CLINICAL EVALUATION OF XYLAZINE AND DETOMIDINE ANESTHESIA IN PONIES - COMPARATIVE STUDIES

Kanwar, M.S.; varshney, A. C.

Department of Surgery & Radiology, College of Veterinary Sciences, Himachal Pradesh Agricultural University, Palampur-176062(HP) India, mskanwar@india.com

Abstract:
Alpha-2 adrenergic agonists have been used in horses and cattle extensively but their clinical use in equine surgery is not well documented. The sedative, analgesic and biochemical effects of Xylazine and Detomidine were evaluated and compared in 10 healthy adult spiti ponies, which were divided into two groups of 5 animals each and underwent elective surgery (Castration) at our college clinics. All the animals were kept fasted for 24 hours and were administered tetanus toxoid prophylaxis 2 weeks prior to elective surgery. On the day of surgery, in Group I, Xylazine HCl @ 2 mg/Kg and in Group II, Detomidine HCl @ 50mg/kg was administered intravenously (dose was computed after pilot trial). The clinico-biochemical observations were recorded at 0 (base value) and 20, 40 and 60 min. post injection. All the animals showed drooping of head, relaxed lower lip and reduction in coordination within 5-8 min. in Group I and 3-4 min. in Group II. The average onset and down time was 5.5±0.45 and 10±0.8 min. in Group I and 3.2±0.58 and 6.4±0.6 min. in Group II respectively. Salivation, lacrimation and regurgitation were absent in both groups, however constant bradycardia and transient apnea lasting for 10-15 sec was recorded in 2 animals of Group II. The duration of analgesia and sedation remained for 30-40 min in Group I and 60-75 min. in Group II. No significant change was revealed in plasma protein, urea nitrogen and creatinine in both groups, however non-significant hypoglycemia was observed at all stages of observations in Group II. Post anesthetic recovery was fairly smooth in both groups. The recovery time recorded was 60-90 min. following Xylazine administration, where as it was observed 92±3.70 min. (sitting), 120±5.4 min. (standing but ataxic) and 141±2.44 min. (complete recovery) post Detomidine injection.
CHEMICAL IMMOBILIZATION AND ITS CONSTRAINTS IN FREE RANGE AND CAPTIVE LARGE FELIDS.

Kishtwaria, R. S.
Wildlife Specialist, COVAS, Palampur- 176062 (HP) india, mskanwar@india.com

Abstract:

Lion (Panthera leo) and Leopard (Panthera pardus) with Hellabrum Mixture (HBM) with projectile drug delivery system in different proportions depending upon the physiological status of these cats has proved very useful in managing man-animal conflict, rehabilitation, transportation, treatment and surgical procedures in this North-Western Himalayan Region. Ketamine and Xylazine in the concentration of 100mg/ml each have been used successfully in different combinations with and without premedication and reversal agent for accomplishing these short and long procedures. So many problems have been encountered while undertaking immobilization of these felids in free range and in captive as well. Various precautions, parameters, combinations, onset of sedation, duration, recovery, complications and their solution would be presented.
THE EFFECT OF ACEPROMAZINE-KETAMINE ON ARTERIAL BLUID
PRESSURE AND BLOOD GASES IN SHEEP

Baniadam1, A.; Saberi Afshar, F.; Bakrani, M. R.3

1: Department of clinical sciences, School of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran. baniadam_a@cua.ac.ir
2: Department of Clinical Sciences, School of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran.
3: Graduated from Department of Clinical Sciences, School of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran.

Abstract:
Anesthetic drugs and pathophysiologic process of disease affect on patient’s physiology and homeostasis. Monitoring provides a database for any subsequent anesthetic procedures on the same animal. In this study the effect of Acepromazine-Ketamine on heart rate, arterial blood pressure, respiratory rate, blood gases, arterial blood pH and temperature has been evaluated.

This study was carried out on six Iranian healthy indigenous sheep weighing 20-25kg. Acepromazine (0.05 mg/kg Im) was administrated 15 minute prior to utilization of Ketamine (11 mg/kg IV). All baseline measurements were taken before acepromazine administration and were repeated at 5, 15, 30, 45, 60 minutes' intervals after induction of anesthesia with Ketamine. Arterial catheter flused with 2/1000 heparin solution were placed using local anesthesia into the carotid artery via a 15cm skin incision for measuring arterial blood pressure and collecting blood samples. Student’s T test (paired test) was used for the analysis of the data and P values of less than 0.05 was considered to be statistically significant. On the basis of these results heart rate decreased significantly at 15, 30, 45 and 60 minutes. Mean arterial blood pressure declined significantly at 30 second and 45 minutes. Mean respiratory rate decreased significantly at 45 and 60 minutes. PaO2 decreased significantly at 5, 15 and 45 minutes and PaCO2 in creased at 5 minutes. pH values decreased significantly at 5, 15 and 30 minutes. Temperature decreased significantly at over all times. According to this study, Acepromazine-Ketamine combination caused depressant cardiovascular system. This combination is responsible for a little distributed ventilation, decreased PaO2, increased PaCO2, decreased pH values and declined body temperature in the anesthesia period in sheep.
A STUDY ON PROPOFOL ANAESTHESIA IN DOGS

Muhammad, S. A.; Farooq, A. A.; Saleem Akhtar, M.1; Hayat, C. S.2

1: Department of Clinical Sciences, Gomal College of Veterinary Sciences, Gomal University, D.I.Khan, Pakistan.
2: Department of Bio-Sciences and Pathobiology, Gomal College of Veterinary Sciences, Gomal University, D.I.Khan, Pakistan.

