EUROPEAN INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND MANAGEMENT STUDIES

VOLUME03 ISSUE01
DOI: https://doi.org/10.55640/eijmrms-03-01-15 Pages: 92-98

PATHOGISTOGRAM OF PASTEURELLOSIS OF RABBITS

N.A.Nabieva
Independent Researcher, Uzbekistan

B.A.Elmuradov V.F.D Profissor
Director Of Veterinary Scientific, Research Institute Toyolak District, Uzbekistan

ABOUT ARTICLE

Key words: Paraffin, parenchematosis, histology, hematoxylin, eosin, Pasteurella multocida, pasteurellosis, rabbit, enema, tissue.

Received: 15.01.2023
Accepted: 20.01.2023
Published: 25.01.2023

Abstract: In order to study pathomorphological changes in pasteurellosis of rabbits, 8 head rabbits were kept in laboratory conditions, and 4 head rabbits in the 1 experience group were harmed by sending 1 billion LD50 microbial bodies of Pasteurella multocida into the abdominal cavity in a dose of 0.5 ml. Parenchemtosis of rabbits caused pathophysiologic changes in the organs using the paraffin method, and when dyeing oxyres, it was stained with hematoxylin-eosin.

INTRODUCTION

Relevance of the topic: Pasteurellosis of rabbits is a bacterial disease that is most severe among infectious diseases and causes acute death in rabbits in the case of its release; it has been found that it causes 85 percent of their deaths if rapid diagnosis, treatment, and prevention measures are not used. Pathologists observed pneumonia, lymphos infeltirasia, inflammation of the bronchi in the lungs, acute necrotic foci, fibrinous inflammation of the alveoli and small airways, and erythrocyte infeltirasia in rabbits with pasteurellosis.He found that acute metritis and serous, purulent orchitis in the genital organs were manifested by [Weber Joe Lynne, 1999]. Congestion and degenerative changes in the epithelium of the respiratory tract; broxopneumonia and vacuolar degeneration of hepatocytes; and those who observed pathological changes in blood vessels in the heart and spleen [El-Hendy H.M.A. 2020]. Pathological changes in the kidneys, i.e., nephritis, have been reported to have detected an infection of the cells [Al-Lebbanl Z.S. 1989].

THE PURPOSE OF THE STUDY

was to identify pathogistological changes in rabbit pasteurellosis in rabbits infected with the pathogen Pasteurella multocida in the Veterinary Scientific Research Institute's Microbiology Laboratory vivaria. To do this, a suspension was prepared using a saline solution from a one-day culture of the Pasteurella strain, grown in meat peptone agar (GPA). The experiment was carried out on eight heads of rabbits. In doing so, 1 billion LD50 microbial bodies of Pasteurella multocida were administered to Group 1 rabbits (four heads) in a 0.5-ml dose into the abdominal cavity. Group 2 control (head 4) rabbits were injected with saline solution in the amount of 0.5 ml into the abdominal cavity. They were taken for histological examinations from the date of observation of death on the fifth day.

