Әдебиеттер

1. Қырыбайұлы С., Телеуғали Т.М., Жұмалгелдиев А.Ә. Ветеринариялық санитариялық сараптау практикум. Алматы 2013 ж.

2. Оңтүстік Қазақстан облысы: Энциклопедия /Бас редактор Б.Аяған. – Алматы: "Қазақ энциклопедиясы", 2005. – 560 б.

3. Несіпбаев Т., Исхан Қ.Ж., Несіпбаева А.Қ. Құс физиологиясы. Алматы, 2010 ж.

4. Шуклин Н.Ф., Қырықбайұлы С., Жумагелдиев А.А. Экспертиза доброкачественности и радиационной безопасности продуктов. Их стандартизация и сертификация. Алматы 2011г.

5. Позняковский В.М. Экспертиза мяса и мясопродуктов, качество и безопасность. Новосибирск, 2005 г.

6. Ромашев К.М., Жумагелдиев А.А. Кәсіби ауланатын жануарлар өнімдерін ветеринариялық санитариялық сараптау және санитариялық бағалау. Алматы 2013ж.

Турабеков М.Р., Жумагелдиев А.А., Ромашев К.М., Оразалиев Д.М., Аллабергенова А.Д.

ВИТАМИНЫ И МИКРО-МАКРОЭЛЕМЕНТЫ В СОСТАВЕ МЯСА КЕКЛИКА Аннотация

В статье приведены показатели количества витаминов и макро-микро элементов в составе мяса кекликаобитаемого в Аксу Жабагылинском заповеднике в сравнительном аспекте с куринным мясом. По результатам исследования содержание витаминов, макро и микроэлементов в мясе кеклика на 15-30% выше, чем в курином мясе.

Ключевые слова: мясо курицы, мясо кеклика, микро-макроэлементы, водорастворимые витамины и жирорастворимые витамины.

Turabekov M.R., Zhumageldiev A.A., Romashev K.M., Orazaliev D.M., Allabergenova A.D.

VITAMINS AND MICRO-MACRO ELEMENTS IN MEAT ALECTORIS CHUKAR

Annotation

The article shows the indicators of the amount of vitamins and macro-micro elements in the meat of the Keklik, which is inhabited in Aksu Zhabagyly Reserve in a comparative aspect with chicken meat. According to the results of the study, the content of vitamins, macro and micronutrients in the meat of the feces is 15-30% higher than in chicken meat.

Key words: chicken meat, feces meat, micro-macro elements, water-soluble vitamins and fat-soluble vitamins.

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Turganbaeva G.E., Ibazhanova A.S., Assylkhanov D.U., Shabdarbaeva G.S., Komekbai M.

Kazakh national agrarian university

DISSEMINATION OF VECTOR BORNE TRANSMISSION OF THEILERIOSIS OF CATTLE AND ITS DIAGNOSIS

Abstract

In article presents the analysis and synthesis of information on the problem of Ixodid ticks carriers of theilerosis in cattle and results of pathological changes in that disease

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Keywords: Ticks, tick-borne pathogens, theileria, babesia. **Background**

Blood-sucking ticks - is a major group of ectoparasites out of Ixodid ticks (Ixodidae) family (Ixodidae), damaging animal husbandry and locals, as bloodsuckers and as mechanical and biological vectors of vector-borne infectious and parasitic diseases[1]. Their veterinary importance is related to their blood-feeding, from which both their direct and indirect pathogenicity originates[2]. Some tick species can act as vectors of pathogens causing a number of tick-borne diseases (TBDs) [3]. Ixodid ticks, which may be infected with tick-borne pathogens, likeAnaplasma spp., [4], Borrelia spp., Babesia spp., Anaplasma, Rickettsia/Coxiella, and tickborne encephalitis virus [5; 6]. More than 20 tick species and subspecial were identified which actively participated in transmission of Babesia infection[7]. Previous study we were collected and identified as belonging to seven species in the South Kazakhstan region, namely R.rossicus, I.ricinus, H.marginatum, H.scupense, H.anatolicum, D.pictus and D.marginatus[1]. In the South Kazakhstan region three genera are known vectors of the causative agents of the most important bovine TBDs: Babesia, Theileria and Anaplasma^[7]. In cooperative and private farms in the South Kazakhstan region, four types of babesia pathogens were identified in cattle: B.bigemina, B.bovis, T.annulata and A.marginale^[7]. The distribution of ticks within a specific habitat depends on several environmental and climatic factors such as annual rainfall, atmospheric temperature and relative humidity (RH), vegetation cover, altitude and host availability [11].

Purpose of research

Determination of the Ixodid ticks in the Bayzak district of Zhambyl regions of Kazakhstan. Study of pathological changes caused by theileria infection in cattle.

