicine, Tehran University, Tehran, Iran

The effect of anesthesia drugs on cardiovascular system like heart rate, cardiac output and blood pressure was inspected in different animals separately but the comparative inspection and echocardiography express that minimum changes and disorder was happen in vital organs of body like cardiovascular system during the anesthesia. The aim of this study was ultrasoundography of heart (Echocardiography) with appropriate and in aggressive diagnostic method in human and animals. In this study the animals divided in four groups that each one members, then the normal finding of echocardiography recorded in each group separately. (Table) First group propofol was IV injected 10mg/kg.

Second group morphine 4mg/kg and ketamine 35mg/kg were IM injected third group diazepam 5mg/kg (IV) and ketamine 35mg/kg were IM injected than in 5, 15, 30, 60 minutes after injection, the Echocardiography was done with approach left para sternal long axis. Size and internal diameter of right and left ventricle due to systolic and diastolic time measured and the fractional shortening was measured too the first group fractional shortening of left ventricle was increased 5 minutes after injection of propofol in second group of IV was increased in five minute after injection than decreased in 15 min after injection was returned to normal stage in 30and 60 min after injection of morphine and ketamine in third group the fractional shortening and left ventricle was increased until 60 min after injection of diazepam and ketamine. In fourth group the the fractional shortening and left ventricle was increased until 30 min after injection was returned to normal stage in 60 min after injection of diazepam and ketamine. According of study at least changes of Echocardiography was observed during the usage of diazepam and ketamine.

Key words: Echocardiography, Anesthesia, Propofol, Ketamine, Preanesthesial Drugs, Rabbit
Evaluation of Xylazine, Ketamine and Combination of Xylazine – Ketamine as Epidural Anesthetics for Treatment of Prolapsed Uterus in Cattle

Hajghahmaneshi Sh., SooriKhezari A.
Faculty of Veterinary Medicine, University of Lorestan, Khoramabad, Iran
E-mail: hajghahmaneshi@gmail.com

In the ruminant species, the prolapse is generally a complete inversion of the gravid corpus. For replacement of the inverted organ, an epidural anesthetic should be given. This study was performed to evaluate the effects of ketamine, xylazine, and xylazine-ketamine combination injected to the epidural space in standing cattle for treatment of the prolapsed uterus.

Fifteen dairy Holstein cows, with complete prolapse of the uterus, used in this study were divided equally in three groups. In group I, xylazine hydrochloride 2% (0.1 mg/kg), group II, ketamine hydrochloride 5% (2.5 mg/kg) and in group three, both xylazine and ketamine (0.1 mg/kg + 2.5 mg/kg) were used as epidural anesthesia.

The onset of the analgesia was 7.12 ± 0.21 in group I, 3.45 ± 0.16 in group II, and 3.87 ± 0.18 minutes in group III. The duration of analgesia was 70 ± 2.69, 58.1 ± 2.11 and 91 ± 2.97 minutes in group I, II, and III, respectively. The duration of salivation was 21 ± 1.07, 11 ± 0.07 and 27 ± 1.13 minutes in group I, II, and III, respectively. Following epidural administration of drug, in group I and III, animals showed severe hind limb incoordination, which was comparatively less in animals of group II. Administration of xylazine alone and in combination with ketamine produced bilateral analgesia, which extended cranially up to sacral region and caudally up to tip of tail, perineum, and inner thigh. In animals of group I, the anesthesia was bilateral, but did not extend up to sacral region. Thus, replacement of the prolapsed uterus was easier and uneventful in group II as compared to group I and group III. The combination of xylazine-ketamine produced analgesia of longer duration than xylazine and ketamine administered alone, respectively.

In conclusion, caudal epidural administration of ketamine induced analgesia without sedation in cows. Caudal epidural administration of ketamine (2.5 mg/kg) is recommended in referral diagnostic, obstetrical, and surgical intervention in the perineal region of standing cows.