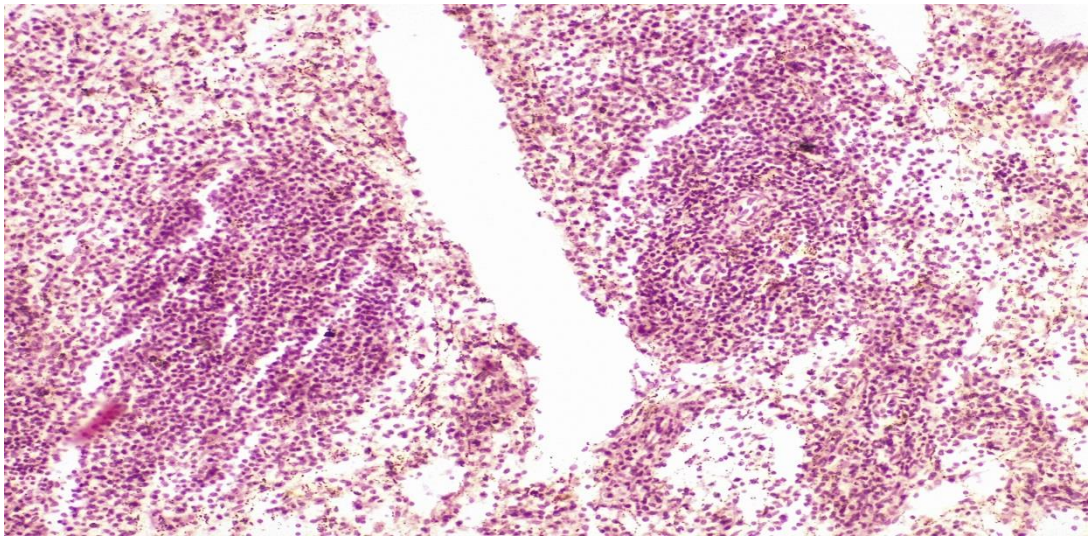
MATERIALS AND METHODS OF RESEARCH

pathomorphological examination in research, The Merkulov style was used. To accomplish this, the material was fixed to 12% formalin by making incisions from the affected area of the rabbit's parenchymal organs (biopsy method).

METHODOLOGY

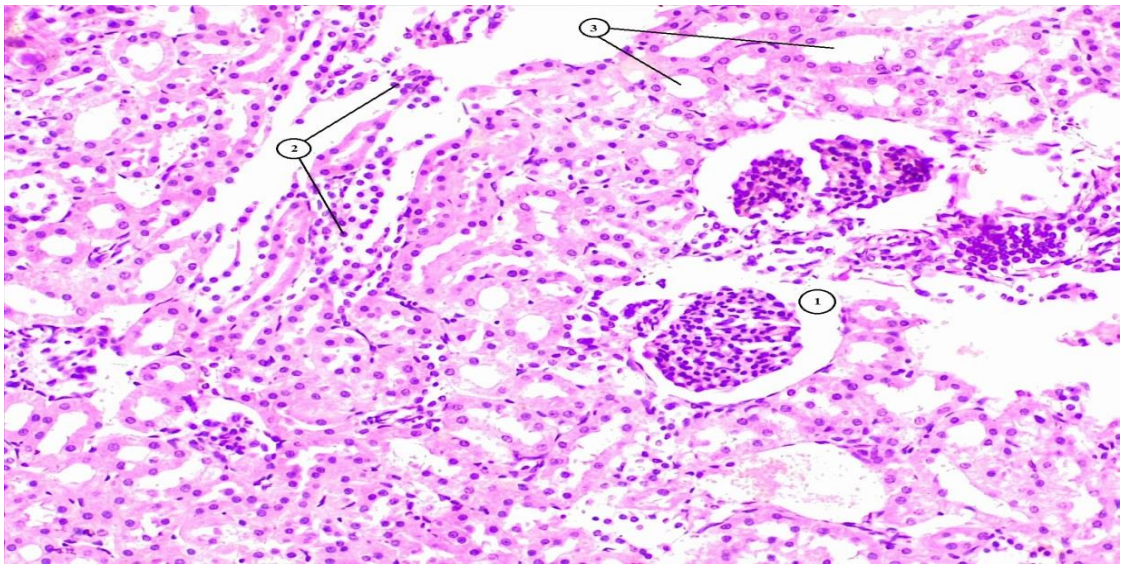
in this process, permanent preparations from biological objects are usually prepared for histological examinations. For the preparation of permanent preparations, several stages have been completed. 1) obtaining pathological material, that is, after decapitation (slaughter), the sample is to obtain fragments from each organ. 2) Fixation; this is also how the painting is envisioned in relation to the fixer chosen. (3) In this case, the washing was done with distilled water. 4) Dehydration-densification is concentrated in alcohol at temperatures ranging from 500 to 1000 degrees Celsius. This was done in order to harden and cut each hojayra. 5) Casting with this method will not be solid enough for thin cuts, despite the fact that in the fourth stage of hardening, the lumps are compacted to some extent so that at this stage, special substances like paraffin are absorbed. After that, the slices acquired the same density, and I cut them into thin slices (1-2 cm3) thick.6) The paraffin cutting pieces were cut in a sled microtom; the thickness of the paraffin cut was reduced to 5-7 mkr. 7) The paint was painted with hematoxylin and eosin. In such a painted incision preparation, the core is purple with cytoplasm and the cell is pink.