Materials and methods of research

Study area: Gathering of ticks from animals and in biotopes was carried out by the standard techniques [8].

The studies were conducted in the settlement "Aktobe" of the Baizak region of the Zhambyl region. The materials for the present studies were their own weekly field collections of mites carried out various biotopes of the investigated region (March-May).

Collection of sample: Routes were laid using the random sampling method, in different biotopes and passed through the sections of the most probable habitat of ixodid mites, i.e. along the edges of shrub thickets, forest edges, forest plantations, along footpaths and pedestrian paths, alternating with the places of gathering from the frequency of people and livestock attendance. In addition, 56 heads of cattle in the village were examined. A total of 3170 copies were collected. Ixodes ticks. Out of 56 heads of cattle 4 heads were lost and 3 heads were sent for slaughter.

Microscopic examination: The collected live mites on the basis of the laboratory of Antiparasitic Biotechnology Kazakh National Agrarian University were investigated for the purpose of detecting the causative agent of bovine theileriosis in a method of microscopy of the contents of the salivary glands. Ticks were opened on a slide in a drop of saline. The fields were viewed in parallel rows. The viewing rate at which the drug is considered negative is at least 20-25 fields of vision. This method was used to study 3170 specimens. mite. To detect the invasion of mites by thievery by taking a sample from them and then investigating it, the breakdown is a punctate, which was examined by making print smears and counting the theileremia under a microscope [8]. The determination of the species and sex of the mites was carried out by Serdyukova GV. [9].

A homogenate prepared from mites taken from temperature-sensitive animals was conducted to determine the presence of theilerias in their bodies. Serological studies were carried out on the patented method [10]. To reveal the invasion of mites with thetleria, the ixodid ticks were collected, the homogenate from the mites was tested as the antigen to be tested, and an antithyroid serum was obtained [10]. Long complement fixation test (LCFT) was performed using positive antiplaicry serum for the diagnosis of theilerosis [10].

For the diagnosis of theilerosis, a pathomorphological study was conducted from dead animals.

The results of the pathomorphological study of March 14, 2017 at the department

"Biological Safety" KazNAU in the presence of the Ass. professor, Ibazhanova AS, Ass. professor, p G. Turganbaeva, senior teacher Assylkhanov D.U. and representatives of the "Aktobinsky rural district" (Zhambyl region, Bayzak district) an autopsy of a cow was performed.

A pathomorphological method was performed from the dead animals. A serum of blood was prepared for further laboratory testing.

Results of the research

According to the results of the research in the settlement of Aktobe in the Baizak region of the Zhambyl region, 3170 copies were collected altogether mites, of which 1573 specimens. –H. anatolicum (49.6%), 1050 specimens, H. scupense (33.2%) and 547 specimens. were classified as H. detritum (17.2%) (Table 1).

Table 1.Charges of ticks in the settlement "Aktobe" of the Baizak district of the Zhambyl region from March to May 2017.

Quantity of							
collection	Quantity	Species of ticks					
(distance traveled)	of						
407 routecollection	collection ticks	Hyalommaanatolicum	Hyalommadetritum	Hyalommascupense			
=	2057adults	960	254	843			
4,700 m	961 nymph	613	181	167			
	152larvae	-	112	40			
Total/specimen%:	3170	1573/(49.6%)	547/(17.2%)	1050/(33.1%)			

It is worth noting the high numbers in the collections of the species H.anatolicum - 49.6%, from all collected ticks for the entire observation period. In studies, the mite count in the settlement of Aktobe in the Baizak region of the Zhambyl region was dominated by H. anatolicum (49.6%), followed by H.scupense (33.2%) and the lowest form of H.detritum (17.2%) (Fig.1). By results of researches it is established, that mites are distributed non-uniformly, forming the local centers with a high number in stations with the most favorable for kinds ecological conditions. Tickfociconsistof 2-3 species, with H. anatolicummite.



Out of 38 infected ticks 23 species belong to the species H.anatolicum, the remaining 9 species. To the species H.detritum and 6 species to H.scupense.

As a result of our studies on the number and infection of females and males, Ixodes ticks found that females predominated in number (H.detritum and H.anatolicum, and then H.scupense

species.) The level of infestation in H.detritum individuals is approximately equal, in females H.anatolicum infection level twice as much as that of males (Table 2).

		Sex	Quantity		Percent of
N⁰	Species of ticks		Study on infestation of individuals	Infestation of individuals	infection%
		females	1284	19	1,5
1 Hyalommaanato	Hyalommaanatolicum	males	237	3	1,3
		nymph	52	1	1,9
		Total:	1573	23	1,4
2 Hyalommadetri		females	433	7	1,6
	Hyalommadetritum	males	63	1	1,5
		nymph	49	1	2,0
		Total:	547	9	1,6
		females	956	5	0,5
3	Hyalommascupense	males	94	1	1,06
		Total:	1050	6	0,57

Table 2 - Infection of ixodid ticks (females, males and nymphs) with thieveries in the "Aktobe" settlement of the Baizak region of the Zhambyl region.