Key words: Prolapse, Epidural Anesthesia, Ketamine, Xylazine, Cattle
Modulation of Thiopental-induced Anesthesia by GABA-A Receptor Antagonist Picrotoxin in Mice

Fazel M. Jalaie J.
Faculty of Veterinary Medicine, Shiraz University, Shiraz, Iran.
Email: m.fazel@shirazu.ac.ir

General anesthetics at low concentrations have been demonstrated to potentiate the currents induced by submaximal GABA concentrations, whereas at higher concentrations the anesthetics directly activate GABA-A receptors. To investigate whether antagonism of GABA-A receptors can modulate inhibitory effects of thiopental, the effects of picrotoxin as a GABA-A receptor antagonist were studied.

Mice were anesthetized with thiopental 30 mg/kg at 0, 5, 10 and 20 minutes following IV administration of vehicle or picrotoxin 4 mg/kg. The loss of tail withdrawal reflex (TWR) and the loss of pedal withdrawal reflex (PWR) were recorded along with the duration and quality of recovery.

Thiopental induced an adequate anesthetic level with the fairly short duration (less than 5 minutes) and about half an hour lateral recumbency. Co-administration of picrotoxin and thiopental did not alter duration of anesthesia but caused a significant reduction in lateral recumbency duration. Animals showed signs such as rapid movement, circling and stiff gait when woke up.

Picrotoxin administration caused muscle tremor, tail rigidity, jumping, head and limbs shaking, scratched body and at the end extensor muscle stiffness associated with about 50% death at 5 minutes and about 100% death at 10 and 20 minutes post-administration of thiopental. The IV injection of thiopental could induce animals by antagonizing the excitation effects of picrotoxin. Picrotoxin is not able to antagonize the effects of thiopental, proposing that at the anesthetic concentrations, thiopental may exert its CNS inhibitory effects mainly through the direct activation of GABAergic system in mice.

Key words: Thiopental, Anesthesia, GABA-A Receptor Antagonist Picrotoxin, Mice
Effect of Fat Tail on Recovery Times in Halothane Anesthesia in Fat-Tailed Sheep

A. Sharif S., M. Vosel N., R. Rastani P.
1 Faculty of Veterinary Medicine, Shiraz University, Shiraz, Iran
2 Faculty of Veterinary Medicine, SMM University, Shiraz, Iran
E-mail: saeed.sharif@yahoo.com

Inhalant anesthetics are used widely for producing general anesthesia in animals and humans. Approximately 20% of halothane uptake is metabolized via oxidative and reductive pathways during and following halothane anesthesia in humans. Trifluoroacetic, difluorocycrylaldehyde and fluoroacetic acid are major metabolites of the reductive pathway. Some factors, including genetic susceptibility, repeated exposure to halothane, presurgical fasting and obesity, have been associated with an increased incidence of halothane-induced hepatic necrosis. The aim of this study is to evaluate the effects of fat tail on halothane bio-transformation and recovery times following similar anesthetic exposure in intact sheep (control) and sheep with ligated median sacral artery (experimental). Twelve healthy 10-12 month old female sheep were selected to this study. The sheep were randomly divided into two groups of 6 animals and anesthetized twice at two-week intervals. After mask induction with halothane in 100% oxygen, the sheep were intubated and anesthesia was maintained for 2 hours, using a rebreathing system. Recovery times were measured in two groups (control and experimental). No significant differences were observed in induction time between groups (p>0.05) but extubation and extubation noremminency times were significantly longer in intact sheep. Shorter recovery time has been reported in sheep without a fat tail and the rapid recovery times may be attributed to the faster decline in the alveolar partial pressure of halothane in experimental group.