Results of the study: rabbits infected with Pasteurella had a parenchymatous histogram on their organs. It has been observed that the spleen–parenchyma is located between the trabeculae, in which there are white and red pulps, with 80% of these pulps being the red pulp and the remaining 20% being the white pulp. Edema was observed in the red pulp. In this paper, an increase in lymphocyte hyperplasia, HyperChrome staining of hemosydrin cells, and blood clots were detected in the lymphatic follicles. Reticular tissue structure disorders have been observed, which are the basis of the spleen parenchyma.



№ 1 Spleen (hematoxylin-eosin). 1. Red pulp; 2. Malpigium body; 3. Central artery; 4. The product of erythrocyte decay is hemosiderin (beaver color).

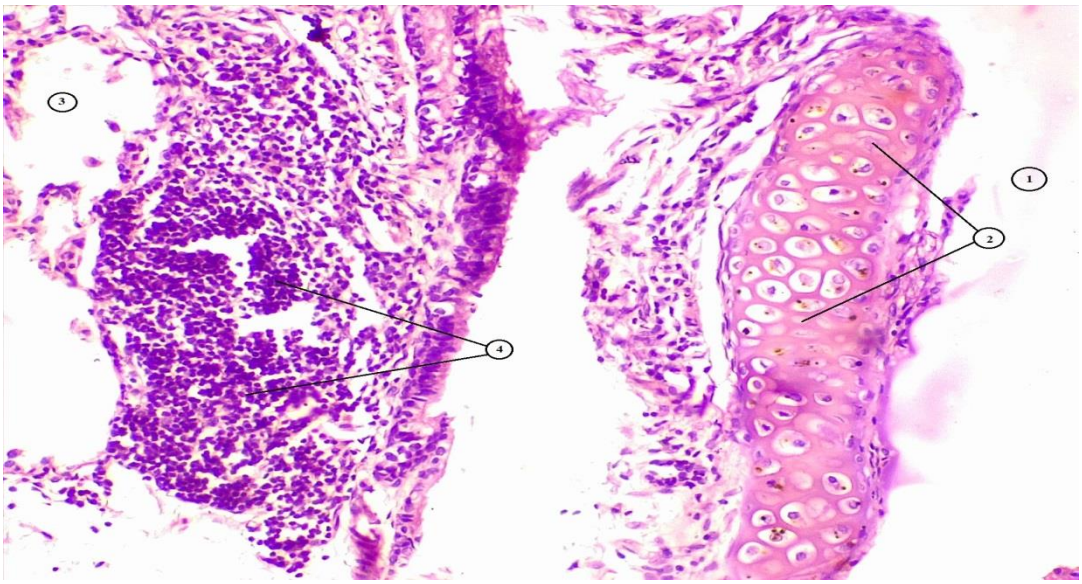
In the renal-bark nephrons infiltrated with inflammatory cells in most (hemosydrin cells) igri bugri tuberous epitheliocytes are swollen, most are necrosised (acute renal insufficiency).Among them were found infiltrated by lymphocytes, plasmocyte macrophages, fibrocytes and fibroblasts.



№2 Kidney (hematoxylin-eosin). 1. Malpigium body; 2. diffuse lymphocytic infiltration; 3. renal tubules

