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THE ETIOLOGICAL STRUCTURE OF MASS DISEASES WITH YOUNG GASTRO AND RESPIRATORY SYNDROME

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Abstract. The study of the etiology and pathogenesis of diseases gastrointestinal and respiratory tract, the development of effective methods of these treatment and prevention are of great economic importance in ensuring the country's food animal population. Widespread gastro-intestinal and respiratory diseases (25-76%) in large livestock farms due to the impact on the body of animals and birds of many technological-ray stress factors, reducing the natural resistance of the organism, pathogenic and opportunistic pathogenic microorganisms, both individually and in various associations. Etiology gastroenteritis and pneumonia animals studied complex, on the basis of epizootic, clinical, pathological data, bacteriological results, serology, hematology, immunobiochemical research methods. For detection of antibodies to pathogens of viral and chlamydial Institute infections using standard biofabrichnye antigens. Antimicrobial activity tilozinsoderzhaschih drugs against reference strains of mycoplasma, aholeplazm and field cultures of E. coli, Pasteurella and Staphylococcus aureus was investigated in liquid and solid culture media using an indicator 2,3,5 – triphenyltetrazolium chloride. Found, in the etiology of gastro-intestinal and respiratory diseases young farm animals participating Gram positive (Staphylococcus) and Gram negative (Escherichia, Salmonella, etc.) microorganisms, which usually stand in various combinations. The isolated microorganisms studyed degree of habituation to widely used in veterinary medicines practice (furazonalu, biovitu, sulgin, ampicillin, neomycin, streptomycin). Found that during several passages of them through the culture medium containing drugs (streptomycin, neomycin and ampicillin sulfates, tylosin tartrate, furazonal, Biovit, sulgin), microorganisms become resistant to them.
Keywords: calves, lambs, pigs, gastroenteritis, pneumonia, etiology, stress, micro-organisms.

Introduction.

Bacteriological examination of pathological material from patients with gastroenteritis and pneumonia of pigs, lambs and chickens found that isolated them from the microflora often had non-specific. When it pneumonia mostly present not only in the affected tissues but also in the kidney, spleen, liver and other organs, it is a process taking generalized.

Bacteriological examination of biological and pathological material from patients with gastroenteritis and pneumonia and died from these diseases of animals isolated microorganisms association consisting: of Escherichia and

Mycoplasma, Staphylococcus and Salmonella (piglets); of Streptococcus and Pasteurella (calves); of Bordetella and Pasteurella (lambs). It should be noted that from animals belonging to a large cattle-breeding complexes, flora isolated more often than by young animals from farms with a complete production cycle, for gastroenteritis in the 2-3 times with pneumonia and 1.5-2 times.

It should be noted that the pathogens were isolated from the gastrointestinal tract and lungs, as well as other tissues and organs, indicating that the generalized nature of the infection. Of isolates in some cases were resistant or slabochuvstvitelny to the most commonly used antibiotics in veterinary medicine, in particular: Streptococcus – erythromycin, staphylococcus – penicillin, Pasteurella – erythromycin and neomycin, tetracycline, chloramphenicol, Escherichia – to polymyxin.

The results of bacteriological studies also show that the microflora taking part in the etiology and pathogenesis of these diseases is the same taxonomic characteristics. However, specific and generic composition mikrorganizmov allocated for gastroenteritis, is more diverse than in pneumonia, and their pathogenicity was less pronounced than the pathogens isolated from animals with pulmonary disease. The microflora isolated from parenchymal organs for gastroenteritis and pneumonia was practically identical. The clinical studies revealed a certain pattern in the occurrence of gastroenteritis and pneumonia. Recent usually recorded after gastroenteritis and proceed in a more severe form.

Pneumonia more difficult to prevention and treatment, that to some extent be explained by the emergence, in causing them mikroorganiz-atoms, more active enzymes pathogenicity severe hemolytic capacity and R-plasmids of resistance, including the cross, to drugs and protection factors microorganism. This is confirmed by our studies of patients with pneumonia of pigs, calves and lambs caused by Escherichia with the elements of anti-lysozyme activity, which makes the animals less protected against bacteria.

The results of serological studies indicate the role of and others not identified by bacteriological and virological research methods, agents of these diseases, such as influenza virus, enterovirus and coronavirus in the etiology of gastroenteritis and pneumonia young farm animals. It should be noted that the number of seropositive animals in the off-farm enterprises for rearing and fattening livestock precast was significantly greater than in an economy with a closed production cycle [1, 2, 3, 4].

Based on the results of virological, mikoplazmalogiche-ray, bacteriological and serological studies can be concluded about the etiological role of streptococci, staphylococci, Pasteurella, Salmonella, zsherihy, Bordetella, Klebsiella, mycoplasma, influenza, enteroviruses, and corona- for gastroenteritis and pneumonia in young farm animals . In the blood serum of infected animals simultaneously detect antibodies to Salmonella, esherihioznomu, bordetelleznomu, pasteurellosis and staphylococcal antigens [5, 6, 7, 8, 9].

