"JOINT ETIOLOGY AND DIFFERENTIAL DIAGNOSIS OF SALMONELLOSIS AND COLIBACILLOSIS IN RABBITS"

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Annotation: *The article describes the prevalence, clinical signs, transmission features, pathomorphology and prevalence of salmonellosis and colibacillosis among rabbits grown on farms.*

Key words: *Exudate, trachea, mucous membranes, petechial hemorrhages, purulent inflammation, degenerative changes, fibrinous nodules, necrotic-exudative inflammation.*

Relevance of the topic: Currently, among the rabbit farms of the Republic, the combination of mixed infectious colibacillosis and salmonellosis in rabbits, especially in rabbits from 20 days to 2.5 months of age, is one of the most pressing problems in the country and up to 65% of rabbits are damaged and die, causing significant economic damage to the economy.

The degree of study of the topic: The diseases colibacillosis and salmonellosis were diagnosed in the 1960s and accounted for 10.9% of mixed bacterial diseases. To date, the prevalence of salmonellosis and colibacillosis among large horned animals, small horned animals, fur animals and humans as a separate disease has been studied. But in recent days, the outbreak and the mixed spread of the disease have caused great economic damage to farms. The basis of this is the decrease in the resistance of animals, improper care and feeding, the lack of complete feed, especially the prevalence among rabbits, is one of the problems that need to be studied.

Including mixed bacterial diseases pasteurellosis, colibacillosis and salmonellosis, distribution, pathomorphology and prevention measures were studied by B. A. Elmuradov (2018-2020) in large horned animals, small horned animals, birds and against the background of contagious infectious diseases, against pasteurellosis, colibacillosis and salmonellosis in farm animals, a polyvalent formal GOA vaccine against salmonellosis has been introduced.

However, to date, non-compliance with veterinary and sanitary rules when caring for rabbits, a decrease in the resistance of rabbits due to improper care, feeding and stress factors, as well as the combination of these diseases are not insignificant.

Purpose of the study: In connection with the coexistence, outbreaks and spread of salmonellosis and colibacillosis, which currently cause the death of a large number of rabbits, it is advisable to carry out prevention, treatment, study of the transmissible characteristics of rabbits, clarify the prevalence, and determine the differential diagnosis of the disease separately and together.

Research methods and materials: During 2020-2021, epizootological surveys were conducted among various rabbit breeding and personal farms to study mixed bacterial diseases of rabbits. Of these 100 rabbits examined in 2020, a total of 65 were infected and 30 died.

Bacteriological examination of the carcasses of these 30 rabbits in the microbiology laboratory of the Research Institute of Veterinary Medicine revealed miscarriages of 11 pregnant rabbits from salmonellosis and the death of 9 rabbits 3-4 months of age, out of 18 rabbits infected with mixed infections (salmonellosis and colibacillosis), 15 rabbits died , and death was noted in all 6 rabbits infected with colibacillosis.

In 2021, more than 300 rabbits were examined in private and public subsidiary farms and farms in the Urgut district of the Samarkand region. As a result of examinations on suspicion of the disease, 150 heads of rabbits were isolated. In total, 48 rabbits were infected and died before the checks, for the study of diseases of young cattle and bacteriological studies in microbiological laboratories, 70 rabbits were infected with salmonellosis, 65 with mixed infection (salmonellosis and colibacillosis) and 15 with colibacillosis.

In the Jizzakh region, when examining more than 1,700 rabbits in such farms as "Osmat Fayzi", "Ikrom Makhmudov", "Sangzor Kokbulok Manzarasi", "Zomin Hari" LLC, miscarriages and death of rabbit mothers and rabbits in the second were observed in many farms. half of the pregnancy of the rabbits. 582 rabbits with suspected disease were isolated. During the checks, bacteriological studies were carried out and diagnostics were carried out in the laboratory of microbiology and diseases of young cattle by taking 4 samples of rabbits from each farm as samples from the total number of dead rabbits in all farms of 340 heads.

Research results: According to the results of bacteriological studies in the laboratories of microbiology and diseases of young cattle of the Research Institute of Veterinary Medicine, after a pathoanatomical examination of samples from each farm, an accumulation of yellowish water in the abdomen of rabbits from 1 to 10-15 days, a doubling of the volume of the liver, an increase and anemia of the spleen, accumulation gases in the small intestine, undigested mixture of nutrients in the stomach with curds, bleeding in the intestines, thinning of the peritoneum, filling the bladder with urine.

Abdominal edema and complex pathological changes were observed in rabbits from 20 days to 2.5 months of age. When the abdominal cavity was ruptured, it turned out that gas accumulated in all the intestines, the large intestine was filled with mass, and gas also accumulated in the stomach. A significant distribution of an unpleasant odor and accumulation of undigested food was found when the stomach was cut, linear hemorrhage when the mass was covered with mucous exudate, linear hemorrhage when the mass was emptied, increased folds, thickening of the gastric mucosa, hemorrhagic hemorrhages in the sphincters, duodenum, lymphadenopathy, hyperemia, fibrin nodules in the place of transition of the appendix to the large intestine and appendix, necrotic-exudative inflammation, hemorrhagic hemorrhages in the small intestine, double enlargement and hemorrhage of the liver, enlargement and fullness of the spleen, bloating. An increase in the volume of the kidneys, point and general hemorrhages in some places, an easy separation of the cortical substance of the kidney on the cut, hemorrhagic hemorrhages in the renal pelvis, the development of pyelonephritis, bladder filling, and protein deposits at the base of the urine are noticeable. Accumulation of 15-20 ml of bloody mixed exudate in the chest, ventricular infarction, accumulation of yellowish exudate in the pericardium of the heart, loosening of the heart chambers, hemorrhagic hemorrhages. The lungs developed bilateral bronchopneumonia, hemorrhagic-exudative hemorrhages, point linear hemorrhages in the bronchi and trachea.

