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Talgatova A.T., Postgraduate

Dnekeshev A.K., Candidate of Veterinary Science, associated professor

NPJSC «Zhangir khan West Kazakhstan Agrarian-Technical University», Uralsk, Republic of Kazakhstan

THE DYNAMICS OF CHANGES OF CLINICAL INDICATORS IN DOGS FOR TREATMENT PURULENT WOUNDS BY DIFFERENT SCHEMES

Abstract

The article presents the dynamics of changes in some common clinical indicators in dogs with the application of local infiltration of the hemo - novocaine blockade in combination with the homeopathic complex drug Trauma-gel in a comparative aspect of treatment of complicated superficial skin damage in the form of purulent wounds. Measuring temperature, pulse rate and respiration are mandatory methods of clinical research, which allow to assess the condition of the animal, monitor the course and predict the development of the disease, judge the effectiveness of treatment, identify complications. Novocaine blockade in the damaged area (wound) removes severe irritation of the nervous system and replaces it with a weak, qualitatively new irritation, weakening the flow of pain impulses into the cerebral cortex, thereby protecting it from functional exhaustion. In the blocked focus, novocaine, has antiacetylcholine and antitoxic effects, increases redox processes, regulates carbohydrate, nitrogenous and phosphoric exchanges, thereby maintaining the body at the level of a favorable course of physiological processes. The results of our own research are recommended for use in the treatment of complex inflamed purulent wounds in dogs, as one of the methods of pathogenetic therapy.

Keywords: *treatment of purulent wounds in dogs, changes in general clinical indicators for purulent wounds, hemo-novocaine blockade, homeopathic complex drug Trauma-gel.*

In the Republic of Kazakhstan in various industries and services where dogs are used at the present time, their relevance acquires. The need for the development of service and special dog breeding grows in different service structures, since these trained dogs are indispensable human helpers. Recently, due to various objective and non-objective circumstances, pet animals in veterinary medicine were of secondary importance compared to agricultural ones, therefore there was no specialization in training veterinarians and no effective methods were developed for diagnosing surgical diseases, preventing and treating sick animals. In practical veterinary medicine in the urban environment there have been major changes that have affected not only professional, but also economic, social and many other aspects of the veterinary surgeon's activities in receiving and serving dogs in veterinary clinics.

Injury in dog breeding is very widespread, especially among service and hunting dogs. The most common mechanical injuries in dog breeding mainly include open mechanical injuries - wounds, as well as bruises, burns, fractures and bone fractures [1,2].

In veterinary practice, a short blockade of peripheral nerves in the treatment of wounds in various species, both agricultural and dogs, has not received proper application.

For the treatment of purulent wounds in dogs, many different methods and means have been proposed, but the main condition for successful treatment of complicated lesions is careful surgical treatment of wounds in combination with the use of modern medicines and methods of treatment. And one of the effective methods is the use of short novocaine blockade in purulent wounds, as one of the methods of pathogenetic therapy [3-5].

In veterinary clinics of the city of Uralsk and the region, novocaine blockade (short block) is used in the treatment of various wounds in dogs as one of the additional and effective methods.

Novocaine therapy, as a special type of pathogenetic therapy for inflammatory and other pathological processes, was developed and proposed by Professor A.V. Vishnevsky. Despite its outdated methodology, this is still one of the most effective ways to treat various purulent pathologies in animals.

A short novocaine blockade in the damaged area removes strong irritation of the nervous system and replaces it with a weak, qualitatively new irritation, weakening the flow of pain impulses into the cerebral cortex, thereby protecting it from functional exhaustion. In the blocked focus, novocaine, has antiacetylcholine and antitoxic effects, increases redox processes, regulates carbohydrate, nitrogenous and phosphoric exchanges, thereby maintaining the body at the level of a favorable course of physiological processes. A solution of novocaine (0.5%), having such properties, normalizes tissue processes, increases the resistance of tissues to stimuli such as trauma, infection, etc. In addition, Novocaine normalizes vascular reaction [6-8].

In connection with the above listed causes of professional injury in dog breeding with complicated purulent wounds, we set a goal to study the dynamics of changes in some clinical indicators in the treatment of purulent wounds with different schemes in dogs when using novocaine blockade in combination with the homeopathic complex trauma-gel preparation.

