

INFLUENCE OF ETIOLOGICAL FACTORS AND SEASONS ON THE OCCURRENCE OF PURULOUS-NECROTIC PROCESSES IN THE TOES OF BREEDED COWS

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Abstract

Among the main factors that cause purulent-necrotic processes of the fingers among dairy cows brought from foreign countries in our country are the compression of animals, floor construction, violation of sanitary and hygienic norms, lack of exercise, the resistance of the organism to infection decreases due to the fact that the diet is not structured based on the components necessary for the life of the organism. the incidence rate is higher in spring months, where 31 heads (31.9%) of all registered cows, 28 heads (28.9%) in winter months, 21 heads (21.7%) in autumn months and 17 heads (17 It was found to be .5%).

Keywords. Clinical-orthopedic, dispensary, finger, hoof, interdigital dermatitis, pododermatitis, soft heel phlegmon, Rusterholtz's ulcer, hoof gouty phlegmon, laminitis, hoof ungulation ulcerated tiloma and hoof wounds, purulent-necrotic, etiology, microorganisms.

Relevance of the Topic

Comprehensive measures aimed at the treatment and prevention of diseases of the distal part of the legs are being implemented among high-yielding cows brought to our country in recent years, but due to purulent-necrotic lesions of the toes, there are also cases of forced slaughter of animals due to a sharp decrease in productivity and severe disease. For this reason, determining the level of purulent-necrotic processes of the fingers of cattle brought from abroad, analyzing the adverse conditions in the animal's body, early diagnosis of the disease, treatment and prevention of diseased animals are the main problems of today.

According to the information of foreign and local researchers, in some unhealthy livestock farms, the number of finger diseases among animals is 20-60%, and at the same time, negative consequences such as damage to high-yielding animals, economic value, productivity and body weight of infected animals have been determined [9; pp. 114-118, 10; pp. 80-81, 2; pp. 41-43, 3; pp. 33-35, 7; p. 27, 4; pp. 39-41, 5; p. 10-11, 6; pp. 139-142]. The results of dispensation conducted by I. Volotko, A. Bezin and N. Butakova showed that 17.5% of

examined cows had purulent-necrotic hooves of various degrees [8; pp. 40-45]. According to the authors, 7-63.2% of infected cows were productive cows, the disease was observed mainly in the first 3 weeks after calving, 98.0% - 99.0% of the animals were affected by one hind leg, 1.5-2.1% is manifested by injuries of both hind legs [9; pp. 114-118]. Purulent-necrotic lesions of the hoof in cows in the conditions of some livestock farms in the Chelyabinsk region of the Russian Federation were found to be 8.3, 28.4 percent [13; 60-63-6].

A.M. Experiments and analyzes conducted by Beloborodenko show that 20.3-36.6% of the total number of cows in the herd have finger infections, and an average of 44.2% of them are removed from the farm account. [1; 44-50-6].

According to the researchers' observations, 30% of the heifers brought to livestock complexes are rejected due to low fertility due to deformation and rapid destruction of hooves. [11; 131-136-6., 12; 50-53-6].

The purpose of the study. Regional factors that cause purulent-necrotic processes of the fingers in our country among bred cows brought from abroad are to be studied.

Research object and methods. Research and scientific examination of the level and clinical signs of purulent-necrotic processes in the finger area were carried out in the "Farovon Grand Invest" and "Oqdarya Tolqin Shijoat" cattle farms of the Okdarya district of Samarkand region. Examination of purulent-necrotic processes in sick animals was carried out based on the following scheme.

1. The animal was examined while it was resting. Foot placement, hoof pressure and its position were taken into account.
2. The animal was examined while moving. The type, degree and character of the lameness were taken into account.
3. Tissue consistency, pain and the size of the pathological center were determined by palpation. In addition, changes in the color, consistency, and clinical signs of the disease were studied and diagnosed.

During the study of pathological foci of cows infected with purulent-necrotic processes in the toe area, they were studied mainly in 4 groups: a) hooves, soft heel and interdigital skin diseases (wounds, wounds, eczema, dermatitis, hypops and phlegmon); b) diseases of hoof skin base (pododermatitis, laminitis and ulcers); g) bone diseases of fingers (periostitis, osteitis, osteomyelitis, necrosis and caries).

Results. "Farovon Grand Invest" and "Oqdarya Tolqin Shijoat" livestock farms of Oqdarya district of Samarkand region have 737 head of cattle, of which 377 are cows. Cows are kept free all year round and freely go to the milking place, taking turns.