Given that the level of total non-specific resistance largely depends on the emergence and development of the disease, we conducted studies on the study-of stressors affecting the natural resistance of the body of pigs. Transportation, rearrange ment and related change and feeding conditions lead to a decrease in the number of blood erythrocytes, monocytes, lymphocytes, segmented neutrophils, hemoglobin, and the phagocytic index of complementary, lysozyme, and serum bactericidal activity.

Note that when transporting the total resistance level was reduced to a greater extent than on the farm rearrangements. With increasing transportation duration piglets resistance level reduction was more pronounced, particularly in respect of its parameters such as lymphocyte counts, hemoglobin, and lysozyme activity complementary serum [3, 10].

Our data showing direct correlation incidence piglets gastroenteritis and pneumonia with the level of total non-specific resistance and conditions of keeping and feeding technology, largely in line with the results of research.

Thus, gastroenteritis and pneumonia caused by young livestock associations viruses, mycoplasmas and bacteria represented adenovirus, enterovirus, coronavirus, Escherichia, Salmonella, Pasteurella, Proteus, and Pseudomonas aeruginosa, exert their pathogenic action amid falling under the influence of different stressors general non-specific resistance of the organism of young growth. Contributing factors and pathogens in the body cause immunological, biochemical and morphological changes in the number of cases of morbidity and requiring their normalization.

The concentration of animals in small areas, the change in the evolution Zion and economically prevailing nature of their contents and feeding contribute significantly to the spread of gastrointestinal and respiratory diseases, decrease in total non-specific and specific resistance, and inappropriate therapies – the emergence and spread of drug-resistant populations of microorganisms – pathogens . All this eventually contributes to significant morbidity and death primarily young farm animals. Reducing the level of natural resistance and immunobiological reactivity, against which exerts its effect of conditionally pathogenic microflora hampers prevention zhelu-sedimentary-intestinal and

respiratory diseases. Moreover, the majority of pathologies of the gastrointestinal, respiratory tract, gastroenteritis, pneumonia, with systemic lesions pnevmoenterity, proceed with the participation of not one, but at the same time several agents [1, 4].

Therefore, the study of the etiology and pathogenesis of these diseases, the development of effective methods of treatment and prevention are of great economic importance in ensuring the country's food animal population.

The main objective of this work was to study the etiological structure of the mass of young and gastro diseases with respiratory syndrome..

Material and methods of research.

The studies were performed in 1985-2007 years in the GNU Krasnodar NIVI, All-Russian Scientific Research Institute of Veterinary Pathology, Pharmacology and Therapeutics research according to the thematic plan of the State Scientific and Technical Program 0.51.09 (№ state. Registration 01.860113283, 01.860113285) and branch scientific and technical 0.SKH.67 program (number of state. registration 01860113274), and when the research plan FGOU Belgorod State Agricultural Academy on R & D plan.

Etiology gastroenteritis and pneumonia animals studied com-plex, on the basis of epizootic, clinical, pathological data, bacteriological results, serology, hematology, immunobiochemical research methods. To characterize the clinical condition of the animals was measured body temperature (rectal) was determined by pulse rate and respiration character nasal secretions and stool. Before each experiment for preliminary morphological and bacteriological examinations were carried out on the slaughter of two patients with gastroenteritis and Pneumatic-moniyami pig, chicken, calf and lamb. In addition, before and after the use of drugs from 3-5 animals in each group were taking nasal discharge for the isolation and identification of microorganisms. Tampons with a material placed in tubes with mycoplasma growth medium. Sowing was carried out on the BCH IPA with 5% sheep blood, chocolate agar agar kazeinougolny (AMC), Endo agar, Wednesday Kitt Tarotstsi modified Wednesday VIEV with inhibitors to isolate mycoplasmas and aholeplazm. Cultures were incubated in an oven at 370°C. After 18-24 hours of incubation of culture-studied biochemical, morphological and tinctorial properties of isolated cultures. The pathogenicity of the bacteria except mycoplasma and aholeplazm determined on white mice. Specific accessory isolated bacteria was adjusted using the determinant D. Bergey and determinant zoopatogennyh microorganisms edited by MA Sidorova. Typing coccal microflora was performed according to the «Recommendations on the indication and identification of staphylococci and streptococci»; Pasteurella – according to the «Guidelines for the laboratory diagnosis of infectious pneumonia of swine caused by Mycoplasma, Pasteurella and Bordetella»; allocation of mycoplasma and aholeplazm – in accordance with the «Guidelines on the isolation, cultivation and identification of mycoplasmas and ureaplasma aholeplazm»; Enterobacteriaceae – taking into account the «Manual on the bacteriological diagnosis of colibacillosis farm, game animals and birds»; serological typing of Salmonella and Escherichia PA with O and H-agglutinating Salmonella syvorot kami manufactured Krasnodar biofabrika and O-coli serum-mi, made Armavir biofabrika – according to the «Manual on the use of agglutination O-coli sera» and «guidelines for the use of Salmonella monoretseptornyh O and H-aglyutiniruyuschih adsorbed sera for the identification of Salmonella».