Material and research methods. The material during the experiment were used 6 mongrel dogs, of average fatness between the ages of 1 to 2 years old, who were kept in cages under the same conditions. The dogs had various complicated experimental skin lesions in the form of acute purulent inflammatory wounds of the shoulder, side walls of the chest and abdomen. Sick animals were divided into two groups; the first group was treated with a homeopathic complex drug Trauma-gel in combination with novocaine blockade. The second group of sick dogs was treated only with the Trauma-gel complex preparation. Throughout the experiment, all animals underwent constant general clinical observation: the total body temperature was measured daily, the pulse and the number of respiratory movements per minute were determined.

Measuring temperature, pulse rate and respiration are mandatory methods of clinical research, which allow to assess the condition of the animal, monitor the course and predict the development of the disease, judge the effectiveness of treatment, identify complications. For more reliable results, temperature, pulse rate and respiration were measured in the morning before feeding.

The clinical change in total body temperature, pulse and the number of respiratory movements per minute after the application of hemo-novocaine blockade in the treatment of purulent complicated wounds in all groups were examined after 24 hours, 3,5,8 and 12 days. The pulse was determined by counting the number of pulsations in the femoral artery for 1 minute (four fingers were placed on the inner thigh in the femoral canal, and the thumb on the outer thigh). Respiratory rate was determined by counting the respiratory movements at a certain time (1-3 min). The body temperature was measured rectally using a Celsius mercury thermometer from 34 °C to 42 °C with a division value of 0.1 °C. When thermometry animals were fixed. Before the introduction, the thermometer was shaken, lubricated with petroleum jelly, gently injected, turning along the longitudinal axis, into the rectum and fixed with a clamp. After 5 minutes, carefully remove the thermometer, wipe off, determine the body temperature on a scale and record the result in the protocol, then shake the thermometer and place it in a jar with disinfectant solution.

Results of own research. As can be seen from the data of table № 1 in the first 12 hours after applying hemo-novocaine blockade in combination with the drug Trauma-gel in case of complicated purulent wounds in the side of the chest, we can observe a slight decrease in temperature in animals compared to the background of the sick animal 40.2 ± 0.02 °C, compared with the second group, the temperature was lower by 0.15% (table 2). This is explained by the improvement of the body's defense

reaction against the background of the use of hemo - novocaine blockade for purulent inflammatory processes in the wound. After a day, the body temperature drops slightly in the experimental group, which averaged 39.8 ± 0.02 ° C for the group, compared with the second group, this indicator in the experimental group was lower by 1.18%. On the following day, in the group on the 3rd day, the rectal temperature averaged 39.2 ± 0.03 °C, compared with the second group, on that day the temperature was lower by 0.08%, on the seventh day 38.5 ± 0.08 °C . A slight temperature difference in terms can be explained by processes associated with the effect of purulent inflammation on the animal's body. At the same time, we note that at this time, the indicators were within the normal range for 10 days and amounted to 37.8 ± 0.05 ° C, compared to the second experimental group, it was 1.92% (table 2).

Table 1 - Changes in clinical indicators in the treatment of wounds in dogs with the hemo - novocaine blockade with the Trauma-gel preparation (n = 4)

Dates (days)	Body temperature, ° C		Pulse rate, beats / min		Respiratory rate, (times / min)	
	$\bar{x} \pm \bar{Sx}$	σ	$\bar{x} \pm \bar{Sx}$	σ	$\bar{x} \pm \bar{Sx}$	σ
Sick animal	40,8±0,05	0,23	130,5±0,02	1, 18	26,8±0,10	1,45
after 12 hours	40,2±0,02	1,17	125,7±0,04	1,65	22,5±0,02	1,20
in a day	39,8±0,02	1,22	120,5±0,02	1,32	21,4±0,05	0,65
after 3 days	39,2±0,03	1,63	115,1±0,05	1,28	20,1±0,03	1,16
after 7 days	38,5±0,08	0,58	110,2±0,05	1, 12	19,7±0,03	1,23
after 10 days	37,8±0,05	0,78	105,7±0,01	0,52	18,5±0,05	1,47

Certain changes in the dynamics are observed in such an indicator as the pulse rate in animals of the first group, so 12 hours after the hemo - novocaine blockade, it also decreased and averaged 125.7 ± 0.04 beats / min for the group. Compared to the indicator of a sick animal 132.2 ± 0.02 beats / min, it decreased by 3.72% on the first day (table 1), whereas in the second group this indicator decreased only 2.15% (table 2). In the study of sick animals, the pulse was intense, full; The height of the pulse wave is average. In the dogs of the first group, the pulse after the hemo - novocaine blockade was observed to be regular, rhythmic, characterized by a uniform alternation of beats and pauses.