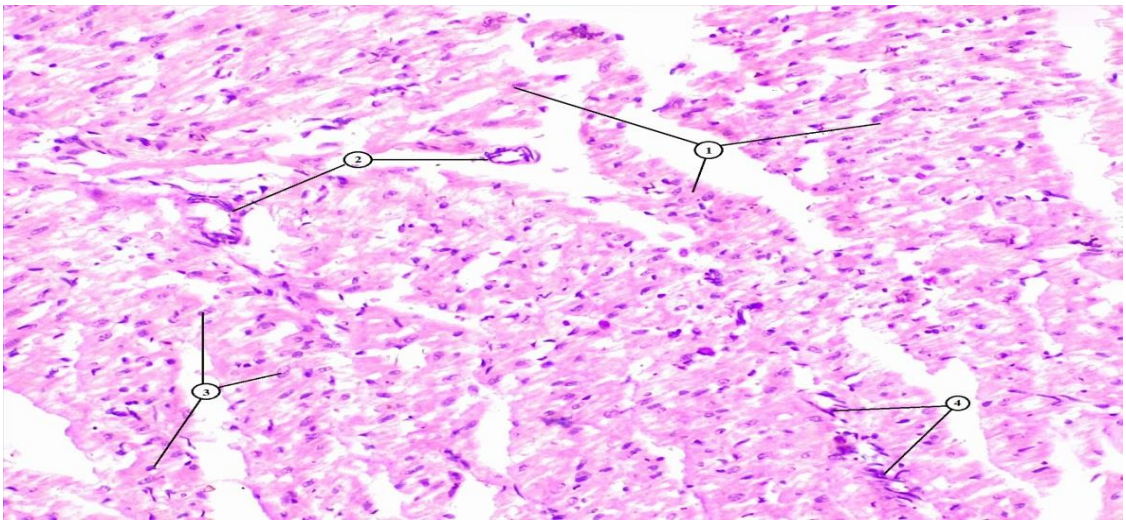
The integrity of the alveoli in the lung tissue is compromised; they are swollen and deformed in some areas due to atelectosis and in others due to ecofimatosis.In the bushes of some alveolocytes, plasmarragia and edema are visible.They are hemolyzed (ertocyte aggregation). This is a sign of

hemorrhagic inflammation. Some infiltrated with pulmonary parenchyma (macrophages) were observed as swollen and spherical in shape, containing hemosydrine.



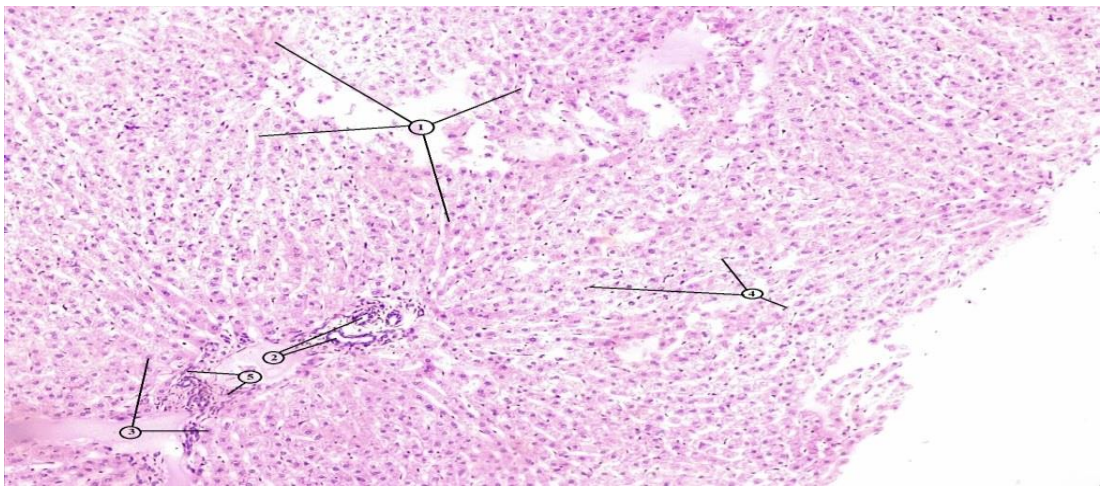
№ 3 Lungs(hematoxylin-eosin). 1. Bronx cavity; 2. Wall of the Bronx Mount gialin; 3. Bronchial arthritis; 4. Alveoli; 5. Lympho-macrophagal infiltration.

The myocardium—the heart's muscle fibers—are swollen and fibrous, and the heart (dilated, hypertrophied, cardiomyocyte organelles) is hyperplasia condensed. Among the myocytes along the permizium, infiltration of lymphocytes and fibrocyte fibroblasts can be seen. In some areas, cardiomyocytes and muscle fibers are in a state of chaos, in addition to the fibrous myolysis foci of fiber necrosis that have been detected.