Abstract:

Present study was conducted on 12 adult clinically healthy dogs, which were divided into two groups A and B, with 6 animals in each group. In group A propofol @ 6mg/kg B.wt. and in group B Propofol @ 10 mg/kg B.wt intravenously were administered. The depth of anaesthesia was gauged by observing various body reflexes. The effects of above treatments on rectal temperature, respiration and pulse rates were also recorded. The mean duration of anaesthesia (in minutes) in animals of group A and B was 4.67±0.75 and 10.94±1.20 respectively.
MEDETOMIDINE SEDATION AND RELATED SIDE EFFECTS IN GOATS

Mahmood, M. B.1; Mohammad, F. K.2

1: Department of Physiology-Division of Pharmacology and Toxicology, College of Veterinary Medicine, University of Mosul, Mosul, Iraq. fouadmohammad@yahoo.com
2: Department of Physiology-Division of Pharmacology and Toxicology, College of Veterinary Medicine, University of Mosul, Mosul, Iraq.

Abstract:

The sedative, analgesic and related side effects of medetomidine were examined in female, 6-8 months old goats. Intramuscular injection of medetomidine at the dose rates of 15 and 30 µg/kg body weight induced sedation in the goats within (mean ± SE) 9 ± 4 and 5 ± 2 min, respectively. The goats became recumbent and lost righting reflex within 18 ± 10 and 20 ± 4 min, respectively. The durations of recumbency were 27 ± 15 and 75 ± 21 min, respectively. The standing times were 11 ± 5 and 54 ± 21 min, respectively after gaining the righting reflex. Medetomidine at 30 µg/kg induced analgesia (as determined by the increase in pain threshold using an electric muscle stimulator to stimulate the nose of the animal) better than that produced by the lower dose. Muscle relaxation was good and best seen 30-45 min after the injection. The heart rate, respiratory rate and rumen motility were monitored before the medetomidine injections (time 0) and then at 15, 30, 45 and 60 min after the treatments. They were statistically analyzed by analysis of variance followed by the least significant difference test. The decreases in heart rates induced by medetomidine (15 and 30 µg/kg) from the 0 time values (69 ± 5 and 83 ± 8 beats/min, respectively) were as follows: 15 min, 53 ± 4 and 56 ± 4; 30 min, 50 ± 3 and 50 ± 5; 45 min, 51 ± 4 and 53 ± 5 and 60 min, 54 ± 5 and 53 ± 3, respectively. The respiratory rates reduced from the 0 time values (20 ± 3 and 28 ± 3 breaths/min, respectively) to 15 ± 2 and 19 ± 2 (15 min), 12 ± 1 and 16 ± 3 (30 min), 11 ± 1 and 13 ± 2 (45 min), and 12 ± 2 and 12 ± 1 (60 min), respectively. Rumen movements reduced from the 0 time values (5 ± 1 contractions/5 min) to 2 ± 1 and 1 ± 0.4 (15 min), 0.4 ± 0.2 and 0 ± 0 (30 min), 0.2 ± 0.2 and 0 ± 0 (45 min) and 0 ± 0 (60 min), respectively. Recovery from these side effects occurred within 55 ± 23 and 168 ± 13 min after gaining the righting reflex. Medetomidine treatments also significantly induced hyperglycemia (156 ± 19 and 181 ± 18 mg/100 ml serum, respectively) one hour after the injection in comparison with the saline-treated control value (63 ± 19) and reduced serum potassium concentration from 6 ± 0.1 (saline-control) to 5.3 ± 0.1 and 5 ± 0.2 mmole/L, respectively. The results suggested that medetomidine sedation and analgesia was good and efficient for clinical applications, and the side effects were transient and did not adversely affect the animals.
CARDIOPULMONARY EFFECTS OF TWO A2- ADRENOCEPTOR AGONIST (ROMIFIDINE AND XYLAZINE) IN DOG

Shahroozian, E.2; Emami, M. R.1; Shojaee, A.2; Keyvanlou, M.2; Kamrani, A. R.1

1: Assistant professor, Department of Clinical Sciences, Veterinary Faculty, Ferdowsi University, Mashhad, Iran.  
   emami@ferdowsi.um.ac.ir
2: Veterinary Student, Veterinary Faculty, Ferdowsi University, Mashhad, Iran.

Abstract:
The sedative effect of a new α2-adrenoceptor agonist (romifidine) was compared with xylazine. Five dogs were treated with a dose of romifidine (40 µg/kg body weight) and a dose of xylazine (1mg/kg BW) given by intravenous injection at one week interval. Heart and respiratory rate, blood pressure and electrocardiogram (ECG) were recorded before and at 5, 10, 15 and 20 minutes after treatment with romifidine and/or xylazine. Blood gas variables (Po2, Pco2, pH, TCO2, SO2, HCO3, and ABE) were recorded before treatment and at 10 and 20 minutes after treatment. Data were analyzed by Wilcoxon rank sum test and Pair T-test. Non significant effects of Romifidine on variables were as same as Xylazine and they were transient. Also there were no significant differences between effects of drugs on variables in different times.

In conclusion, Romifidine provides a long safe sedation suitable for diagnostic and therapeutic procedures with minimal incidence of side effect.
EFFECTS OF PROPOFOL ANESTHESIA ON OVINE COAGULATIVE FACTORS

Tavakol, S.; Khorram, E.; Mohammadnia, A. R.

Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran. armohamadnia@yahoo.co.uk

Abstract:
Hemorrhage during surgery or after it is one of the most important complication of surgery and undoubtfully, evaluation of coagulative situation before and during surgery is extraordinary important in equipping surgery team for meeting with any possible complication from hemorrhage.

