

UDC 619: 617-089: 636.295/.296

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CHANGES IN HEALING OF POSTOPERATIVE WOUNDS BY DIFFERENT CASTRATION METHODS OF MALE CAMEL

Abstract

The article provides a comparative assessment of changes in the healing of surgical wounds when castration of male camels in many ways, the need for which is caused by the economic feasibility, and to carry out this operation must be responsible, taking into account peculiarities of the anatomical structure of the external genitalia and industrial animals, age and profitable method of castration.

Keywords: *surgery in camel breeding, methods of castration of male camels, a comparative assessment of wound healing during castration.*

Camel breeding in recent years in the Republic of Kazakhstan livestock production occupies a special place because this industry is one of the most beneficial in terms of dry steppe zone, semi-desert and desert. In these conditions the camels very valuable animals. From Bactrian camels in the West Kazakhstan region receive a variety of products - meat, milk, wool, and leather, as well as their use of draft to work in other sectors of livestock [1,2].

Camel meat is now well used not only in sausage and canning industries, but also enjoys a good demand in the urban markets of meat from the local population, in large industrial oil and gas cities like Atyrau, Aktau and Kyzylorda of Western Kazakhstan. The meat of young, wellplump young camels in taste and organoleptic properties better than beef.

One of the preventive measures of veterinary surgery to increase and improve meat productivity in camel breeding Western Kazakhstan, along with targeted breeding work, great importance is the castration of male camels left by farms for fattening of draft work and for meat. Turning off the sexual function in male camels reduces the cost of energy in the process of life-activity and increases the tendency of the body to deposit fat in the humps [3].

Castrates-camels are calmer, well put on weight at a herd of content at the bottom give a greater yield of slaughter, the meat of better quality compared to non-castrated camels. In addition, as a result of castration is not suitable for breeding camels excluded unexpected mating in the herd, which makes it possible to conduct directed planned breeding camels in the breeding farms, improving their breed, and therefore productive qualities [4].

In camel breeding farms, castration of rejected male camels has been performed to bloody methods "on ligature" in 2-2.5 years to this day, but everyday after castration observations, long-term practice, detection after castration complications point to not aseptic castration of this method, resulting mainly in Purulent complications of the scrotum.

Consequently, castration of camels, being an unconditional "interference of man in nature", having certain advantages from the economic point of view. However, this operation is necessary

taking into account the location of the scrotum in male camels, their age, while applying the most rational and aseptic castration method. Therefore, it is necessary to find more sterile and effective methods of castration, which would reduce post-castration complications and thereby increase the productivity of animals.

With various deviations in the condition of feeding and feeding of animals neutered by various methods, especially in bloody ways, the most important nutritionally important nutrients are unevenly consumed in male camel males. Development after the operational state in male camels in an experiment in all cases is accompanied by a decrease in the resistance of the organism, a deterioration in productivity (a decrease in the live weight), an increase in the predisposition of animals to diseases. In this connection, it becomes necessary to study the wound after surgical healing during castration of male camels in various ways.

In connection with the above listed shortcomings of the castration methods used in camel farms, and the urgency of castration of male camels in production, we have tested the often used in horse breeding, more aseptic in the application of the bloody casting method for "Zand's forceps" in comparison with the conventional method used in castration Male camels "on the ligature."

The purpose of our experimental study was to give a postoperative comparative evaluation of wound healing when camels were provided in various ways.



Figure 1 – The moment of general and local anesthesia by injection of a 2% hromometr in a mixture with lidocaine into the testicle

Material for the experiment was used 7 heads of male camel breeds of Kazakh bactrian of Bokeyorda type, average fatness at the age of 2.5-3 years. From which two groups of 3-4 heads were formed, which, after castration, were kept in the same conditions and fed with a single ration.

The first experimental group of camel-males (4 heads) was castrated with a bloody open method "on Zand's forceps." The second group of camel-males (control) in the number of 3 heads was castrated according to the generally accepted method used in castration farms "for ligature".

Before castration, surgical instruments (scalpels, scissors, surgical and hemostatic tweezers), the operating field, the hands of the surgeon are treated according to generally accepted rules in surgery. Later, the nurse (or shepherd) fixes the burr in a lying lateral position so as to provide

operative access from behind to its posterior inguinal area. The tail of an animal before castration is tightly bandaged in a special way so as not to contaminate the surgical wound in the future. Then prepare the site of the incision (operating field) by cutting the hair with Cooper's scissors and twice with a 5% alcohol solution of iodine. Anesthesia is carried out with a mixture of a 2% rometar and lidocaine in the testicle by the method of Sapozhnikov (Figure 1) [5]. The veterinarian fixes the neck of the male's scrotum with his left hand and, moderately pulling it, with the other hand using a scalpel, cuts it parallel to the suture of the scrotum. Then, without touching the naked tissues with the hands, out of the remaining stump, the mongrel displaces the testes, which take one hand, and tighten the spermatic cord as much as possible. Then, without touching the castration wound, cut the common vaginal membrane closer to the groin. And on the thinnest section of the spermatic cord, castration forceps of Zand are imposed for 8-12 minutes depending on the age of the animal, and twisting separately the seminal cord is terminated by the torsion method (Figure 2).