As a result of studying the dynamics of the abundance of mites, it was established that the species H. anatolicum, then the species H. scupense and H.detritum prevailed in the locality "Aktobe" of the Baizak region of the Zhambyl region. According to the results of ticks infected with ticks, the H.anatolicum species found that the level of infection of females was twice that of males.

According to the veterinarian: general weakness, to- $40-41^{\circ}$ C, anemia and icterus of mucous membranes. The cow fell 2 days after the appearance of the clinical signs.

At autopsy, Jaundice of the sclera, mucous membranes (pleura, peritoneum) and internal organs was detected; swelling in the area of the bout, belly. Multiple hemorrhages (hemorrhagic diathesis) on serous, mucous membranes and internal organs and their anemia. The blood is watery, incapable of clotting.

The spleen is enlarged 2-3 times, the edges are rounded on the incision, the pulp is bulging, the consistency is softened, the scraping is mushy (Figure 1).



Figure 1. Hyperplasia of the spleen

The liver is enlarged, flabby consistency, brown-yellow color, "muscat type". All this is due to dystrophic processes and congestive hyperemia. The gallbladder is overflowed with a thick dark brown liquid (Figure 2).



Figure - 2. Muscat liver

Light red-yellow color, testate consistency, surface on a cut is dark red, there are foci of hemorrhages under the pleura (Figure 3).



Figure 3. Hyperemia of the lungs

Kidneys are reddish-brown, flabby, in the cortical layer point hemorrhages, the medulla is radially striated due to hyperemia of the capillaries.



Figure 3. Hyperemia and dystrophia of the kidney

The bladder contains a transparent reddish liquid, the wall is thickened, with hemorrhages (Figure 4).



Figure 4. Spot hemorrhage in the walls of the bladder

The heart is enlarged due to the expansion of its cavities, especially the right ventricle and atrium, myocardium flabby, dim (Figure 5).



Figure 5. Heart enlargement

Lymph nodes are enlarged, juicy, hyperemic. Skeletal muscles flabby, dull, brownish-red. The book is enlarged, contains dry masses (Figure 6)



Figure 6.Atony of the stomach

Mucous membranes of the abomasum, intestines extinct, with hemorrhages, are covered with a thick mucous mass. Vessels of the meninges are injected with blood.

Pathology

In the spleen, hypoplasia of the red pulp, in some places until it completely disappears. Large lymphocytes with friable nuclei and a noticeable rim of cytoplasm, macrophages, rod-and segmented neutrophils, and reticular cells are everywhere located; there are also megakaryocytes. Macrophages contain brown pigment hemosiderin. Trabeculae of spleen are dense, intensely colored.

The structure of the hepatic lobules and beams is obliterated. Hepatocyte nuclei are poor in chromatin, in the cytoplasm - dusty brown-pink granularity or vacuoles with a delicate mesh, that is, there are signs of granular and vacuolar dystrophy. Between the hepatic beams are located lymphoid cells and true lymphocytes. Connective tissue layers are infiltrated by lymphocytes, monocytes and neutrophils. The contents of blood vessels are a network of deformed erythrocytes and fibrin strands or a dense clot occupying part of the vessel.

The renal tubules are not clearly delineated, with large lumens. Epithelial cells do not have clear boundaries, cloudy, with pale blue nuclei or without nuclei in general. There are also intensely-colored tubules, in the cells of which there are dense small nuclei, in some two nuclei. In some renal glomeruli, hyperemia and endothelial dystrophy, in others the necrobiosis of the center and the proliferation of oval cells (with lumpy nuclei and a small amount of cytoplasm) around the periphery. Some parts of the kidneys differ in their unformed structure, but in contrast with the coloration. In addition, there is an overflow of blood vessels and individual microhemorrhages.

Myocardium is dystrophic: muscle fibers have no clear boundaries, their nucleus is turbid, the color of eosin is uneven.

The luminal alveolar clearance is clear, in some there are outgrowth cells with loose lightblue nuclei and turbid cytoplasm, the alveolar macrophages. In some areas interalveolar septa are thinned, interrupted, in other places, on the contrary, thickened, infiltrated by lymphoid, epithelioid cells, fibroblasts, neutrophils. Blood vessels thickened. The bronchial epithelium is in a state of turbid swelling, contains a thin layer of oxyphilic mucus on the surface.