The decrease in this indicator in the experimental group after the hemo - novocaine blockade is caused by a decrease in pain in animals. In the future, the pulse gradually decreases, as the dogs become accustomed to various manipulations in examining and treating wounds; so, by the 7th day in the experimental group it averaged 110.2 ± 0.05 beats / min, which averaged 4.36% from the previous indicator (table 1).

A small decrease in pulse after 10 days, possibly due to the fact that the remaining pus is still a signal by which the nervous system mobilizes the body's defenses.

Changes in the pulse rate, that is, the number of heart contractions (beats per 1 min - beats / min) in the observation experiment, are fully reflected in the tables №1,2.

Table 2 - Changes in clinical indicators in the treatment of wounds in dogs with the Trauma-gel preparation (n = 4)

Dates (days)	Body temperature, ° C		Pulse rate, beats / min		Respiratory rate, (times / min)	
	$\bar{x} \pm \bar{Sx}$	σ	$\bar{x} \pm \bar{Sx}$	σ	$\bar{x} \pm \bar{Sx}$	σ
Sick animal	41,5±0,01	1,36	135,1±0,02	1,58	27,2±0,08	1,36
after 12 hours	40,8±0,02	1,17	132,2±0,02	1,23	26,5±0,05	1,13
in a day	40,5±0,02	1,25	127,1±0,02	1,47	24,8±0,01	1,11
after 3 days	39,5±0,03	1,44	125,1±0,08	1,24	23,0±0,02	1,24
after 7 days	39,0±0,08	1,35	116,3±0,01	1,50	20,9±0,05	1,17
after 10 days	38,5±0,05	1,28	110,7±0,02	1,86	20,0±0,01	1,20

A similar picture is observed in the study of respiratory rate (times / min). In this case, it is directly related to the pulse rate. At the same time, the phases of inhalation and exhalation were accompanied by alternate expansion and contraction of the chest, abdominal wall movements and nostrils in sheep.

Inhalation from exhalation is separated by a pause, the increase and decrease in the volume of both halves of the chest in all animals occurs symmetrically and synchronously. Respiratory movements rhythmic; characterized by the correct and regular alternation of the phases of inhalation and exhalation. Inhale proceeds somewhat faster exhalation. In dogs of the first group, in the first 12 hours after application of the hemo - novocaine blockade, due to the reduction of the pain reaction, respiration sharply decreases on average in the group by 22.5 ± 0.02 (times / min). Compared with a sick animal indicator of 26.8 ± 0.10 times / min, it decreased by 16.05% in the experimental group on the first day (table1), when in the second experimental group this clinical indicator decreased only by 2.58% (table 2).

Later in the day, the respiratory rate decreases slightly in the group, which averaged 21.4 ± 0.05 times / min for the group. In the following days in the group on day 3, the respiratory rate averaged 20.1 ± 0.03 times / min, in the second experimental group, this indicator was 23.0 ± 0.02 times / min. On the seventh day in the experimental group, 19.7 ± 0.03 times / min; in the experimental group, it was 20.9 ± 0.05 times / min. A small difference in respiratory rate in terms can be explained by the methods of treatment of purulent wounds, and the processes associated with the influence of more inflammatory processes in the wound on the animal's body.

The experimental dogs of the first group, after the hemo - novocaine blockade, started from the first day of the experiment, were in good condition with appetite and ate food, but ate more special vitaminized food, thereby improving their general condition.

Thus, for various complicated injuries (wounds) in different areas of the body surface in purebred domestic dogs, the use of infiltration of hemo - novocaine blockade drastically affects the change of some clinical indicators for the better, the results must be taken into account in the treatment of purulent wounds in animals like one of the methods of pathogenetic therapy.