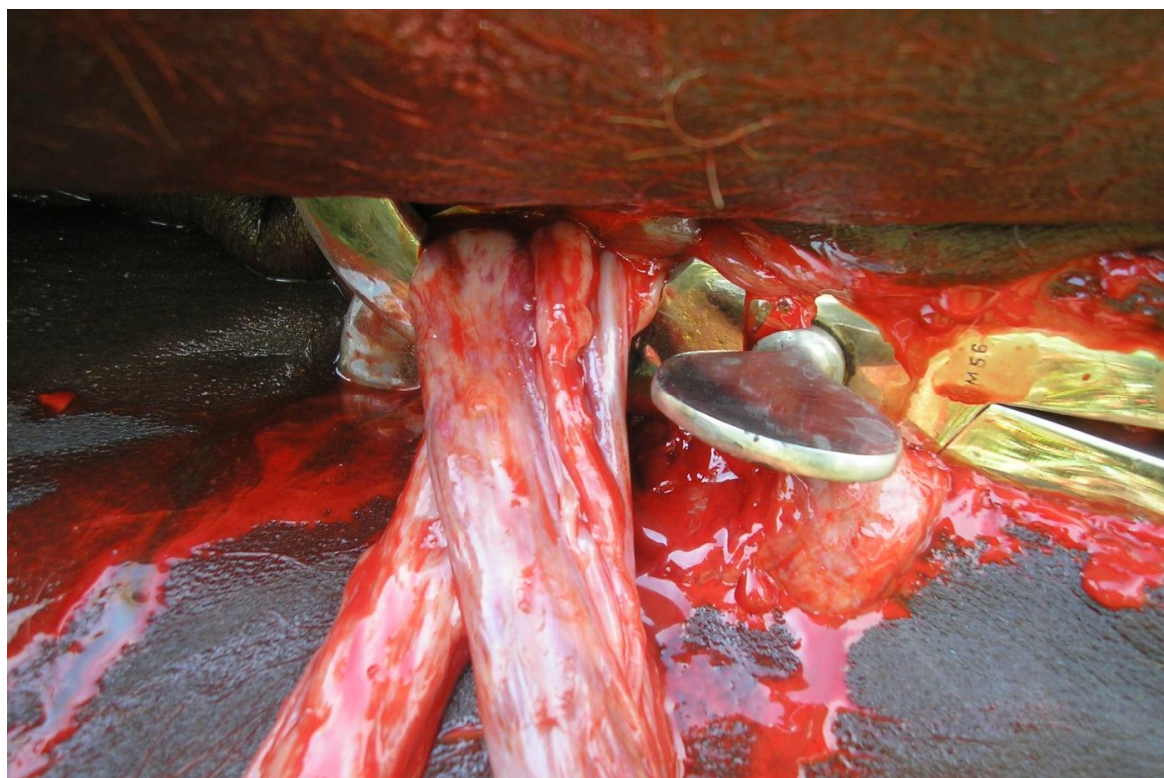


Figure 2 – The moment of compression by the Zand forceps of the spermatic cord nearer to the groin before torsion of the Camel of a male

The rate of reduction or healing of the wound area was determined by a test developed by L.N. Popova [6], which is used as an indicator for evaluating the wound healing process. The measurement of operative wounds was repeated after 24 hours, 3, 7 and 12 days and the percentage of wound surface area reduction per day was calculated in relation to the previous result.

When examining the state of postoperative wounds, it was established that after castration in male control camels operated according to the conventional method for "ligature" and in experimental animals operated on Zanda forceps, on the first day there were similar signs of early inflammation, characteristic For all surgical interventions ie increase of a little local temperature, postoperative swelling of the tissues, hyperemia of the skin around the wounds, soreness. At the same time, local clinical signs of differences between groups are clearly visible, so the degree of manifestation of the above operational changes is much higher in male control camels.

On the second day in the animals of the experimental group, the external signs of surgical intervention are smoothed out. By the end of the third day, wounds heal by primary tension without complications. By the 7th day the wounds are well tightened, only the edges of the wounds are seen that are slightly swollen, which are then smoothed out during healing. In animals of the control group,

at the indicated time, the surgical wounds do not completely heal, and only by the end of the 12th day these wounds heal in a mixed type. The change in the postoperative wound in the male-camel cartilage in different ways is shown in Table 1.