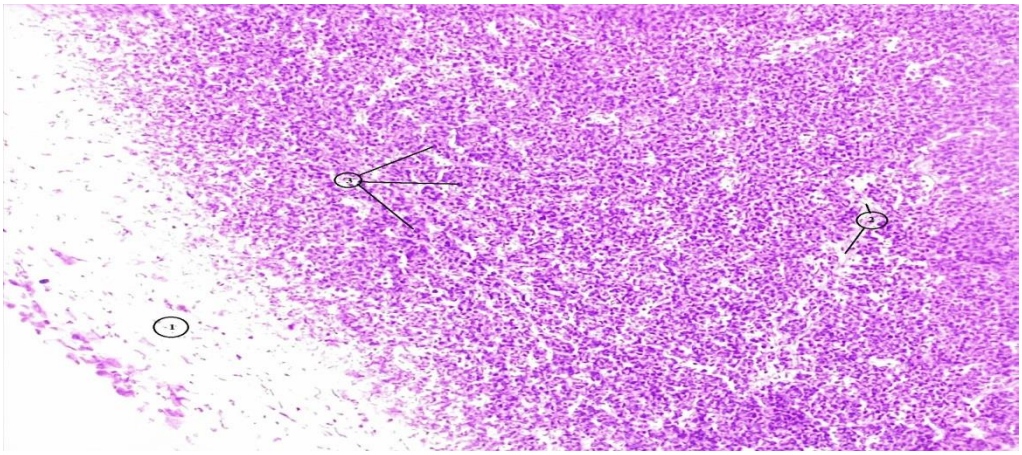
№4 Heart (hematoxylin-eosin).1. Cardiomyocytes; 2. Vascular capillaries; 3. Cardiomyocyte nuclei; 4. Fibrocytes.

Hemolized erythrocytes are visible in liver fragments, central vein fullness, perivascular swelling, and their cavities.As a result of lympho-histocytic infiltration of the walls of the arterioles and thickening and swelling, necrosis of the cells was detected. Perivascular swelling of the liver, the presence of input cells in the cytoplasm of hepatocytes, and hemosidrosis and necrosis of hepatocytes were observed.

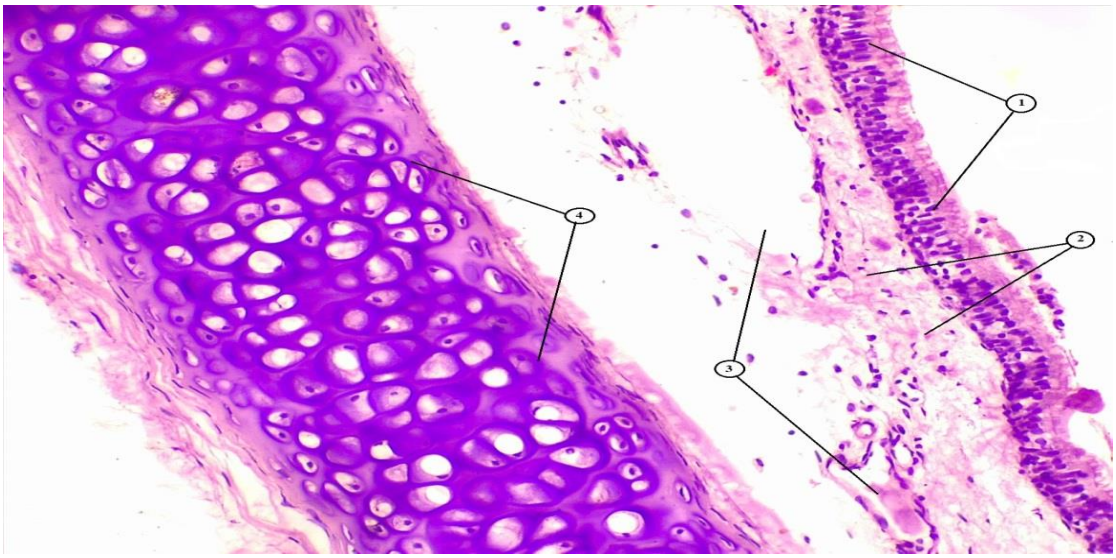


№ 5 liver (hematoxylin-eosin). 1.Liver cells (hepatocytes); 2. Bulach vein, artery and excretory bile duct;3. Hepatocyte cores; 4. Fibrocytes; 5. Lymphocytic infiltration.