Dystrophy of epithelial cells of the intestine and their rejection, as well as focal metaplasia of epithelium in goblet cells are noted. In crypts, many cells are dense, bright, but as they approach the tops of the villi, they become more and more pale-colored. The submucosa of villi is loose, in some places there are accumulations of epithelioid cells. The submucosa is eosinophilic, dense, coarse-fibrous, with the presence of spindle-shaped cells. The muscular layer is cloudy, unevenly colored.

In the loose main substance of the brain there are homogeneous oxyphilic regions. In the neurocytes and glial cells pericellular edema is noted, although there are also little altered neurocytes, with preserved outgrowth. Blood vessels are bloody.

Conclusion on the basis of pathoanatomical autopsy of a cow's corpse, the results of histological and microscopic examination of smears-prints from the organs, we believe that the death of a cow is due to theilerosis.

References

1. Turganbayeva G.E., Akhmetsadykov N.N., Shabdarbaeva G.S., Khussainov D.M., Assylkhanov D.U., Akhmetzhanova M.N. Study of ixodid ticks on existence of blood parasites. Journal of International Scientific Publications. Agriculture & Food. ISSN 1314-8591, Volume 4, 2016. pp. 229-239.

2. Jongejan F, Uilenberg G: The Global importance of ticks. Parasitology. 2004, 29 (Supp): S13-S14.

3. Young A.S., Groocock C.M., Kariuki D.P: Integrated control of ticks and tick-borne diseases of cattle in Africa. Parasitology. 1988, 96: 403-432. 10.1017/S0031182000058388.

4. Alekseev A.N., Dubinina H.V., Semenov A.V., Bolshakov C.V. (2001). Evidence of ehrlichiosis agents found in ticks (Acari: Ixodidae) collected from migratory birds. J Med Entomol. 38 (4):471-4.

5. Hasle G. (2013). Transport of ixodid ticks and tick-borne pathogens by migratory birds. Front Cell Infect Microbiol. 3:48. [DOI: 10.3389/fcimb.2013.00048]

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6. Waldenström J., Lundkvist A., Falk K.I., Garpmo U., Bergström S., Lindegren G., et al. (2007). Migrating birds and Tickborne encephalitis virus. Emerg. Infect. Dis. 13, 1215–1218 10.3201/eid1308.061416

7. Kozhabaev M.K., Amanzhol R., Tuleuhanov A. (2011). [Prevalence of Ixodidae ticks at the South of Kazakhstan. Teoriaipraktikaparazitarnichbolezneizhivotnich].No 14. pp. 242-244 [Eds. Transl] [In Russian]

8. Balashov Y.S. (1987). [Organizm of ixodid ticks as habitat of causative agents of transmissive infections] Yu.S. Balashov//Parasitology. Moscow, Volume 34. pp. 48-69. [In Russian]

9. Serdyukova, G.V. (1956). [Ixodid ticks of the USSR fauna] [Text]. - Moscow; Leningrad: Izdat. Acad. Nauk SSR, pp.122.[In Russian]

10. Shabdarvaeva G.S., Akhmetsadykov N.N., Turganbayeva G.E., Khussainov D., Balgymbaeva A.Y., M., Assylkhanov D.U., Akhmetzhanova M.N. (2016). [Method for isolation theileria in ticks]. Patent No 18 (30.12.2016). [Published in the official bulletin of the Republic of Kazakhstan "Promishlennayasobstnennost"]. [Patent in Russian]

11. Sonenshine D.E. (1993). Biology of Ticks, Volume 2. New York, NY: Oxford University Press.

Тұрғанбаева Г.Е., Ибажанова А.С., Асылханов Д.У., Шабдарбаева Г.С., Көмекбай М.

СИЫР ТЕЙЛЕРИОЗЫН ТАСЫМАЛДАУШЫЛАРДЫҢ ТАРАЛУЫ ЖӘНЕ ОНЫ БАЛАУ

Аңдатпа

Бұл мақалада сиыр тейлериозын тарататын иксодид кенелері жайлы мәселелерге індеттік талдаулар жүргізілді жәнеосы аурудан өлген жауарлар ағзасында дамитын патологиялық өзгерістер зерттелінді.

Кілт сөздер: Кене, кенелер тасымалдайтын аурулар, тейлериялар, бабезиялар.

Турганбаева Г.Е., Ибажанова А.С., Асылханов Д.У., Шабдарбаева Г.С., Комекбай М.

РАСПРОСТРАНЕНИЕ ПЕРЕНОСЧИКОВ ТЕЙЛЕРИОЗА КРУПНОГО РОГАТОГО СКОТА И ЕГО ДИАГНОСТИКА

Аннотация

В данной статье приведены анализ и синтез информации по проблеме иксодовых клещевых носителей тейлериоза у крупного рогатого скота и результатыпаталогоанатомического вскрытия павших жиотныхот данного заболевания

Ключевые слова: Клещи, клещи - переносщики заболевании, тейлерии, бабезии.

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