Table 1 – Change in operating wound in male camel castrated in different ways, (cm²)

Research terms (days)	Experimental group males-camels castrated on forceps "Zanda"			Castrated male camels "on ligature"		
	Lim	$\bar{x} \pm S\bar{x}$	σ	Lim	$\bar{x} \pm S\bar{x}$	σ
after 24 hours	6,10-8,15	7,60±0,08	0,05	6,13-8,00	7,96±0,05	0,05
after 3 days	3,52-6,75	5,10±0,05	0,01	5,10-7,32	6,70±0,02	0,02
after 7 days	1,28-3,44	2,17±0,02	0,05	4,18-5,58	4,95±0,05	0,05
after 12 days	0,50-1,12	0,68±0,01	0,05	2,55-3,35	2,82±0,02	0,03

As can be seen from Table 1, the dynamics of healing has an identical tendency to reduce the area of the wound surface. However, depending on the method of castration, the wound areas are significantly different. So, during castration "on ligature", that is, in the control group, a day after the operation, the wound surface on average is 7.96 ± 0.05 cm² at a limit of 6.13 ... 8.00 cm². In the experimental group, that is, when casting animals on the "Zanda" forceps, the wound surface is slightly smaller compared to the control and averages 7.60 ± 0.08 cm² at a limit of 6.10 ... 8.15 cm².

Three days after castration, the areas under study decreased in the control group by 15.9% of the initial group, ie, an average of 6.70 ± 0.02 cm²; In the experimental group - by 32.9% of the initial group, that is, 5.10 ± 0.05 cm². In this case, the area of the operating wound in the experimental group was 2.2 times less than in the control group..

In 7 days after the operation, the reduction of the wound surface in the control group was 26.2% of this parameter with respect to the 3-day period, that is, 4.95 ± 0.05 cm² at a limit of 4.18 ... 5.58 cm²; In the experimental group – 57.5%, i.e. On average, the animals castrated on the forceps "Zanda" equaled 2.17 ± 0.02 cm² with a limit of 1.28 ... 3.44 cm².

On the 12th day after castration, the reduction in the wound surface in the control group was 43.1% of this parameter with respect to the 7th day, ie 2.82 ± 0.02 cm² at a limit of 2.55 ... 3.35 cm²; In the experimental group - 68.7%, i.e. On average, 0.68 ± 0.001 cm² with a limit of 0.50 ... 1.12 cm².

It should be noted that the area of damaged tissues in the control group was almost 4.3 times higher than in the experimental group.

All of the above confirms the evidence that for a living organism, the less the zone of contamination of an operating wound, the better. Castration "on ligature", exposes the body to great stress due to infection of the wound, since a large intoxication of the wound surface is associated with a simultaneous "large loss" of the testes against a background of a sharp hormonal failure. In this method of castration, a significant cavity of the operating wound remains contaminated with microbes, and more time is required to heal the wound.

Analyzing our experiment, the use of sterile castration forceps "Zanda" in a comparative aspect during castration "on the ligature" of male camels can be said that the application of forceps to the spermatic cord is not only reliable when compressed and fixed, but more aseptic in application.

Recently, a number of successful studies have been carried out to study new methods of castration of male camels and males of some other species, farm animals. But many issues in this important case remained undeveloped with regard to the aseptic nature of this operation, which is the main obstacle for the widespread introduction of more successive methods of castration into practice.

Consequently, the need for castration by more aseptic methods of male camels that do not have breeding and economic value for camel and other farming enterprises in the West Kazakhstan region is caused by economic expediency, and this responsible operation is necessary taking into account the peculiarities of the anatomical structure of the external genitalia and the production purpose of animals, Their age and the beneficial method of castration.

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ТҮЙІН

Мақалада бураларды әртүрлі тәсілдермен кестіру кезінде операциядан кейінгі жаралардың жазылуының өзгерісіне салыстырмалы баға берілген. Бұл шараны жүргізу экономикалық мақсаттылық әсерінен туындайды. Аталмыш жауапты операцияны жануарлардың сыртқы жыныс органдарының анатомиялық құрылысының ерекшеліктерін, өндірістік бағытын, жасын және кестірудің тиімді әдісін есепке алып жүргізу керек.

РЕЗЮМЕ

В статье дана сравнительная оценка изменений заживления послеоперационных ран при кастрации самцов-верблюдов разными способами, необходимость которой вызвана экономической целесообразностью. Проводить эту ответственную операцию необходимо с учетом особенности анатомического строения наружных половых органов и производственного назначения животных, их возраста и выгодного метода кастрации.

ӘОЖ 619:615.284

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АСҚАЗАН-ІШЕК ЖОЛДАРЫНДАҒЫ СТРОНГИЛЯТОЗДАРЫНА ҚАРСЫ ҚОЛДАНЫЛАТЫН АНТИГЕЛЬМИНТКЕ МИЯ СЫҒЫНДЫСЫН ҚОСЫП, ТИІМДІЛІГІН АРТТЫРУ

Аннотация

Мақалада қойлардың асқазан ішек жолдары инвазиялық аурумен күрес шараларын жүргізудің нәтижесі берілген.

Түйін сөздер: стронгилятоз, Фюллеборн, инвазия, альбендазол, дегельминтизация, мия сығындысы.