Aim of our study was evaluation of effects of one hour infusion of Propofol for maintenance of anesthesia in sheep on coagulative factors PT and PTT. Five male six month sheep that weighted 29.6 ± 2.07 has been selected. In order to close watching of the animals all sheep before study were housed two weeks and treated against parasitic diseases. Premedication protocol was administration of 0.1 mg/kg of Xylazine Hydrochloride. Five minutes later anesthesia induced with 0.4 mg/kg of Propofol and maintained with 0.4 mg/kg/min by continuous jugular infusion. Sampling from jugular vein was done in 0,15,20,45 and 60 minutes of anesthesia.

<table>
<thead>
<tr>
<th></th>
<th>0 minute</th>
<th>15 minute</th>
<th>30 minute</th>
<th>45 minute</th>
<th>60 minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT</td>
<td>19.2±4.08</td>
<td>21.75±0.95</td>
<td>19.2±4.44</td>
<td>24.7±4.08</td>
<td>24.6±7.6</td>
</tr>
<tr>
<td>PTT</td>
<td>49.6±5.4</td>
<td>53±14.07</td>
<td>54.6±13.97</td>
<td>50.2±6.14</td>
<td>49.7±6.54</td>
</tr>
</tbody>
</table>

Although PT quantity during study shows increase, but from statistical view this increase isn't statistically significant (P<0.05). Change of PTT activity during our study didn't statistically significant (P<0.05).

With regard to our results, infusion of propofol for one hour anesthesia of sheep didn't have any effect on measured coagulative factors.
CLOVE OIL AS AN ANAESTHETIC FOR COMMON CARP, CYPRINUS CARPIA

Habibian Dehkordi, S.; Ahmadi, M.; Mortezaei, I.; Maghsoudi, N.

Department of Basic Sciences, Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran.

Abstract:
Several different chemicals have been used as anaesthetics in fish farms and fish biology researches to reduce handling stress on fish and to aid in the handling of fish during practices that include enumeration, pathological analyses, hormonal implants or injections, vaccinations, stripping, transfer, and hauling. However, the use of some of these agents on food fish is limited. Clove oil has recently become a commonly used anaesthetic that can be serving as an alternative to fish anaesthetics, because it is commercially available and inexpensive and has no apparent toxic properties. In the present study, the suitability of clove oil to anaesthetize common carp was examined. 70 apparently normal fish weighing between 125-200g were exposed to 7 different concentrations of clove oil namely 20, 40, 60, 80, 100, 120, and 140 ppm at similar water quality. Stages of anaesthesia and recovery were measured and physiologic data were collected during and after anaesthesia. The results obtained from this investigation suggest that 100ppm clove oil for 1 minute is the most suitable dosage to anaesthetize this species.
CLINICAL EVALUATION OF INTRANASAL MIDAZOLAM AND ITS REVERSAL BY FLUMAZENIL IN RING-NECKED PARAKEET

Vesal, N.; Eskandari, M. H.

School of Veterinary Medicine, Shiraz University, Shiraz, Iran.

Abstract:
Most of the small pet birds are relatively delicate and pain associated with intramuscular injection may be considerable, particularly with irritant agents. In order to avoid the pain and anxiety related to intramuscular injections, intranasal route of drug administration has been used in pediatric patients. The aim of this study was to evaluate sedation induced by use of intranasal midazolam and reversed by use of intranasal flumazenil in parakeets.

Seventeen healthy adult parakeets of both sexes, weighing 127.7 ± 9.4 g were used in this study. The effective dose of midazolam that resulted in adequate sedation was determined. Adequate sedation was defined as the point when the treated bird could be laid in dorsal recumbency for at least five minutes. Equal volumes of drug administered slowly into each nares. The onset of action, duration and the quality of sedation were recorded. The efficacy of flumazenil to reverse the effects of midazolam was also studied.

Administration of midazolam caused adequate sedation within 2-5 minutes. The bird did not move when placed in dorsal recumbency. Duration of dorsal recumbency was 57.7 ± 9.9 min. Intranasal flumazenil significantly reduced recumbency time. No adverse reactions or complications were observed.

<table>
<thead>
<tr>
<th>Drugs</th>
<th>No.</th>
<th>Dose (µl/g)</th>
<th>Onset of action (min)</th>
<th>Duration of recumbency (min)</th>
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</thead>
<tbody>
<tr>
<td>Midazolam</td>
<td>6</td>
<td>1.46</td>
<td></td>
<td>57.7±9.9</td>
</tr>
<tr>
<td>Midazolam+Saline</td>
<td>6</td>
<td>1.46/1.4</td>
<td>2.7±0.3</td>
<td>68.0±9.0</td>
</tr>
<tr>
<td>Midazolam+Flumazenil</td>
<td>6</td>
<td>1.46/1.3</td>
<td></td>
<td>8.6±1.4</td>
</tr>
</tbody>
</table>

Intranasal midazolam produces fast and effective sedation in parakeet. Reversal agent is also effective when given by this route. The intranasal administration of midazolam.
USE OF KETOPROFEN AS PREEMTIVE ANALGESIC IN DOGS

Patil, D. B.; Kelawala, N. H.; Gupta poonam; Parikh, P. V.; Tank, P.H.

Department Of Surgery and Radiology, Veterinary College, Anand (Gujarat), India.

Abstract:

The adequacy of preemptive analgesic effect of ketoprofen administration was studied on the severity of post operative pain in dogs. Trial was conducted on twelve dogs of ASA-I brought for various operative procedures. Post operative analgesia was assessed at 0, 1, 2, 4, 6, 12 and 24 hrs after operation using visual analogue scale (VAS) for pain and sedation, behavioral study and physiological parameters. Buccal mucosal bleeding time was studied to evaluate the effect of ketoprofen on bleeding time. Rescue intervention analgesia was used wherever required. Over all clinical score was satisfactory in five dogs. Ketoprofen does not effect bleeding time until some bleeding disorder is present in the animal. In the present study no such case was encountered.
CLINICAL EVALUATION OF PROPOFOL IN OVINE TOTALINTRAVENOUS ANESTHESIA (TIVA)

Mohamadnia, A. R.; Tavasoli, A.; Sharifi, S.; Kojuri, Gh.; Shahbazkia, H.