For detection of antibodies to pathogens of viral and chlamydial Institute infections using standard biofabrichnye antigens: in the RSK at Hla-midioz and adenoviral infection – Odessa venture for the production of bacterial preparations in HAI influenza and parainfluenza – Leningrad Scientific Research Institute of Vaccines and Serums and Sverdlovsk Institute of viral vaccines for enterovirus and coronavirus in the RN-strains of viruses produced in Ukrainian and NIVI VGNKI, and for Phragmites – erythrocyte diagnostic kit VIEV. Diagnosticums used according to the supplied instructions to them.

To study the physiological and biochemical changes in the body of farm animals for gastroenteritis and pneumonia young farm animals, as well as the impact of technological factors (transportation and regrouping) the emergence and spread of gastroenteritis and pneumonia before stress exposure, and after 1, 10, 15, 30, 35 and 60 days from the blood vessels taking blood, which examined the content of red blood cells and white blood cells in the particle counter Coulter counters (France), hemoglobin – gemometrom Sali and gemoglobintsianidnym method hematocrit – on spiral centrifuge MPV-310 (Poland), erythrocyte sedimentation rate – for Panchenkova, leukogram – by counting 200 cells stained by Giemsa method, a calculation of the percentage of each type of bactericidal activity of blood serum – O.V. Smirnovoy method and T.A. Kuzminoy complementary activity – by O.V. Buharinu and N.V.Vasilevu (1974), lysozyme activity – for K.A. Kagramanovoy and Z.V. Ermolevoy, the

phagocytic activity of leukocytes, the phagocytic index and phagocytic number – on V.S. Gostevu, S.I. Plyaschenko, V.G.Sidorov, total protein content – refractometric, protein fractions sy-reversible blood – by Olla and McCord in Karpyuk modification, quantitative determination of immunoglobulin classes – radial precipitation reaction on Mancini, the content total immunoglobulins – A.D. Mak by Yuan et al.

Antimicrobial activity tilozinsoderzhaschih drugs against reference strains of mycoplasma, aholeplazm and field cultures of E. coli, Pasteurella and Staphylococcus aureus was investigated in liquid and solid culture media using an indicator 2,3,5 – triphenyltetrazolium chloride determination of bactericidal and bacteriostatic action of drugs. MBtsK determined by plating of the last two or three tubes in which no growth was observed.

Pharmaceutical research conducted in accordance with the dosage form technology and the requirements of the State Pharmacopoeia 13. Designed 2 tilozinsoderzhaschih powdered drug.

At the beginning, middle and end of the experiments in the blood and serum were determined above morphological and immunobiohimicheskie indicators, and in calves, piglets, lambs and chickens, in addition, the main carbohydrate, lipid, mineral and protein metabolism.

The resulting material was digitally processed using mathematical methods of mathematical statistics, taken in Biology and Medicine (Microsoft Excel 97 application).

Results and discussion.

To determine the role of the microflora in the etiology and pathogenesis of calves diseases performed bacteriology feces, nasal secretions of patients with gastroenteritis and pneumonia in calves, lambs, piglets and chicks (5 animals of each species) and parenchymal organs from dead diagnostic purposes sick animals (n = 5).

From the stool of patients with gastroenteritis animal was isolated and identified the following microorganisms:

- From pigs – enteropathogenic Escherichia, Salmonella, Staphylococcus, Streptococcus, Enterobacter;
- Calves – pathogenic Escherichia, Salmonella, Proteus, Staphylococcus, Streptococcus,
- Lambs – pathogenic Escherichia, Salmonella, Staphylococcus and paste-Rell;
- Chickens – pathogenic Escherichia, Salmonella, and Staphylococcus.

From parenchymal organs of patients with gastroenteritis:

- Piglets – streptococci isolated from the blood of the heart; liver – Salma Nelly and unidentified microflora; mesenteric lymph nodes – pathogenic salmonella;
- Calves – from the heart – Pasteurella; liver – salmonella; Kidney – Escherichia; spleen – salmonella, staphylococcus, Proteus;
- Lambs – from the heart pathogenic Pasteurella; Kidney – Salmonella; spleen – staphylococci;
- Chickens – out of blood – negative staphylococci; liver – salmonella, Escherichia untyped and flora; mesenteric lymph nodes – salmonella.