In 2019-2020, in the "Farovon Grand Invest" and "Oqdarya Tolqin Shijoat" livestock farms of the Samarkand region, 377 head of cows were clinically-orthopedic (surgically) examined, and 97 of them (25.7%) had pathological processes in their fingers and hooves.

Table 1. Description of the diseases of the toes and hooves of cattle in the "Farovon Grand Invest" and "Oqdarya Tolqin Shijoat" livestock farms of the Okdarya district of Samarkand region

Pathological processes in fingers and hooves	Number of infected animals	Number of infected animals, %
Soft heel phlegmon	14	14,4
Rusterholtz ulcer	12	12,4
Interdigital dermatitis	16	16,5
Pododermatitis	15	15,5
Wounded wish	6	6,2
Gultoj phlegmon	10	10,3
Laminites	8	8,2
Hoof injuries	10	10,3
Hoof unglulation	6	6,2
Total:	97	100,0

During clinical-orthopedic dispensation of cows on farms, 14.4% soft heel phlegmon, 12.4% Rusterholtz ulcer, 16.5% interdigital dermatitis, 15.5% pododermatitis, 6.2% ulcerated tiloma, 10.3% it was noted that hoof phlegmon, 8.2% laminitis, 10.3% hoof injuries and 6.2% hoof unglulation (Table 1).

In the "Farovon Grand Invest" and "Oqdarya Tolqin Shijoat" livestock farms of the Okdarya district of Samarkand region, in 2019-2020, when the diseases of the toes and hooves of cattle were checked according to the seasons and months of the year, the incidence rate was observed more in the spring months. ,9%), 28 heads (28.9%) in the winter months, 21 heads (21.7%) in the autumn months and 17 heads (17.5%) in the summer months (Table 2).

Table 2. In the "Farovon Grand Invest" and "Oqdarya Tolqin Shijoat" livestock farms of Samarkand region, the rate of occurrence of diseases in the fingers and hooves of cattle in 2019-2020.

Months	Total number of animals		Pododermatitis		Soft heel phlegmon		Rusterholtz ulcer		Gultoj phlegmon		Hoof injuries		Interdigital dermatitis		Laminites		Wounded wish		Hoof ungulation	
	the number	%	the number	%	the number	%	the number	%	the number	%	the number	%	the number	%	the number	%	the number	%	the number	%
September	7	7,22	--	--	--	--	--	--	2	20	2	20	1	6,25	1	12,5	1	16,66	--	--
October	6	6,18	--	--	--	--	--	--	1	10	1	10	1	6,25	2	25	--	--	1	16,66
November	8	8,25	--	--	1	7,14	1	8,33	--	--	2	20	3	18,75	1	12,5	--	--	--	--
December	9	9,28	2	13,33	2	14,25	1	8,33	--	--	--	--	2	12,5	1	12,5	--	--	1	16,66
January	9	9,28	2	13,33	2	14,25	1	8,33	2	21	--	--	2	12,5	1	12,5	--	--	--	--
February	10	10,31	3	20	3	21,43	3	25	1	10	--	--	--	--	--	--	--	--	--	--
March	12	12,37	4	26,66	3	21,43	2	16,66	3	30	--	--	--	--	--	--	--	--	--	--
April	11	11,34	3	20	2	14,25	2	16,66	1	10	2	20	1	6,25	--	--	--	--	--	--
May	8	8,25	1	6,66	1	7,14	2	16,66	--	--	--	--	2	12,5	--	--	1	16,66	1	16,66
June	6	6,18	--	--	--	--	--	--	--	--	1	10	2	12,5	1	12,5	1	16,66	1	16,66
July	5	5,15	--	--	--	--	--	--	--	--	1	10	2	12,5	1	12,5	1	16,66	--	--
August	6	6,18	--	--	--	--	--	--	--	--	1	10	--	--	--	--	2	33,33	2	33,33
Total :	97	100,0	15	100,0	14	100,0	12	100,0	10	100,0	10	100,0	16	100,0	8	100,0	6	100,0	6	100,0

As a result of the tests, it was found out that cattle finger and hoof diseases depend on the type of wound and the virulence of microorganisms, that is, the more finger elements are damaged and contaminated with microbes, the more severe and complicated the pathological process is. In the process of clinical examination of farm animals, the factors that cause diseases in their fingers and hooves were also studied. In this, the processes of keeping and feeding animals were analyzed.