1: Department of Clinical sciences, Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran.
2: DVM graduate of Shahrekord University, Shahrekord, Iran.

Abstract:
Total Intravenous Anesthesia (TIVA) is a practical and cheap method in field anesthesia. Different agents like Ketamine, Thiopental and Propofol have been used in TIVA. With regard to rapid onset of action and short recovery some anesthesiologists prefer to use Propofol as a sole agent in TIVA. Current study performed on 7 Local sheep breed (Chaleshtori) to evaluate clinical features of Propofol TIVA.

Seven healthy sheep (weighed 29.2 ± 4.32 Kg) were selected. All sheep fasted for 24 hours and had free access to water before induction of anesthesia. 0.01 mg/kg of Xylazine HCL has been used as pre-anesthetic medication five minutes before induction of anesthesia. Anesthesia induced by injection of 4mg/kg of Propofol 1% in jugular vein and maintenance of anesthesia has been performed by continuous infusion of 0.4 mg/kg/hr of propofol. Depth of anesthesia analyzed by eye, anal and haemostatic pinch reflexes. Carotid artery translocated for measuring of blood pressure and arterial sampling for blood gas analysis. All measurements have been done in 0,1,15, 30, 45 and 60 minutes after induction of anesthesia.

RM ANOVA has been used for statistical analysis in Sigmastat software.

0.3 ± 0.06 mg/kg/hr of Propofol were infused during anesthesia. No significant difference was recorded in Systolic and Diastolic pressure but just an increase in Mean arterial pressure in minute one (149.8 ± 48) was recorded (P<0.05). PaO₂ were decreased (0: 65.5 ± 3.5, 60: 48.3 ± 9), PaCo₂ (0: 35 ± 2, 60: 45.6 ± 10.6) and heart rate (0: 86.8 ± 2.9, 60: 120 ± 12.7) were increased significantly during anesthesia. There was not any significant difference in other measurements. All sheep were recovered in 14.4 ± 4 minutes after induction of anesthesia.

It seems that despite of long apnea (111.4 ± 89 Seconds) other findings indicate a smooth and safe anesthesia in this species.
PRELIMINARY STUDIES ON THIOPENTONE-MIDAZOLAM MIXTURE AS A GENERAL ANAESTHESIA IN DOGS (CANIS DOMESTICA)

Kelawala, N. H. ¹; Kulkarni Sheetal; Desai Tanuja; Patil, D. B.; Parikh, P. V.; Tank, P. H.; Barvalia, D. R.; Shivaji Talekar and Gaurav Rane ²

1: Department of Surgery & Radiology, College of Veterinary Sciences & A. H., GAU, Anand , India. 388 001, drkelawala_anand@rediffmail.com
2: Department of Surgery & Radiology, College of Veterinary Sciences & A. H., GAU, Anand , India.

Abstract:
Thiopentone sodium is very satisfactory induction agent for balanced anesthesia; but a mixture of thiopentone sodium and midazolam (100:1) has been successfully tried in 15 dogs at different dosages and proved better induction agent than either thiopentone or midazolam alone in that, not only the drug dosages are less than conventional doses when either is used alone, but also, induction is faster without any complications. Dosage regimen, clinical and physiological parameters will be discussed.
EFFECTS OF CLOVE OIL AS AN ANAESTHETIC ON SOME HEPATIC ENZYMES ACTIVITIES IN COMMON CARP, CYPRINUS CARPIA

Habibian Dehkordi, S.1; Ahmadi, M.1; Shakhs Niaei, M.; Farahmand, E.1

1: Department of Basic Sciences, Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran.

Abstract:
This study was carried out to examine the effects of clove oil on the blood concentration of some hepatic enzymes in the common carp, Cyprinus carpio. Although a body of literature exists about the effects of different anaesthetics on fish, to author’s knowledge there is no information available about clove oil effects on hepatic enzymes activities during and after anaesthesia, which would be important to know especially in aquaculture research. In the present study, 40 apparently healthy fish weighing between 125-200 g were divided in eight groups: a control group of five fish, and the experimental groups consisting of five fish each, which were anaesthetized with 80ppm of clove oil. The blood samples were taken before anaesthesia (Control group), 30 min (group one), 60 min (Group two), 2 hours (Group three), 6 hours (Group four), 12 hours (Group five), 24 hours (Group six), and 48 hours (Group seven) after exposure to anaesthetic, respectively. Serum level of alanine aminotransferase (ALT), aspartate aminotransferase (AST), and alkaline phosphatase (ALP) were measured. The results showed that although the level of ALT increased after anaesthesia in almost all groups, but this elevation was not significant compared to control group. There was no significant change in serum AST activity in any group. Serum ALP level decreased after anaesthesia in groups 1, 2, and 3 but this reduction was not significant. These findings suggest that clove oil could be an effective anaesthetic for use in this species with no significant effects on hepatic enzymes activities.
THE EFFECT OF MgSO4 ADDED TO LIDOCAINE IN EPIDURAL ANESTHESIA IN DOGS

Dehghani, S.: Bigham. A.; Hassankhani, M.
Department of Vet. Surgery, Shiraz University, Shiraz, Iran.

Abstract:
The administration of local anaesthetic in to epidural space is an established technique of producing anesthesia in Veterinary medicine. The most frequently used epidural anesthetic is lidocaine that has rapid onset but it has short duration effects.