Bacteriological examination of nasal secretions with pneumonia animal was isolated and identified the following microorganisms:

- From pigs – E. coli and Salmonella, Staphylococcus and Streptococcus, Pasteurella and Klebsiella, Bacillus subtilis. Pathogenicity of them were the first five generations;
- Calves – Escherichia, Salmonella, Staphylococcus, Streptococcus, paste-Rell having pathogenic and non-pathogenic Bacillus subtilis. Of the 80% of the samples were not differentiable microflora isolated, which had 50% of pathogenic properties;
- From lamb – in 20% of cases, Escherichia, Salmonella, Pasteurella, Streptococcus, Bacillus subtilis, 60% of unidentified microflora. The first four kinds of pathogenic microorganisms possess properties in 20% of cases and untyped microflora 30%.

Bacteriological examination of pathological material (affected area of lung, bronchial and mediastinal lymph nodes, parenchymal organs) of those killed for diagnostic purposes pneumonia patients piglets, lambs, calves, chickens and various flora was highlighted. From the lungs of pigs with pneumonia isolated Escherichia, Salmonella, Pasteurella, Staphylococcus, Streptococcus. Salmonella, Pasteurella and streptococci possess pathogenic properties in 100% of cases, and Escherichia and Staphylococci 50; calves – Escherichia, Salmonella, Pasteurella, Streptococcus. Their pathogenicity was identified in 100, 100, 60 and 50%, respectively.

From the lungs of patients with pneumonia lambs were isolated and iden Rowan Escherichia (pathogenic), Salmonella (50% of the pathogens); streptococci (pathogenic). From pneumonic lungs modified chickens isolated Escherichia, Salmonella and Streptococcus spp.

Studies show that for gastroenteritis and pneumonia young farm animals microflora feces, nasal secretions, and parenchymal organs represented

by the same taxonomic units, differing frequency allocation and the degree of pathogenicity.

Note that mikrooganizmy isolated parenchyma of organs, toznyh more than isolated from faeces and nasal apportionment-ny possessed pathogenic properties.

Thus, in the etiology of gastro-intestinal and respiratory diseases young farm animals participating Gram positive (Staphylococcus) and Gram negative (Escherichia, Salmonella, etc.) microorganisms, which usually stand in various combinations.

The results of the sensitivity of the selection of the patients ha-stroenteritami pneumonia and animal microflora to the most commonly used medications in veterinary practice are presented in Table 1, where the first digit refers to the percentage of high-sensitivity (B); the second – the medium (C) and the third – slabochuvstvitelnyh and sustainable crops (V).

Table 1

Sensitivity to antibiotics of bacteria isolated from patients with gastroenteritis and pneumonia young

Name of antibiotic	Staphylococci			Streptococci			Enterobacteriaceae			Escherichia			Salmonella			Pasteurella		
	B	C	V	B	C	V	B	C	V	B	C	V	B	C	V	B	C	V
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Pneumonia pigs:																		
	p-5			p-8			p-3			p-7			p-4					
Erythromycin	0	0	100	0	0	100	0	15	85	0	15	85	0	0	100			
Chloramphenicol	0	100	0	0	25	75	0	33	67	0	71	29	0	75	25			
Tetracycline	20	20	60	0	25	75	0	33	67	0	43	57	0	15	85			
Penicillin	0	100	0	25	25	50	0	15	85	0	43	57	0	15	85			
Streptomycin	20	80	0	0	37	63	0	25	75	0	14	86	0	15	85			
Neomycin	0	20	80	0	37	63	0	33	67	0	14	86	0	15	85			
Monomitsin	0	0	100	0	63	37	0	33	67	0	15	85	0	50	50			
Polymyxin	0	0	100	0	0	100	0	50	50	0	15	85	0	85	15			
Gentamicin	20	80	0	12	88	0	0	50	50	0	100	0	0	100	0			
Pneumonia calves:																		
	p-5			p-4			p-3			p-4			p-4					
Erythromycin	0	0	100	0	0	100	0	0	100	0	25	75	0	0	100			
Chloramphenicol	0	100	0	0	25	75	33	33	33	0	50	50	0	75	25			
Tetracycline	20	20	60	0	25	75	33	33	33	0	50	50	0	50	50			
Penicillin	0	100	0	25	25	50	0	0	100	0	50	50	0	25	75			
Streptomycin	20	80	0	0	25	75	0	0	100	0	50	50	0	15	85			
Neomycin	0	20	80	25	25	50	0	0	100	25	25	50	0	15	85			
Monomitsin	0	0	100	0	60	40	0	0	100	0	25	75	0	50	50			
Polymyxin	0	0	100	0	0	100	0	100	0	0	100	0	0	85	15			
Gentamicin	20	80	0	25	75	0	0	50	50	0	50	50	0	100	0			
Gastroenteritis pigs:																		
	p-5			p-8			p-3			p-7			p-4					
Erythromycin	0	0	100	0	0	100	0	0	100	0	15	85	0	0	100			
Chloramphenicol	0	100	0	0	25	75	33	33	33	0	71	29	0	75	25			
Tetracycline	20	20	60	0	25	75	33	33	33	0	42	58	0	50	50			
Penicillin	0	100	0	25	25	50	0	0	100	0	42	58	0	25	75			
Streptomycin	20	80	0	0	37	63	0	0	100	0	14	86	0	15	85			
Neomycin	0	20	80	0	37	63	0	0	100	0	14	86	0	15	85			
Monomitsin	0	0	100	0	63	37	0	33	67	0	15	85	0	50	50			
Polymyxin	0	0	100	0	0	100	0	100	0	0	15	85	0	85	15			
Gentamicin	20	80	0	12	88	0	0	100	0	0	100	50	0	100	0			