In farms, animals are mostly tied up. The microclimate in the farms is unsatisfactory, manure cleaning and feeding are mainly done by hand, and irrigation is done with the help of watering cans. Excessive humidity in the barn in winter and spring causes maceration of the skin in the distal part of the legs and increases the humidity of the hoof wall, which leads to the development of purulent processes around the joint due to injury. Most of the farms do not have fields for cultivation, but they are too narrow and are not cleared of manure in time. There is a lack of nutrition for animals mainly in the winter and spring months, the unevenness of the floors in the places where they are kept, the limited movement and high humidity, the improper growth of the hooves, cracking and various injuries of the joints of the distal parts of the legs caused the development of purulent inflammations.

In the conditions of our republic, products such as meal, shelukha, and non-standard seed are widely used for feeding cattle and sheep and adding to the composition of other animal feed. These feeds are high in protein and nutritional quality. As it is known, during the spring season of long and continuous drought (2020, 2021), due to insufficient feed, the cattle were fed with meal and shelukha for several months, during which toxico-allergic conditions were observed in the animal's body, and it was noted that they developed pathological processes in their fingers and hooves.

As a result of the study of the etiology of diseases of the fingers and hooves of farm animals, it can be concluded that the development of degenerative, alterative, exudative and proliferative processes occurring in the fingers and hooves is caused by internal (endogenous) and external (exogenous) factors. Exacerbation of inflammation depends not only on the nature of the reason that caused it, but also on the state of the organism. For example, when the body is weakened, some physiological effects, the excreta of the body can also cause inflammation. One of the main causes of purulent inflammation in the fingers and hooves of cattle is that bacteria, staphylococci, streptococci, Escherichia coli and fungi enter the body due to various injuries, adapt, multiply and develop pathological processes.

As a result of investigations, the main exogenous factor causing finger and hoof diseases in cows is the injury of the horn capsule (floor) and soft tissue as a result of various mechanical injuries, which then causes the entry of pathogenic microflora into the wound and the development of the pathological process. Due to the compression of animals, floor construction, violation of sanitary-hygienic norms, and the lack of composition of the ration based on the components necessary for the life of the organism, the resistance of the organism to infection has decreased and the disease has arisen.

In addition, investigations have shown that concrete floors in newly built livestock complexes release alkali due to moisture in the first year, which softens and corrodes the horn of the hoof, and as a result, hoof disease is common among animals kept in such barns in the first year. Therefore, when disinfecting floors, liquids with an acidic environment should be used. The floor of farm complexes is made of large stone sand or gravel, gradually the cement is washed away and the floor becomes hard and uneven.

It was noted that the process of adaptation to the conditions of our region in the animals brought from abroad causes them to develop various finger and hoof diseases. This is due to the deformations of the heels of the animals during transportation, and the microorganisms in the new conditions caused the acceleration of the pathological processes in them. Especially among heifers, lameness appeared 2-3 weeks after calving, and this symptom gradually increased among animals. This is due to the fact that cows excrete a large amount of macro and microelements through milk, and secondly, the adaptation process of animals is ongoing.

Conclusion

1. The main exogenous factor causing toe and hoof diseases in cows is injury to the horn capsule (floor) and soft tissue as a result of various mechanical injuries, which then causes pathogenic microflora to enter the wound and the development of the pathological process. This leads to the development of the disease, due to the compression of animals, floor construction, violation of sanitary and hygienic standards, and the fact that the diet is not based on the components necessary for the life of the organism, the resistance to infection decreases.
2. When clinical-orthopedic (surgical) dispensation was carried out in 377 cows from farms, it was found that 97 of them (25.7%) had pathological processes in their fingers and hooves, 14.4% had soft heel phlegmon, 12.4% Rusterholtz ulcer, 16.5% interdigital dermatitis, 15.5% pododermatitis, 6.2% ulcerated tiloma, 10.3% hoof phlegmon, 8.2% laminitis, 10.3% hoof wounds and 6.2% hoof unguination.
3. When 97 head of cattle from the farms were clinically examined, and diseases of the toes and hooves were examined by season and month of the year, the incidence rate was observed more in the spring months, where 31 heads (31.9%) of all registered cows, 28 heads (28.9%) in the winter months), 21 heads (21.7%) in the autumn months and 17 heads (17.5%) in the summer months.

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