Key words: Fat Tail, Recovery Times, Halothane Anesthesia
Benzocaine as an Anaesthetic for Silver Carp (Hypophthalmichthys molitrix)

Mohammadi A., Nasrollah A., Nikpour A.
1. Faculty of Veterinary Medicine, Shiraz University, Shiraz, Iran
2. Faculty of Natural Resources, Isfahan University of Technology, Isfahan, Iran
E-mail: anumahmadi@yahoo.com

Anaesthetics play an important role in both fisheries research and aquaculture, being used to facilitate various handling procedures, such as weighing, sorting, and collection of spawning material, tagging, or veterinary treatment. In the present study, we evaluated the anaesthetic effect of benzocaine on the silver carp (Hypophthalmichthys molitrix), in terms of the time required to become anaesthetized (anaesthetic time) and recovery time. We used a factorial experimental design and administered benzocaine at different concentrations (20, 40, 60, 80 and 120 mg/L) and temperatures (15 and 30°C). We observed a significant relationship between concentration and temperature (F<0.05). Anaesthetic time linearly decreased as the concentration increased and temperature increased. However, recovery time increased as the concentration increased and temperature decreased. There was mortality at concentrations 80 and 120 mg/L. Stages of anaesthesia like increased respiration, erratic swimming and reduced activity of fish were monitored and also ability of fish handling for intra-peritoneal injection was assessed. In conclusion, a concentration of 60 mg/L demonstrated rapid anaesthetic and recovery times in the silver carp, indicating its suitability for this species.

Key words: Benzocaine, Silver Carp
Abstract

Effects of Propofol and Aescromazine on Temperature, Heart Rate, Respiratory Rate, Arterial Blood Pressure and Blood Gasses in Donkey

H. Nekoda1, B. Ranlah2, A. Neshat3
1 Faculty of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran
2 Faculty of Computer and Mathematical Sciences, Shahid Chamran University, Ahvaz, Iran
Email: hmedsan@gmail.com

The effects of propofol in pre-medicated donkeys with aescromazine on arterial blood pressure, arterial blood pH, blood gases, rectal temperature, and heart and respiratory rates were recorded in 6 healthy male donkeys weighing 76-144 kg. Donkeys were pre-medicated with aescromazine (0.04 mg/kg, i.v., prior to induction anaesthesia) and 10 min later, anaesthesia was induced with propofol (2 mg/kg i.v.) and maintained by continuous infusion of the propofol (0.02 mg/kg/min) for 30 min. All baseline measurements were taken before the aescromazine administration and at 5 min after that, and were repeated after anaesthetic induction and maintenance at 15, 30, 45, and 60 min with propofol. It was found that heart rate increased at 6 and 15 min after anaesthesia and was decreased in 30 min, but the changes were not significant. Respiratory rate did not change significantly, but rectal temperature decreased significantly at 15 to 30 min. Mean arterial blood pressure didn't change significantly. There were no significant changes in PaO2, PaCO2 and pH, in all donkeys. Administration of propofol by continuous infusion rate for maintenance of anaesthesia induced stable hemodynamic and could prove to be clinically useful in donkeys.

Keywords: Donkey, Anaesthesia, Aescromazine, Propofol
Auricle Anesthesia in Cows

Mahmoud S., Malek MM, Sajedian SM
Faculty of Veterinary Medicine, Shahid Bahonar University, Kerman, Iran
E-mail: dt568@yahoo.com

The use of local or regional anesthetic techniques in cattle is preferred over general anesthetic technique due to ease of administration, minimal equipment requirements, low cost and reduced incidence of complications.

In the current veterinary literature, there’s no recorded document about the technique of auricular regional anesthesia in cattle for different operations on the pinna such as auricular hematomas, laceration and neoplasia.

In the present study, auricular regional nerve block was used to desensitize the pinna of 5 cows in both ears by local injection of lidocaine hydrochloride 1%.

The injection sites were 5 cm far from the base of pinna, in the ventral and cranial ventral surface, where the auricular nerves (branchial branches of C2, facial, vagus nerves & Anterior auricular nerve) pass and innervate to the external ear. An 18 gauge needle was inserted deeply through the mentioned regions and 5 ml of lidocaine infiltrated in each site. The pinna was completely anesthetized in 5 minutes and prolonged for 45 minutes.

According to this study, auricular surgery can be carried out by two separate injections of local anesthetic agents in the minimal volume of consumed drugs.

Key words: Auricle, Anesthesia, Cow