

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Testing Of Intramuscular Administration Of Rometar On Pain Sensitivity And Clinical And Physiological Parameters In Rams Edilbaevskoy Breed.

Igor V Nenashev*¹, Evgeniy M Marin, and Valeriy A Ermolaev.

¹ FSBEI HE Samara State Agricultural Academy, 446442, Russia, Samara, Ust-Kinelskii, Uchebnaya st. 2.

² FSBEI HE "Ulyanovsk State Agrarian University named after P.A. Stolypin » 432017, Ulyanovsk, Novyy Venets Boulevard, 1.

ABSTRACT

The article presents the results of testing the influence of 2% solution of rometar in the dose of 0.05 ml; 0.1 ml of the second; the third is 0.15 ml / 10 kg of live weight on the physiological state and the threshold of pain sensitivity in the rams edilbaevskoy breed. During the experiment, the state of excitation, the state of the heart and breathing, muscle rigidity, corneal reflex, pain and tactile sensitivity, the state of the pupil, urination, defecation, salivation, and pain sensitivity in the head, neck, abdominal wall, scrotum and hooves of the thoracic and pelvic limbs were investigated.

Keywords: sheep, rometar, sensitivity, reflex, anesthesia

**Corresponding author*

INTRODUCTION

General anesthesia, in addition to the primary action on the Central nervous system, always involves in one way or another profound changes in the functions of many organs involved in the implementation of metabolism and supporting homeostasis, which requires a detailed study of their morphology to clarify the mechanism of influence of anesthesia on the body [1, 4, 7, 12, 15].

High-quality anesthetic manual for surgical interventions is the key to a successful operation. As you know, painful surgery leads to excessive stress of animals, disruption of the functions of various organs and systems, and sometimes to the death of the patient [2, 5, 7, 9, 11, 13, 14]. In 2003, Russia acceded to the European Convention for the protection of vertebrates used for laboratory and other scientific purposes. In this regard, the relevance of the issue of quality and safety of biomodels anesthesia has increased dramatically. There was a need to search for new methods of anesthesia, with the main criteria are-a sufficient depth of anesthesia, good tolerance and minimal impact on the course of the Biomodel processes [3, 6, 8, 10].

The aim of this work was to study the effect of intramuscular administration of 2% solution of rometar on clinical and physiological parameters of the General condition and pain sensitivity of tissues of sheep of edelbaev breed.

RESEARCH TECHNIQUE

Studies were conducted on the basis of sheep farming Ilek zoo technical College of the Orenburg region. The object of the study were 15 edilbaevskoy sheep weighing from 30,3±6,34 kg to 37.64±7,18 kg. Experimental studies were carried out on clinically healthy animals with a starvation diet. Three groups of animals with five heads each were formed: the animals of the first group were administered intramuscularly At a dose of 0.05 ml; the second-0.1 ml; the third-0.15 ml per 10 kg of live weight. Pain sensitivity of tissues and baseline values were evaluated after 3 minutes, 12 minutes and 24 minutes. The basic tests included the definition of: excitation; the state of the heart and breathing; muscle rigidity, corneal reflex, pain and tactile sensitivity; the state of the pupil; urination; defecation; salivation.

The results of the studies in each group were taken into account strictly according to the established indicators, in each of which symbols were used (table 1).

Table 1. - Scale of evaluation of tests for processing the results using non-parametric criteria *.

Characteristic test studies	Clinical and physiological parameters.										
	1	2	3	4	5	6	7	8	9	10	11
Absence											
Weakly expressed (satisfactory)											
Normal (good)											
Increased (high blood)											

Note: * - symbols

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Excitation – no " -", weak "+", strong "++", dangerous "+++". 2. The nature of the excitation – anxiety "+", convulsions "++". 3. The duration of excitation in a minute 4. Heart and breathing conditions – good "+", satisfactory "++", dangerous "+++". 5. The state of the pupil – narrowed " -", expanded "+". 6. Urination – no " -", there is "+". | <ol style="list-style-type: none"> 1. Defecation – no " -", there is "+". 2. Salivation – no " -", weak "+", moderate " ++", strengthened. "+++" 3. Rigidity of muscles-no " -", SLA-Bai "+", expressed "++", tetanus "+++". 4. The evaluation of the total reaction – good "+", satisfactory "++", dangerous "+++". 5. Pain reaction – no " -", weak "+", normal" "++", 6. Drowsiness, sedation (se-daciya) – there is no " -", weak "+", moderate "++", expressed "+++". |
|---|--|

The pain reaction was determined by a needle prick of the skin of the lips, cheeks, neck, abdominal wall, inner thigh, periosteum, scrotum, Corolla. The tone of skeletal muscles was recorded by the response of

the animal to different variants of palpation (pressure, tingling, etc.) and passive movements (flexion and extension of the limbs in different joints, reduction and diversion). The corneal reflex was determined by touching the colonic cistern-point to the cornea of the eye. The tendon reflex was tested by percussion hammer impact on the Achilles tendon. Noted the regularity of urination, defecation, drowsiness and sedation of the animal.

RESULTS AND THEIR DISCUSSION

In the first group, in animals after 3 minutes after the introduction of rometar, the excited state was not noted (as in all control points of studies), the state of the cardiovascular and respiratory systems was characterized by us as "good", rigidity was not registered, the root reflex and tactile sensitivity remained weak, defecation and salivation were not noted, the pupil was dilated in 2 animals. The weak pain sensitivity of the skin of the lips and cheeks, abdominal wall and hoofed Corolla hooves on the thoracic limbs remained in 100% of the case, in the area of the hoofed Corolla on the pelvic limb and scrotum-80% of cases or 4 animals, in the inner surface of the femur - 60% or 3 animals, in the neck-40% of cases or 2 animals.