In rabbits at the age of 4-5 months, the development of endometritis due to miscarriage in the second half of pregnancy was noted, in some metritis, purulent inflammation of the labia due to endometritis and exudate leakage, similar cases were observed in the vagina and vaginal corridor. At autopsy of the carcass, swelling of the kidneys and hemorrhages, purulent nephritis, hemorrhage in the pelvis, accumulation of gas in the large and small intestines, pinpoint hemorrhages, thickening of the mucous membranes, enlargement and degenerative changes in the liver, atrophy of the spleen, intestinal lymph nodes with patchy bleeding, unilateral pneumonia, infarction of the right heart, the presence of a slight yellowish exudate in the chest cavity.

Samples of parenchymal organs isolated from rabbits brought from all farms were inoculated onto the MPB medium and placed in a thermostat at 38°C. When viewed after 18 hours in cultures implanted in the MPB from all organs (heart, lungs, kidneys, spleen, liver, bone marrow, lymph

nodes), uniform turbidity was observed. Endo, Levin, Bismuth-sulfite, Ploskirev from MPB seedlings were sown specifically to identify agar nutrient media. In this case, the growth of two colorless and pink luminous bismuth sulfite colonies on endo-agar, black colonies on agar and brown colonies after 42 days was noted. Colorless transparent colonies specific for Salmonella and Escherichia dark yellow were isolated on Ploskirev's agar.

Samples prepared from all agars were tested for sterility in order to isolate differentiating pathogens.

According to the final diagnosis of rabbits with suspicion and infection with the disease, the total number of dead rabbits from a mix of colibacillosis and salmonellosis in the total number of farms was 682 heads, with salmonellosis 184 and with colibacillosis 56 heads (Table 1).

Table 1

№	Farm name	Age of rabbits (months)	Total number of rabbits	Infected		Dead		Healthy		Diagnosis
				бош	%	бош	%	Бош	%	
Samarkand region for 2020										
1	city of Urgut	3-4	47	11	23,4	9	19,1	27	57	Salmonellosis
2	Sanchikul village, Urgut district	1-2	33	18	54,5	15	45,4	-	-	Salmonellosis + colibacillosis
3	Mahalla Okmachit of Samarkand region	10-15 days	20	6	30	6	30	8	40	Colibacillosis
	Total		**100**	**35**	**35%**	**30**	**30%**	**35**	**35%**	
2021										
1	The city of Samarkand is a military town.	3-5	150	70	38	13	8,7	67	44,6	Salmonellosis
2	Urgutsky district	From 10 days to 1 month	50	15	30	10	20	25	50	Colibacillosis
3	Taylak district, Shopulat village	From 15 days to 1 month	100	65	65	25	25	10	10	Salmonellosis + Colibacillosis
	Total		**300**	**150**	**50%**	**48**	**16%**	**102**	**34%**	
Jizzakh region										
1	Farm "Osmat Fayzi"	4-5 months, 15 days	100	32	32	22	22	30	30	Salmonellosis,
				6	6	10	10			Colibacillosis
2	Farm "Ikrom Makhmudov" of Gallaorsk region	From 20 days to 2,5 month	800	350	43.75	170	21.25	280	35	Salmonellosis + Colibacillosis

3	"Sangzor kukbulok manzarasi" Alibekov's farm	1-2	250	84	33.6	78	31.4	88	35,2	Salmonellosis + Colibacillosis
4	"Zomin Hari" LLC	2-4	300	90	30	40	13.3	170	56,7	Salmonellosis
5	LLC "Dashtobot Rabim agro"	1-10 days	250	20	8	20	8	210	84	Colibacillosis
				122	**7,1**	**62**	**3.6**			**Salmonellosis,**
				434	**25.5**	**248**	**14.6**			**Salmonellosis + Colibacillosis**
			1700	**26**	**1.53**	**30**	**1.76**	**778**	**45,76**	**Colibacillosis**
	Total			**582**	**34,2**	**340**	**20**			

For the whole year, the incidence for each farm was 10.8% for salmonellosis separately, for mixed salmonellosis and colibacillosis together - 40.12%, for colibacillosis separately - 3.3%.

Conclusion:

1. The very rapid and severe course of such mixed infectious diseases in rabbits contributes to the penetration of pathogens into the body due to non-compliance with zoohygienic rules when caring for them, improper care and feeding.

2. The incidence of mixed infectious diseases (salmonellosis and colibacillosis) is 40.2%, and the mortality rate is 60-65%, causing significant economic damage to rabbit farms.

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