Today different kinds of drugs such as xylazine, ketamine and morphine are used with or without lidocaine in epidural anesthesia for increasing analgesic duration time.

Recently magnesium sulfate which blocks N-Methyl-D- Aspartate (NMDA) receptors, same as ketamine, was used in intratechal anesthesia in Rat. Therefore, this study designed in dog for evaluation of the effects of MgSO4 added to lidocaine in epidural anesthesia as a novel mixture. In this study a mixture of 2% lidocaine (1ml/4.5kg) and 10% MgSO4 (0.5ml) compared with 2% lidocaine and distilled water (0.5ml) for lumbosacral epidural anesthesia in live Iranian mixed breed a wake dogs.

Each dog received one treatment regimen randomly in one week intervals. All data such as; Respiratory Rate(RR), Pulse Rate (P), Rectal temperature (T), Recumbency time, Onset time, duration time and standing time in two treatment were measured and recorded. These data were analyzed by student’s test and two way ANOVA test in SPSS software program. There was not any recumbency in lidocaine-MGSO4 treatment but there was recumbency in 1.48 ±0.11 min after epidural injection of lidocaine-distilled water in dogs. There were significant different between onset of analgesia in lidocaine-distilled water (2.04±0.14 min) with lidocaine-MgSO4 (4.7±0.20 min). Duration of analgesia was longer in lidocaine-MgSO4 (109.2±5.20 min) than lidocaine-distilled water (75.8±1.40min). The results indicated that lidocaine-MgSO4 increased duration of analgesia significantly without any side effects. This new mixture can be used as a best choice for long duration of surgical procedures.
HEPATIC EFFECT OF HALOTHANE ANAESTHESIA IN HUMAN

Habibian Dehkordi, S.1; Mortezaei, I.1; Akhlaghi, M.2; Rajaei, M.3; Shaahrokhi, M.1

1: Department of Basic Sciences, Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran.
2: Department of Clinical Sciences, Faculty of Medicine, Shahrekord Medical Science University, Shahrekord, Iran.
3: Department of Nutrition, Faculty of Health, Isfahan Medical Science University, Isfahan, Iran.

Abstract:
There are many reports about the toxic effects of halothane on the liver function and hepatic enzymes activities in different species. However, most of these reports have been performed with repeated exposure to the halothane, often at short intervals; therefore, the present study was carried out to investigate the effects of halothane in its anaesthetic dose on some hepatic enzymes activities. For this purpose 30 adult patients of both sex (18 male and 12 women) with inguinal hernia, aged between 20 and 45 years, mean weight 63±13.5kg had anesthesia induced with thiopental sodium 3-7 mg/kg and succinyl choline 1-2 mg/kg. For maintenance, halothane 10-30 ml with N₂O 3.5 L/min in oxygen 3.5 L/min and atracurium 0.3 to 0.6 mg/kg was used. To terminate the effect of atracurium after surgery atropine 1.5 mg/kg and neostigmine 2.5 mg/kg were injected. Blood samples were taken before anaesthesia, during recovery, and one day after surgery. Serum level of alanine aminotransferase (ALT), aspartate aminotransferase (AST), and Alkaline phosphatase (ALP) were measured. The results showed that the serum level of these enzymes did not change after surgery compared to before anaesthesia. The results of this study suggest that at least in short time halothane has no effect on blood concentration of these hepatic enzymes.
ANAESTHESIA WITH HALOTHANE, EFFECTS ON BLOOD PICTURE AND BLOOD CONCENTRATION OF GLUCOSE

Habibian Dehkordi, S.1; Mortezaei, I.1; Akhlaghi, M.2; Maghsoudi, N.1; Ahmadi, M.1

1: Department of Basic Sciences, Faculty of Veterinary Medicine, Shahrekord University, Shahrekord, Iran.
2: Department of Clinical Sciences, Faculty of Medicine, Shahrekord Medical Science University, Shahrekord, Iran.

Abstract:

It is probable that halothane has been subjected to more investigational studies than any other anaesthetic agent and there is now an extremely large number of references to this agent. However, most of these investigations have focused on the effects of halothane on postoperative liver function, but far fewer have examined halothane effects on the blood picture and/or blood glucose concentration. The present investigation determined the effect of this halogenated volatile anaesthetic agent on the parameters mentioned above in human. For this purpose, 30 adult patients with inguinal hernia, aged between 20 and 45 years were anaesthetized. In this study, succinyl choline (1-2 mg/kg i.v.) was administered for purpose of premedication and thiopental sodium (3-7 mg/kg i.v.) was injected for induction of anaesthesia. For maintenance, halothane 10-30 ml with N₂O 3.5 L/min in oxygen 3.5 L/min and atracurium 0.3 to 0.6 mg/kg was used. To terminate the effect of atracurium after surgery atropine 1.5 mg/kg and neostigmine 2.5 mg/kg were administered. The anaesthesia lasted for 45 to 75 min. Venous blood samples were collected before anaesthesia, during recovery and 24h after anaesthesia. The results showed significant differences in the values of PCV, hemoglobin, glucose, and in the RBC and WBC counts (p<0.001) and in the number of neutrophils and lymphocytes (p<0.05) during recovery and in the value of glucose (p<0.001) 24h after anaesthesia. All values obtained 24h after surgery was similar to the values obtained before anaesthesia with the exception of the glucose value.
ORAL ADMINISTRATION OF KETAMINE AND LORAZEPAM PRODUCES CNS DEPRESSION IN THE CAT

Habibi Asl, B.; Zanjani, M.

Department of Pharmacology, School of Pharmacy. Tabriz University of Medical Sciences, Tabriz, Iran.