Table 1 (continued)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Gastroenteritis calves:																		
	p-5			p-4			p-3			p-4			p-4					
Erythromycin	0	0	100	0	0	100	0	0	100	0	25	75	0	0	100			
Chloramphenicol	0	100	0	0	25	75	33	33	33	0	50	50	0	75	25			
Tetracycline	20	20	60	0	25	75	33	33	33	0	50	50	0	50	50			
Penicillin	0	100	0	25	50	25	0	0	100	0	50	50	0	15	85			
Streptomycin	20	80	0	0	0	50	0	0	100	0	15	85	25	25	50			
Neomycin	0	20	80	0	50	50	0	0	100	0	15	85	25	25	50			
Monomitsin	0	0	100	0	50	50	0	33	67	0	15	85	0	50	50			
Polymyxin	0	0	100	0	0	100	0	0	100	0	15	85	0	85	15			
Gentamicin	20	80	0	25	75	0	0	100	0	0	100	50	0	100	0			
Gastroenteritis lambs:																		
				p-3						p-3			p-4			p-3		
Erythromycin				0	0	100				0	33	67	0	0	100	0	0	100
Chloramphenicol				0	33	67				0	67	33	0	75	25	33	33	33
Tetracycline				0	33	67				0	33	67	0	50	50	33	33	33
Penicillin				33	67	0				0	33	67	0	25	75	0	0	100
Streptomycin				0	33	67				0	15	85	0	15	85	0	0	100
Neomycin				0	33	67				0	33	67	0	25	75	0	0	100
Monomitsin				0	33	67				33	33	33	0	50	50	0	33	67
Polymyxin				0	0	100				33	67	0	0	80	20	0	0	100
Gentamicin				33	33	33				0	100	0	0	80	20	0	100	0
Pneumonia lambs:																		
				p-5						p-3			p-4			p-3		
Erythromycin				0	20	80				0	33	67	0	25	75	0	0	100
Chloramphenicol				0	0	100				0	67	33	0	75	75	33	33	33
Tetracycline				20	20	60				0	33	67	0	50	50	33	33	33
Penicillin				50	50	0				0	33	67	0	25	75	33	33	33
Streptomycin				20	80	0				0	15	85	0	25	75	0	0	100
Neomycin				0	20	80				0	33	67	0	15	85	0	0	100
Monomitsin				0	20	80				33	33	33	0	50	50	0	33	67
Polymyxin				0	0	100				33	67	0	0	85	15	0	0	100
Gentamicin				20	80	0				0	100	0	0	100	0	0	100	0
Gastroenteritis chickens:																		
				p-4						p-3			p-4					
Erythromycin				0	0	100				0	33	67	0	0	100	0	0	100
Chloramphenicol				0	25	75				0	67	33	0	75	25			
Tetracycline				0	50	50				33	33	33	0	50	50			
Penicillin				25	50	25				0	0	100	0	15	85			
Streptomycin				0	75	25				0	0	100	0	15	85			
Neomycin				0	75	25				0	0	100	0	25	75			
Monomitsin				0	75	25				0	33	67	0	75	25			
Polymyxin				0	0	100				0	0	100	0	85	15			
Gentamicin				25	75	0				0	100	0	0	100	0			

Thus, the microorganisms isolated from patients with gastroenteritis, pneumonia and animals presented as Gram-positive (S.aureus), and gram-negative microorganisms (E.coli, S.ch.suis, S.dublin etc.). However, it should

be noted that the generic and species composition of bacteria allocated for gastroenteritis, is more diverse. Gastroenteritis pathogens was expressed to a lesser extent compared with that of the agents of pneumonia. Pathogenic organisms isolated from parenchymal organs for gastroenteritis and pneumonia, was practically identical. Based on the collected anamnestic data to identify patterns in the occurrence of gastroenteritis and pneumonia. Recent usually recorded after gastroenteritis.

When analyzing the results of the study of antimicrobial activity of several drugs against selected for gastroenteritis and pneumonia in calves, piglets, lambs and chickens microorganisms can be concluded that the microflora, which causes pneumonia, except that has a high pathogenicity, more resistant to the drugs used in the production. While studying at the isolated microorganisms degree of habituation to widely used in veterinary medicines practice (furazonalu, biovitu, sulgin, ampicillin, neomycin, streptomycin) found that during several passages of them through the culture medium containing drugs (streptomycin, neomycin and ampicillin sulfates, tylosin tartrate, furazonal, Biovit, sulgin), they become resistant to them (Table. 2).