Lymph nodes—a capsule consisting of connective tissue necrosed—developed. Against the background of lymphadenitis, it was observed that purulent complications developed—abscesses or adenophlegmones. Necrotic triplets were observed in the mesh of this tissue, the basis of which is the reticular tissue. These mesh cells contained infelrasia of shaped elments and lymphocytes.



№6 Lymph node (hematoxylin and eosin). 1. connective fibrosis capsule; 2. trabeculae that hold lymphatic node follicles; 3. lymphatic follicles; and 4. lymphocyte hypnarplasia.



№. 7 trachea (hematoxylin-eosin). 1. multi-row ciliated epithelium; 2. private mucous membrane lining; 3. mixed gland excretory tract; 4. Hyalinoz, Uncle

The wall of the Trachea is made up of the mucous membrane (Trachea mucosa), the mucous membrane substructure (Trachea submucosa), the fibrosis-cartilage membrane (Trachea adventitita), and the advetisia membrane (Trachea fibrocarti-laginea). The mucous membrane of the submembrane is divided into glandular heperplasia, infiltration of limiphoid follicles, and multiple blood vessels. Hyalinosis, or "uncle necrosis,"

DISCUSSION

In pasteurellosis of rabbits, septicemia is observed throughout the body, and hemorrhagic blood clots occur in parenchymal organs. It is possible to observe necrotic processes of enema and tissue in the organs, infiltration of blood vessels and macrophage cells caused by enema, and impaired tissue function.

CONCLUSION

Bacteriological changes were found in the parenchymal organs of rabbits infested with Pasteurella balan. 1. A violation of the structure of the reticular tissue, which is the foundation of the spleen parenchyma, was discovered. 2. In the red pulp, an increase in lymphocyte hyperplasia, HyperChrome staining, hemosydrin cells, and blood clots were detected in the lymphatic funnels.

3.The kidney was found to be infiltrated with macrophages, fibrsitis, and fibroblasts.

4. Lympho-macrophagal infiltration in the lungs is prevented.

5. In the heart, cardiomyocytes and muscle fibers are in a state of chaos, in addition to the fibrous myolysis foci of fiber necrosis that have been detected.

6. Necrotic triplets were detected in the mesh of this tissue, the basis of which is the reticular tissue. This mesh revealed the presence of shaped elements in cells and lymphocyte infection.

7. Lymphocyte hypneoplasia was detected in the lymph node.

8. The mucous membrane of the submembrane is divided into glandular heperplasia, infiltration of limiphoid follicles, and multiple blood vessels. Hyaluronic acid necrosis was detected.

REFERENCES

1. Weber Jo Lynne, "Pathology of the Rabbit," or "Pathology of Laboratory Animals," Department of Veterinary Pathology, Armed Forces Institute of Pathology, Washington, (202) 1999, P-782
2. El-Hendy H.M.A., Mahamed F.M., and Hassan K.A., "Clinicopathological and Hematological Changes in Response to Experimental Pasteurella Multocida Type A Infection of Rabbits," SVU - International Journal of Veterinary Sciences, 3 (2), Egypt 2020, P-1-13.
3. Al-Lebbanl Z.S., Kruckenberg S., and Coles E.H. Rabbit pasteurellosis: respiratory and renal pathology of control and immunized rabbits after challenge with Pasteurella multocida, College of Veterinary Medicine, Kansas State University, Manhattan, KS 66506, USA R-77-84 in Histol Histopath (1989).
4. Zofarov G.A., Rahmonov X.R., Rasulov Q.I., and Saidgarev B.K. Practical guide from histology, Uzsssr/publishing house "Midisina," Tashkent, 1976 B-5-11. 5 G.A. Merkulov. Pathologistologichekoy Technical Course / Moscow, 1961. S-335.