Abstract:

BACKGROUND: The purpose of the present study was to determine whether oral administrations of ketamine or lorazepam produces CNS effects in cat.

METHODS: In the present study different groups of cats were received ketamine (20, 40, 80 mg/kg, po), lorazepam (4, 8, 16 mg/kg, po). The animals were fasted for 10 hours prior to the study to minimize the effects of gastric contents. The numbers of cats in each treatment group averaged 8 animals. Each animal was observed continuously for CNS depression as graded on the behavioral scale shown under. 0=Normal, 1=Cannot stand on hind limbs (slight ataxia), 2=Cannot negotiate 60 vertical mesh (marked ataxia), 3=Loss of righting reflex, 4=Immobility (reaction to pain present), 5=No reaction to pain (anesthesia). Oral ketamine or Lorazepam were administered into the meat or in milk mixture.

RESULTS: Animals did not use drugs mixtures in milk. However, oral ketamine or Lorazepam were administered into the meat were used by cats. As a function of dose, ketamine or lorazepam produced CNS depression that ranged from ataxia to anesthesia.

CONCLUSION: Oral ketamine and lorazepam produces CNS depression although the drugs are less potent by the oral route. Therefore, oral ketamine and lorazepam technique may be considered as an alternative to traditional conscious sedation or general anesthesia in cats.
COMPARISON OF PROPOFOL AND KETAMINE HCL ANAESTHESIA
WITH PREMEDICATION OF NALBUPHINE HCL IN DOGS.

Muhammad, S. A.1; Farooq, A. A.1; Akhtar, M. S.1, Hayat, C. S.2

1: Department of Clinical Sciences, Gomal College of Veterinary Sciences, Gomal University, D.I.Khan, Pakistan.
2:  Department of Bio-Sciences and Pathobiology, Gomal College of Veterinary Sciences, Gomal University, D.I.Khan, Pakistan

Abstract:
Present study was conducted on 12 adult clinically healthy dogs, which were divided randomly into two groups A and B with 6 animals in each. In group A, animal were premedicated with nalbuphine HCl @ 1mg/kg B.wt, followed 20 minutes later, Propofol was administered @ 4mg/kg B.wt. intravenously and in group B, nalbuphine HCl @ 1mg/kg B.wt. was given intravenously as premedicant and 20 minutes later Ketamine HCl @10mg/kg B.wt. was administered intravenously. The depth of anaesthesia was gauged by observing various body reflexes. The effects of above treatments on rectal temperature, respiration and pulse rates were also recorded. The mean duration of anaesthesia (in minutes) in animals of group A and B was 10.17± 1.49 and 16.17± 2.89 respectively. The longest duration of anaesthesia was recorded in dogs with nalbuphine HCl 1mg/kg. B.wt. along with ketamine HCl @ 10mg/kg. B.wt (group B). However the quality of induction and recovery was superior in-group A in which nalbuphine HCl was given @ 1mg/kg B.wt. as premedicant with propofol @4mg/kg B.wt.
COMPARISON OF THE EFFECT OF TWO ANESTHETIC DRUGS, KETAMINE HYDROCHLORIDE AND SODIUM THIOPENTAL, ON ECG AND VITAL SIGNS IN PIGEONS (LIVIA DOMESTICA)

Naddaf, H.; Papahan, A. A.; Mayahi, M.; Khosravi, M.

1: Department of Clinical Sciences, College of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran. hnaddaf@noavar.com
2: College of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran.

Abstract:
During anesthesia in pigeons (livia domestica). Eighteen pigeons, an average weight of 400gr, were randomly divided into three groups, six pigeons each. In pigeons group I, 0.5ml of normal saline was injected intravenously as control group. The pigeons of group II and III were anesthetized intravenously using ketamine HCl (50mg/kg) and thiopental Na (20mg/kg) respectively through the wing vein. Electrocardiograms (Lead II) were taken of all pigeons and temperature, respiratory rate and heart rate were checked before injection and in time 0, 5, 10, 15, 30, 45 and 60 minutes after injection. The results were statistically analyzed using repeated measured design and least significant difference. On basis of this study slight depression of respiratory system, relative stimulation of cardiovascular system and moderate reduction of body temperature of pigeons were seen after the administration of ketamine HCl., but severe depression of respiratory system and severe reduction of body temperature and high stimulation of cardiovascular system were seen after the administration of thiopental Na. Furthermore thiopental Na. caused more sinus arrhythmia of compare to with ketamine on different times. According to the results, it is recommended not to use thiopental Na. For anesthetizing pigeons especially not recommended, because of its side effect on respiratory rate and cardiovascular systems.
ISOFLURANE AND HALOTHANE ANESTHESIA IN OLD DOG:
CARDIOVASCULAR AND RESPIRATORY ALTERATIONS

Banihasan, F.1; Emami, M. R.2; Kamrani, A. R.2

1: DVM, graduated from Veterinary Faculty, Ferdowsi University, Mashhad, Iran.
2: Department of Clinical Sciences, Veterinary Faculty, Ferdowsi University, Mashhad, Iran.

Abstract:
The cardiovascular and respiratory effects of Halothane were compared with Isoflurane in five old dogs (more than ten years). At the beginning, the health of the dogs were approved according to clinical and paraclinical examinations. Each dog was anesthetized with Halothane and Isoflurane for one hour at one month interval. Atropine sulphate (0.04 mg/kg; SC) and xylazine hydrochloride (1mg/kg; IV) were administered as preanesthetic medication. Anesthesia was induced by mask and continued through tracheal tube. Before and during anesthesia and recovery time heart and respiratory rate, temperature, blood pressure, electrocardiograms and blood gas variables were recorded.