Table 2

The results of the study of the formation of microbial drug resistance

Preparations	Bacteriostatic concentration, mg / ml					
	background sample			After 30 passages on nutrient media containing drugs		
	S.aureus	E.coli	S.dublin	S.aureus	E.coli	S.dublin
Ctreptomitsina sulfate	0,5	3	3	1	3	3
Neomycin sulfate	0,5	5	5	2	20	20
Ampitsilinasulfat	0,5	5	5	1	10	10
sulgin	500	500	500	500	500	500
Biovit (ADV)	500	1,5	1,5	1	3	3
Furazonal	5	25	35	5	25	35
Tylosin tartrate	0,5	50	50	1	100	100

So, after 30 passages of the sensitivity of Salmonella, E. coli and S. aureus to tylosin and ampicillin is halved, and the activity of neomycin – four. In other preparations the emergence of resistance R-plasmid recorded in microorganisms to a lesser extent (and streptomycin at biovitu St.aureus twice). Gastroenteritis and pneumonia more difficult to treat and profilaktirovat if microorganisms causing them arise because multiple passages more active enzymes pathogenicity expressed hemolytic capacity, R-plasmid of resistance, including the cross-drug, as well as anti-lysozyme activity (Tab. 3) that is supported by studies V.I. Terekhova [11].

Table 3

Antilysozyme activity of microorganisms isolated enteritis of calves

Indicators	E.coli n=94	Enterobakter n=191	Klebsiella n=118	Citrobakter n=30	P.aeroqinosa
Antilysozymic activity	3,38±0,06	2,86±0,05	3,26±0,08	2,98±0,08	2,57±0,07

Based on these data the frequency of isolation of microorganisms and detection of antibodies to them, pathogenicity and the sustainability of their antibiotic, it can be concluded about the etiological significance and ehpizootologicheskaja primarily Pasteurella, Salmonella, streptococci and staphylococci, Escherichia, Klebsiella, and Bordetella.

To determine the degree of influence of various stress factors on the occurrence and distribution of young animals with diarrheal diseases and respiratory syndrome was conducted three series of experiments.

In the first experiment we studied the effect of intra-rearrangements, in the second and third – transportation and associated changing and feeding conditions on the natural resistance of the body of pigs.

The transport of animals carried by road transport from supplier farms to inter-farm enterprise, distant from each other in the second experiment on 45 and 3rd of 15 kilometers.

Animals to stressors and after 15 and 30 days after it was performed morphological, biochemical and immunological blood tests. Under the effect of rearrangement (I experience) a decrease in serum bactericidal activity through 4 chasa Studies 3 and 4% (day 15 and 30), the phagocytic index and erythrocyte content of 14% (15 days).

After transporting the animals marked decrease in hemoglobin of 17 (I experience Day 60), 18 and 5% (2 experience, 20 and 30 days), red blood cells 16 and 13% (2 and 3 experiments, 20 days), leukocytes 75 %

(3 experiment), with an increase of 38% in the second experiment (20 days) decrease phagocytic number by 22% (2 experience day 10), complementary activity by 33% (2 experience day 35), lysozyme 62% (2 experience day 35), 48 and 59% (3 experience, 10 and 20 days), the bactericidal activity after 2 chasa research 33% (2 experience day 20) after 4 hours – 6 and 6 watches – 4 % bactericidal strength – 13% (2 experience day 20) reduction of young neutrophils at 150, 48 and 100% (2 experience, 10, 20, 35 days) with an increase of the latter to 60 day 4 times, and 3 -em experiment 3 and 2 times (days 10 and 20), a reduction of monocytes by 64 (2 experience day 10), segmented neutrophils by 70% (3 experience 20den), lymphocytes, 9% (2 experience day 20) with an increase of 29% on the last (3 experience day 20) and band neutrophils and eosinophils by 88 and 15 (2 experience, 10 and 20 days).

Ill 15 (43%) In the second experiment gastroenteritis and pneumonia, of which fell 9 (60.0%), 3-em 12 (76.0%), fell 7 (50.0%) and 1-5 ohm (25.0%), fell 2 (40.0%). The average daily weight gain were, respectively, 276.0, 230.0, and 243.0 g. При исследовании зоогигиенических показателей помещений установлено, что в 1-ом и 2-ом корпусах температура воздуха равнялась 20,3 и 21,7 С, относительная влажность 68,1 и 68,4%, скорость движения воздуха 0,16 и 0,12 м/с, содержание углекислого газа 0,18 и 0,15%, аммиака 7,6 и 7,71 мг/м3, бактериальная загрязненность воздуха 90,9 и 111,3 тыс. микробных тел/м^3. Заболеваемость поросят в них соответственно составила 21,1 и 29,8%.