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ТҮЙІН

Мақалада иттердің іріңдік жара түріндегі терінің беттік асқынған зақымдануын жергілікті инфильтрациялық гемо-новокаиндік блокаданың гомеопатикалық кешендік препарат Травма гелемен бірлесіп әсер етуі кезіндегі салыстырмалы емдеу аспектісінің жалпы клиникалық көрсеткіштерінің өзгеру динамикасы көрсетілген. Температураны, импульстік жылдамдығын және тыныс алуды өлшеу клиникалық зерттеудің міндетті әдістері болып табылады, ол жануардың жағдайын бағалауға, бақылау жасауға және аурудың дамуын болжауға, емдеудің тиімділігін бағалауға, асқынуларды анықтауға мүмкіндік береді. Зақымдалған аймақтағы (жара) новокаиндік блокада жүйке жүйесінің қатты тітіркенуін жояды және оны әлсіз, сапалы жаңа тітіркенуімен ауыстырады, ми асты қабығына ауырсыну ағынын әлсіретеді, осылайша оны функционалды сарқылудан қорғайды. Блокка салынған фокустада, новокаин, антицетилхолин мен антиоксидтік әсерлерге ие, тотығу процестерін арттырады, көмірсутекті, азотты және фосфорлы алмасуларды реттейді, осылайша денені физиологиялық процестердің қолайлы деңгейінде сақтайды. Біздің зерттеулеріміздің нәтижелері патогенетикалық терапия әдістерінің бірі ретінде иттердегі күрделі қабынған іріңді жараларды емдеуге арналған.

РЕЗЮМЕ

В статье даны динамика изменения некоторых общих клинических показателей у собак при применении местно-инфильтрационно гемо-новокаиновую блокаду в сочетании с гомеопатическим комплексным препаратом Травма-гель в сравнительном аспекте лечения осложненных поверхностных повреждениях кожи в виде гнойных ран. Измерение температуры, частоты пульса и дыхания являются обязательными способами клинического исследования, которые позволяют оценить состояние животного, контролировать течение и прогнозировать развитие болезни, судить об эффективности лечения, выявить осложнения. Новокаиновая блокада в поврежденной области (ране), снимает сильное раздражение нервной системы и заменяет его слабым, качественно новым раздражением, ослабляя при этом поступление болевых импульсов в кору головного мозга, охраняя тем самым ее от функционального истощения. В заблокированном очаге, новокаин, оказывает антиацетилхолиновое и

антитоксическое действие, повышает окислительно-восстановительные процессы, регулирует углеводный, азотистый и фосфорный обмены, поддерживая тем самым организм на уровне благоприятного течения физиологических процессов. Полученные результаты собственных исследования рекомендуем применять при лечении сложных воспалённых гнойных ран у собак, как один из методов патогенетической терапии.

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Tanbaeva G.¹, Master of veterinary science

Antane V.², Doctor of veterinary science, Professor

Tagaev O.³, Doctor of Veterinary Science, Associate professor

Alikhanov K.⁴, PhD, Associate professor

¹Kostanay State University named after A. Baitursynov, Kostanay, Republic of Kazakhstan

²Latvian Agricultural University, Jelgava, Latvia

³ NPJSC «Zhangir khan West Kazakhstan Agrarian-Technical University», Uralsk, Republic of Kazakhstan

⁴ NPJSC «Kazakh National Agrarian University», Almaty, Republic of Kazakhstan

BACTERICIDAL ACTIVITY OF MEANS, INTENDED FOR SANITARY TREATMENT OF COWS MORNING AFTER MILKING

Abstract

The high quality of milk sold is one of the main factors determining the financial stability and well-being of dairy farms. The quantity and quality of milk, the content of bacteria and somatic cells in it are largely determined by the organization of the milking process, the choice and sequence of its constituent procedures. Milking of cows should include not only the proper connection of the milking machine, but also the massage of the udder, as well as its sanitization before and after milking. The hygiene of milking cows is a fundamental element in the process of obtaining high quality milk - the highest and the euro variety. Special attention of scientists and practitioners in recent years has focused on the use and implementation of highly effective means for sanitizing the udder after milking. In countries with developed dairy farming for these purposes, drugs based on iodine (iodine-povidone, etc.), in the form of iodine polymers, are increasingly used. There are also products based on lactic acid and chlorhexidine. The application of the proposed tool allows you to improve the sanitary condition of the udder and prevent contamination of the udder of cows after milking, which will improve the sanitary quality of milk produced, as well as prevent mastitis in cows.

Keywords: *mastitis, udder sanitization, microbial dissemination of the skin of the udder nipples, milk quality, somatic cells.*

Introduction. One of the main problems in dairy farming is mastitis in cows. They cause great economic damage, especially hidden forms. According to many authors [1,2], the economic damage caused by the disease comes from reducing milk production by 15–20 % of annual milk yield and milk quality, premature culling, reducing the productive use of cows by 2.5 years, treatment costs and other factors. Calves from cows with mastitis suffer from dyspepsia and other digestive disorders 2 times, and die 4-5 times more often than calves from healthy mothers. In almost half of the cows who have recovered from subclinical mastitis, milk productivity is rarely fully restored, the affected shares remain less productive until the end of life [3, 4] . The latent form of mastitis is dangerous