The obtained data were analyzed by SPSS software and P value <0.05 was reported as significant. According to the obtained results, at first, the recommended anesthetic regimen was safe and satisfactory, and secondarily there wasn’t any statistical significant difference between two groups, although it seems that the recovery time in Isoflurane group was shorter than Halothane group.

According to the results of this study, use of Isoflurane may be better than Halothane due to its shorter recovery time in old dogs.
COMPARISON OF THE EFFECTS OF TWO COMBINATIONS OF ANESTHETIC DRUGS, XYLAZINE/KETAMINE AND ACEPROMAZINE/KETAMINE, ON BLOOD HEMATOLOGY AND SEROLOGY IN CAT

Mousavi Kh, S. M.¹; Naddaf, H.²; Razi Jalali, M.²

¹: Aquaculture Office, Kianpars St., Ahvaz, Iran. seied1356@yahoo.co
²: Department of Clinical Sciences, of Veterinary Medicine, Shahid Chamran University, Ahvaz, Iran.

Abstract:

Ten adult cats had been divided into two groups anesthetized using two combinations of drugs, Acepromazine/Ketamine (0.11 mg/kg, 20 mg/kg ) and Xylazine/Ketamine (1.2 mg/kg, 22 mg/kg) , Intra muscularly. Blood samples were taken before anesthesia (time 0) and at 30, 60 and 120 minutes after anesthesia for measurement of hematological and serological analysis. Blood samples sent to clinical pathology lab. Of Ahvaz Veterinary Faculty and measured the rates of Alkaline Phosphatase, Ceratine Phosphokinase, Aspartat Aminotransferase, Ceratinine, and Nitrogen of Blood Urea, Sodium, Potassium and Chlorine used for serological measurement and the rates of Hematocrite and Total WBC and Total RBC and WBC differential count used for hematological measurement. The results were statistically analyzed using T-test and regression. Upon these results, significant differences were seen in Bund cells and RBC values (p< 0.05); these differences may be due to high effects of Xylazine/Ketamine combination rather than Acepromazine/Ketamine on spleen and circulatory system. Furthermore, significant differences were seen between two groups on Nitrogen of Blood Urea, Alkaline Phosphatase and Sodium (p< 0.05). Upon these results, effects of Acepromazine/Ketamine combination on serological and hematological parameters were less than Xylazine/Ketamine combination. Thus, it is recommended to the pateint suffering from Renal and Hepatic disorders to use Acepromazine/Ketamine combination when they undergo surgery operation.
PRELIMINARY STUDIES ON THIOPENTONE-DIAZEPAM MIXTURE AS A GENERAL ANAESTHESIA IN DOGS (CANIS DOMESTICA)

Kelawala, N. H.; Desai Tanuja; Kulkarni Sheetal; Parikh, P. V.; Patil, D. B.; Tank, P. H.; Shivaji Talekar; Gaurav Rane

Abstract:
Thiopentone sodium is a very satisfactory induction agent for balanced anaesthesia; but a mixture of thiopentone sodium and diazepam (8:1) has been successfully tried in 15 dogs at different dosages and proved better induction agent than either thiopentone or diazepam alone in that, not only the drug dosages are less than conventional doses when either is used alone, but also, induction is faster without any complications. Dosage regimen, clinical and physiological parameters will be discussed.
STUDY ON THE EFFECT OF KETAMIN ALONE AND COMBINATION WITH XYLAZINE AND GLUCOSE FOR ANESTHESIA IN LOCAL FOWL

Mayahi, M.1; Nou Shirvani, M.2; Albourzi, A.3

1: Faculty of Veterinary Medicine of Ahvaz, Avian Diseases Section, Ahvaz, Iran.
2: D.V.M Graduate
3: Faculty of Veterinary Medicine, Ahvaz, Iran.

Abstract:

In order to study effects of ketamin alone and combination with xylazine and glucose 36 local fowl aged 7-8 months and weight approximately 1.4 kg were procured and randomly divided into 6 equal groups. Group 1 received xylazine 10mg/kg, group 2 ketamin 40mg/kg, group 3 ketamin 30mg/kg and xylazine 10mg/kg, group 4 ketamin 30mg/kg, xylazine 10mg/kg and glucose 1000mg/kg, group 5 ketamin 40mg/kg and xylazine 10mg/kg and group 6 ketamin 40mg/kg, xylazine 10mg/kg and glucose 1000mg/kg. Xylazine and ketamin intramuscular and glucose intravenously were injected. Effect time of medicine was determined from beginning effect of medicine up to recovery. Recovery time of anesthesia was determined by normal moving. Results of present study showed that combination of xylazine (10mg/kg), ketamin (30mg/kg) and glucose (1000mg/kg) or xylazine (10mg/kg), Ketamin (40mg/kg) lead to suitable anesthesia. There was significant difference between respiratory rates before and after the injection of above medicine (P<0.01). Glucose increased the duration of anesthesia caused by combination of ketamin and xylazine.
THE EFFECTS OF MEDETOMIDINE ON THE ACTION OF VECURONIUM IN ANESTHETIZED DOGS

Kariman, A.; Clutton, R.E.

Department of Clinical Sciences, Faculty of Veterinary Medicine, Tehran University, Tehran, Iran. and Royal (Dick) School of Veterinary studies, University of Edinburgh, Edinburgh, UK.

Abstract:
The effects of vecuronium have been studied in dogs. $\alpha_2$ agonists have some muscle relaxant action. The purpose of this study was to evaluate the effects of medetomidine on the behavior of vecuronium in dogs.