Thus, all of us zoohygenic defined indicators, the incidence of piglet rearing groups gastroenteritis and pneumonia are most correlated with the level of bacterial contamination of indoor air.

a conclusion can be drawn from the data that the regrouping, transportation, poor detention conditions reduce the natural resistance of pigs in farms with industrial technology: there is a decrease in red blood cells; (In which hemoglobin); complementary; lysozyme; serum bactericidal activity of leukocytes and opsonofagotsitarnoy.

The clinical picture and hematology patients gastroenteritis and pneumonia

Clinical and hematological parameters were studied in calves, piglets, lambs and chickens with diarrheal and respiratory syndrome. The results of the blood tests and patients gastroenteritmi pneumonia of pigs and calves are presented in Tables 4 and Table 5.

Table 4

Morphological and immunobiohimicheskie gastroenteritis patients blood counts and pneumonia of pigs (n = 15) and calves (n = 10)

Index	Pneumonia		Gastroenteritis	
	piglets	calves	piglets	calves
Hemoglobin (g / L)	73,0±3,63	118,4±4,65	10,2±0,40	122,4±8,81
Leukocytes (10^9 / L)	16,0±1,39	8,2±0,41	17,9±2,40	5,8±0,54
Erythrocytes (10^{12} / L)	5,3±0,23	7,7±0,25	4,9±0,30	5,4±0,29
Neutrophils (%)				
Young	0,2±0,09	0,2+0,30	0,1+0,55	0,2+0,50
Stab	3,3±1,02	1,8±0,35	19,7±1,40	2,0±0,99
Segmented	29,5±4,11	17,6±0,93	17,8±0,60	18,0±4,74
Eosinophils (%)	3,9±2,20	2,5+0,60	3,7+0,35	1,6+0,50
Monocytes (%)	1,7±0,38	1,4+0,74	2,0±0,50	1,5±0,30
Lymphocytes (%)	61,4±4,59	69,8±6,08	62,5±0,30	70,5±0,50
Fal (%)	96,0±1,53	95,0+0,50	96,1+0,60	96,2+0,38
The FF	11,0+1,86	12,0+1,85	11,4+0,92	11,5+1,75-
Phi	11,46±0,77	11,57±0,78	11,87±0,87-	11,43±0,47
Complementary	21,7±0,92	20,3±0,82-	28,4±11,90	22,7±0,83-
Activity (%)	14,3±2,33	12,1±1,43-	7,1±0,40	12,3±1,43-
Lysozyme activity (pg / ml)	19,0±19,15	17,0±1,25	17,0±8,15	17,7±1,15
Bactericidal. Assets. (%)	90,5± 3,81	91,5±1,11	89,5±1,71	88,5±2,81
After 2 h	95,9± 0,85	94,9±1,88	94,9±1,87	93,9±3,78
After 4 hours				
6 hours	39,44±6,13	58,00±4,39	46,5+4,29	47,4+3,38
Protein fraction	12,90±4,11	4,17±0,99	14,2+2,04	12,1+1,04
Albumin (%)	22,77±3,34	11,21±0,96	13,0+1,05	15,2+1,25
Alpha-globulins (%)	24,88±4,02	26,16±4,61	24,6+2,20	21,7+1,20
Beta-globulins (%) -	6,9±0,50	5,62±3,47	7,2+3,40	7,4+1,43

Table 5

Features of clinical manifestations of gastroenteritis and blood parameters of calves at different ages

Index	Age, days		
	10-15	20-25	30-35
Temperature, ° C	38,1±0,1	38,5± 0,2	38,9±0,1
Pulse beats / min	116,5±7,8	128,6±8,2	104,4±3,9
Breath dyh.dvizheny / min	38,1±1,2	45,8±2,8	41,3±2,5
Hematocrit%	39,2±2,3	50,1±3,5	48,4±2,2
Hemoglobin, g / l	103,3±3,7	112,4±4,7	117,4±3,2
Red blood cells, mln / mm^3	7,96±0,2	8,10±0,48	7,92±0,34
White blood cells, thousand / mm^3	16,15±0,65	18,88±1,78	17,15±1,09
Neutrophils:			
Young	0,40± 0,02	0,70± 0,06	0,27± 0,02
Stab	6,4± 0,1	7,64± 1,31	8,77 ±1,15
Segmented	32,5± 1,89	35,3± 7,65	32,7 ±7,11
Lymphocytes	57,27± 5,8	51,31± 4,5	54,23± 5,5
Monocytes	2,76± 1,03	2,57± 0,55	2,43± 0,46
Eosinophils	0,77± 0,15	1,45± 0,41	0,72± 0,09
Basophils	0	0	0
Total protein, g / l	57,8± 1,61	53,8± 0,64	59,43± 0,73
Albumin,%	53,8± 0,82	53,8± 0,46	57,4± 0,46
Alpha globulins	12,99 ±1,7	17,981± 2,31	17,45± 1,46
Beta-globulins	17,84± 1,3	16,35± 0,86	15,63 ±1,2
Gamma globulins	15,21± 0,6	14,51± 1,04	12,51± 0,9
Glucose mol / l	2,89± 0,24	2,74± 0,17	2,69 ±0,14
Alkaline phosphatase, mol / tsp	1,45± 0,21	1,21± 0,45	0,85± 0,13

The performed studies of peripheral blood in patients with pneumonia and gastroenteritis of pigs and calves found reduction of red blood cells and hemoglobin by increasing the number of white blood cells and gamma-globulins (Tables 4 and 5).