After 12 minutes after the introduction of 0.05 ml of rometer solution per 10 kg of animal mass, we noted a weak preservation of the corneal reflex and tactile sensitivity, the state of the cardiovascular and respiratory systems were characterized by us as "good", urination was noted in 1 animal, and saliva secretion - in 2 animals, the pupil was expanded in 3 animals. Weak pain sensitivity in all experimental animals was observed only in the hoofed Corolla of the hooves on the thoracic extremities, in 3 animals or in 60% of the animals was recorded in the hoofed Corolla on the pelvic limb, in 40% of cases in the region (2 rams) in the lips, cheeks, abdominal wall, inner surface of the femur, neck and scrotum.

After 24 minutes after the introduction of rometar, we noted the state of the cardiovascular and respiratory systems were characterized by us as "good", corneal and tactile reflex remained weak, the pupil was dilated in 1 animal, moderate salivation was noted in 2 animals or 40% of cases, and urination in 1 animal. Weak pain sensitivity in the skin of the lips and inner thigh, as well as in the hoofed Corolla on the thoracic and pelvic limbs was noted in 4 animals – 80%, cheeks and neck – 3 animals or 60%, in the abdominal wall and scrotum – 2 animals or 40% of cases.

In the second group (0.1 ml per 10 kg W.m.) after 3 minutes of administration, the following was noted: the state of the cardiovascular and respiratory systems – "good", corneal and tactile reflex remained weak, the pupil was dilated in 1 animal, the processes of salivation, urination and defecation were not observed. Weak pain sensitivity was checked in the neck and abdominal wall in 1 animal in the lips, cheeks, inner thigh in 2 animals, or 40%, in the scrotum in 3 animals or 60% in the region of the hoof of the rim of the hooves of the thoracic and pelvic limbs of 4 animals, or 80%.

After 12 minutes after the introduction of rometar, the state of the cardiovascular and respiratory systems were characterized by us as "good", weak muscle rigidity was detected in 3 animals or in 60% of cases, corneal and tactile reflex was weak in 4 rams or 80%, the pupil was enlarged in 1 rams, urination and defecation were not detected, and salivation processes were noted in 3 animals, while 1 rams saliva was characterized by us as "enhanced". Pain sensitivity was not registered in the area of lips and cheeks. Weak pain sensitivity was recorded in the neck region of 1 RAM or 20%, in the abdominal wall, inner surface of the femur and scrotum in 2 animals or 40% of cases, and in the unguulate Corolla on the thoracic (5 rams) and pelvic limbs (3 heads).

After 24 minutes after the introduction of rometar, the state of the cardiovascular and respiratory systems was characterized by us as "good", weak muscle rigidity was detected in all rams, while in 2 animals marked pronounced muscle rigidity, root reflex and tactile sensitivity was weak, as well as pupil dilation was noted in 4 animals, moderate (3 heads) and enhanced (1 head) salivation was also recorded. Pain sensitivity was absent in the area of lips, cheeks, neck. Weak pain sensitivity was identified in 1 animal in the region of the inner surface of the femur, in 2 animals, or 40% of the area of the abdominal wall and scrotum, in 3 animals in the region of the hoof of the rim on the pelvic limbs and in 4 animals in the region of the rim on the thoracic limbs.

In the third group on the background of the introduction of rometar (0.15 ml per 10 kg g.m.) after 3 minutes, the following changes were noted: "good" state of the cardiovascular and respiratory systems, weak rigidity was noted in 1 RAM, weak corneal reflex in 1 animal, and all animals did not react to skin irritation, urination and defecation were not detected, weak salivation was registered in 3 animals. Pain sensitivity was not found in the lips, cheeks, neck, abdominal wall and inner surface of the femur. In the scrotum region, weak pain sensitivity was observed in 2 animals, and in the ungulate Corolla on the pelvic limb – in 4 animals and ungulate Corolla on the thoracic limb – in 5 animals or 100% of cases.

After 12 minutes after the introduction of rometar, the following was noted: the state of the cardiovascular and respiratory systems was diagnosed as "good" in 3 animals, the corneal reflex and tactile sensitivity were not detected, the pupil was dilated, salivation was moderate, urination and defecation were not detected. Pain sensitivity was absent in the area of lips, cheeks, neck, abdominal wall, inner surface of the femur, weak pain sensitivity was recorded in 1 animal in the scrotum and in the ungulate Corolla on the thoracic limb, in 3 rams in the ungulate Corolla on the pelvic limb.

After 24 minutes of administration of rometar in rams recorded "good" state of the cardiovascular and respiratory systems, muscle rigidity is not expressed, weak corneal reflex and weak tactile sensitivity were noted in 1 rams, pupil dilated in all animals, moderate salivation was noted in 4 animals. Pain sensitivity was absent in the area of lips, cheeks, neck, abdominal wall, inner surface of the femur, weak pain sensitivity was recorded in 1 animal in the scrotum and in all animals in the ungulate Corolla, both on the pelvic limb and on the thoracic limb.

Thus, the results showed that the greatest analgesic effect has intramuscular administration of rometar at a dose of 0.15 ml per 10 kg of live weight and can be used successfully in surgical operations on sheep. Also, the use of rometar RAM edilbaevskoy breed allows you to provide the necessary depth and duration of anesthesia, does not require the use of special equipment, has a convenient route of administration.

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