This study was performed on 24 apparently healthy dogs. Dogs were randomly assigned to one of two groups. In medetomidine (M) group, pre anaesthetic medication was acepromazine 25$\mu$g kg$^{-1}$, morphine 0.5 mg kg$^{-1}$ and medetomidine 5$\mu$g kg$^{-1}$. Animals in control (C) group received only acepromazine and morphine same doses. After induction with thiopental, dogs were entubated and IPPV were imposed after 15 minutes of spontaneous breathing. Neuromuscular blockade was produced with vecuronium 50$\mu$g kg$^{-1}$ injected intravenously and monitored using TOF stimulation on the ulnar nerve. The time to onset and the time at which twitches returned were recorded. Data were analyzed using “t” test and a P value<0.05 was considered to indicate statistical significance.

The mean time to elimination of fourth twitch in groups M and C was 107±19 and 98±17 seconds. Complete disappearance of twiches occurred after 116±15 and 110±18 seconds in groups M and C respectively. Latent duration was recorded as 16±3.2 min and 15±1.9 min for M and C groups where as complete recovery of TOF occurred within 1 to 7 minutes after reappearance of the first twitch in all cases. Statistical analysis of the onset and duration data showed no significant difference between the two groups.
HEPATO-RENAL EFFECTS OF TWO INHALANT ANESTHETIC DRUGS
(HALOTHANE AND ISOFLURANE) IN OLD DOGS

Loghmani, O. R.¹; Emami, M. R.²; Mohri, M.²

¹: Graduated from Veterinary Faculty, Ferdowsi University, Mashhad, Iran.
²: Clinical Sciences Department, Veterinary Faculty, Ferdowsi University, Mashhad, Iran.

Abstract:
The hepato-renal effects of Halothane were compared with Isoflurane. Five old dogs (more than 10 years old) were treated with Halothane and Isoflurane for one hour at one mount interval. Atropine sulphate (0.04 mg/kg, SC) and then Xylazine Hydrochloride (1 mg/kg, IV) were administered as pre-anesthetic medication. Then urinary bladder was catheterized to collect urine, and cephalic vein catheterization was done for blood sampling. Ringer solution was intravenously administered at a rate of 1 drop/second.

Anesthesia were induced by mask and continued through Tracheal tube and venous blood sample was taken 30 minutes before experiment, pre induction, after induction, at minutes 15, 30, 45, 60, after extubation and sternal recumbency time. Urine sample was taken at similar times except for the time of 30 minutes before experiment.

Creatinin, Bilirubin, BUN, ALT and ALP were measured in blood samples. Urine samples were evaluated on Test strip. Urine volume was measured from 0 to 60 minutes.

Data were analyzed by Wilcoxon rank sum test and Pair T test.

None significant effects of Isoflurane on ALT, ALP and Bilirubin were seen variables were as same as Halothane and they were transient. But there were significant effects on Creatinin variable after extubation time with Halothane anesthesia and/or Isoflurane and sternal recumbency time on BUN variable. There were significant differences between effects on Bilirubin and BUN variables. There were no significant differences in urine factors.

In conclusion based on no significant differences in most factors and few significant differences in some factors, probably these drugs have no significant effects on hepato-renal function in one hour anesthesia and are safe for using in anesthesia of old dogs.
ASSESSMENT OF NEEDLE THICKNESS AND FACILITY OF CAUDAL EPIDURAL ANESTHESIA IN THE COW

Zolhavari, S. M.¹; Zolhavari, S. M.²

¹: Faculty of veterinary medicine, Bu-Ali Sina University & resident of veterinary surgery, University of Tehran, mzolhavari@yahoo.com
²: Anesthesiologist, University of medical science of Hamedan

Abstract:

The caudal epidural anesthesia is a routine method for operation of vulvovaginal, perinea and tail region but insertion of thick needles in sacrocaudal region in heifer and nervous cows is difficult for inexpert practitioners and due to pain for patient and danger for actor and the use of teen needles due to bending of needles because of thickness of skin and it is a main reason of repeated attempting.

In this study we consider 20 heads of cows between 2.5–5 years old with 3-4 BCS in 2 group of 10 heads selected and anesthetized by fifth year student of veterinary medicine with 20, 18 and 16 gauge needles and forth year resident of veterinary surgery, conducted.

The results of this study illustrates that the incidence of repeated attempting is higher in using of 16 then 20 gauge needles by both resident and student when compared with the number of attempting with 18 gauge needles but students conducted more repeated attempting then in conclusion we suggest that for teaching to use of another methods, for example the use of models.
ASSESSMENT OF NEOSTIGMINE PLUS LIDOCAINE TO INCREASE OF
EPIDURAL ANESTHESIA TIME IN THE COW

Zolhavarieh S. M.¹; Zolhavarieh S. M.²

1: Faculty of veterinary medicine, Bu-Ali Sina University & resident of veterinary surgery, University of Tehran,
mzolhavarieh@yahoo.com
2: Anesthesiologist, University of medical science of Hamedan

Abstract:
Adjuvant drugs have been proposed to the accompanied with local anesthetic drugs to increase their analgesic efficacy and decrease of their side effects. In this study neostigmine has been added to lidocaine 2% to assess the analgesic period and decrease of side effects of this technique.

In this study 2 groups of hybrid cow (5 head) selected of both gender and 12-18 month age of and after primary standard preparation of epidural injection site. In group one, animal, received only lidocain 2% (1.1 mg/kg) and in group two, animals received lidocain 2% (1.1 mg/kg) plus neostigmine (0.025 mg/kg) epiduraly.

Assessed analgesic effects of both treatment in 0, 15, 30, 45, 60, 65, 70, 75, 80, 85, 90, 95, 100 minuets after injection by irritation of perineal region with a needle.

In conclusion the average of analgesic period in group 2 (72 min) in comparison with group 1 (57 min) is longer and in both groups no complication were encountered.