Results of serum studies in RA with Salmonella, esherihioznymi, pasteurellosis, staphylococcal and bordetelleznymi in HI with influenza virus antigens, Phragmites and pH on entero- and coronaviruses piglets gastroenteritis patients are presented in Table 10.

From Table 6 shows that in the middle (day 15) and the end of the study (day 30) there was an increase in antibody titers to the antigens of Salmonella and esherihioznomu that indicates an increase in the circulation of pathogens in pigs.

Thus, clinical, pathologoanatomic, haematological, bacteriological and serological studies have established that in the etiology of gastroenteritis and pneumonia of pigs, calves and lambs in industrial farms participate bacteria associations, under the action of which increases leukocyte content and gamma-globulin, a shift leukogram left core It decreases albumin and alpha-globulins.

The data about the frequency of isolation of microorganisms and the detection of antibodies to them, pathogenicity and resistance of bacteria to antibiotics indicate the etiological role of Pasteurella, Salmonella, streptococci and staphylococci, Escherichia, Klebsiella, and Bordetella.

CONCLUSION

1. Widespread gastro-intestinal and respiratory diseases (25-76%) in large livestock farms due to the impact on the body of animals and birds of many technological-ray stress factors (transportation, rearrangement, crowding content, increased contamination of the premises by microorganisms, and others.) , reducing the natural resistance of the organism, pathogenic and opportunistic pathogenic microorganisms, both individually and in various associations.

2. In the etiological structure of gastrointestinal diseases often take part: piglets St. aureus, E. coli. S.ch. suis, Streptococcus pyogenes and pathogenic genus Enterobacter; calves: St.aureus, E. coli. S. dublin, Streptococcus pyogenes, and Proteus vulgaris; lambs: St.aureus, E. coli, S. dublin, P. multocida; chickens: E. coli. S.gallinarum, St.aureus.

The causes of respiratory disease are: piglets – St. aureus, E. coli. S.ch. suis, Streptococcus pyogenes, P. multocida; calves – St.aureus, E. coli. S. dublin, Streptococcus pyogenes, P. multocida, B.bronchiseptica; lambs – St.aureus, E. coli. S. dublin, B.bronchiseptica.

3. Isolated microflora in the gastro-intestinal and respiratory diseases of animals slabochuvstvitelna

and insensitive to most used in veterinary drugs (penicillin, erythromycin, tetracycline, and so on. D.) And often showed multiple resistance to them.

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Work is performed at the expense of means of a grant to conduct research projects in priority areas of socio-economic development of the Belgorod region on the theme «Development of complex veterinary drug for the treatment and prophylaxis of infectious gastrointestinal diseases of pigs from local low-cost raw materials of the Belgorod region», 2016 – 2017, and State contract № 14.N08.11.0109 «Preclinical research of medical product – bactericide enterosorbent based on montmorillonite», 2016-2018, and region grant «Development of an complex medical veterinary product for treatment and prevention gastrointestinal infectious disease of pigs, produced from in expensive raw materials of Belgorod region», 2016-2017.

Table 6

The results of serological studies of blood serum patients with pneumonia of pigs (n = 15) group rearing

Name antigens	Days of Research	The number of investigated cultures	Respond positively		Average titer
			Count	%	
Salmonella	1	25	25	100	1:81
	15	10	10	100	1:175
	30	10	10	100	1:152
Esherihiosis	1	25	24	96	1:107
	15	10	7	70	1:95
	30	10	9	90	1:150
Pasteurellosis	1	25	23	92	1:106
	15	10	9	90	1:170
	30	9	9	100	1:75
Bordetellesis	1	25	24	96	1:17
	15	10	6	60	1:10
	30	9	7	77	1:6
Staphylococcal	1	15	15	100	1:207
	15	5	5	100	1:260
	30	5	5	100	1:180
Influenza virus type A, «Pig»	1	20	16	80	1:11
	15	5	5	100	1:20
	30	5	5	100	1:20
"Shklyaver"	1	20	6	30	1:3
	15	5	-	-	1:12
	30	5	3	60	1:4
Type B	1	20	18	90	1:12
	15	5	2	40	1:4
	30	5	-	-	-
Enteroviruses (RN)	1	5	5	100	1:16
	15	5	5	100	1:16
	30	5	5	100	1:16
Defined in RIHA	1	5	5	100	1:128
	15	5	5	100	1:410
	30	5	3	60	1:128
Coronaviruses	1	5	5	100	1:16
	15	5	5	100	1:8
	30	-	-	-	-

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