

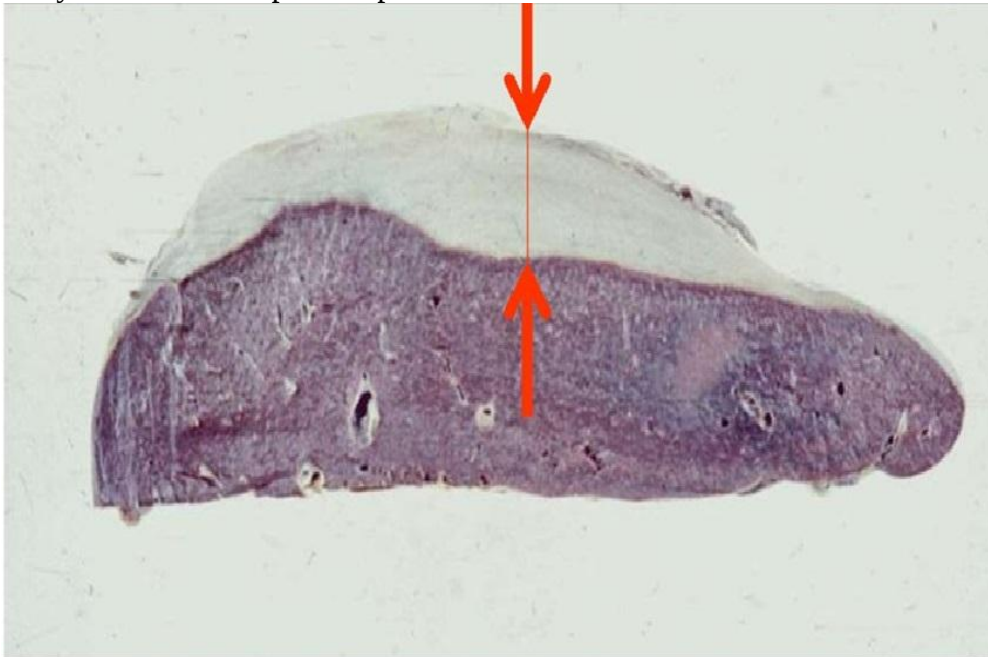
VOLGOGRAD STATE  
MEDICAL UNIVERSITY  
Department of Pathological Anatomy

**Pathological anatomy of protein and carbohydrate metabolism disorders.**

Volgograd, 2020

**Macropreparations:**

1. Hyalinosis of the spleen capsule.



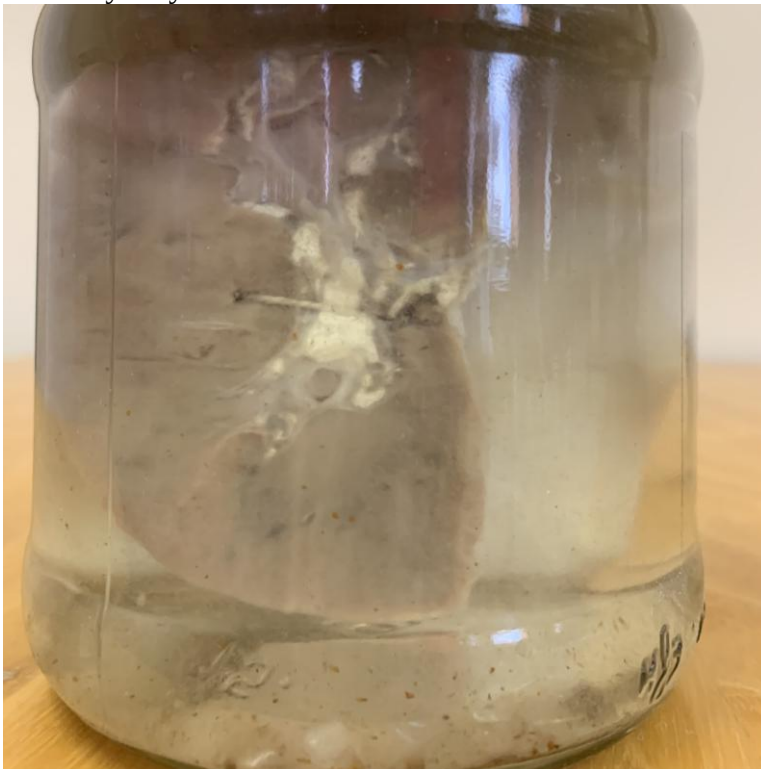
Pay attention to the thickness and color of the spleen capsule, the surface condition, mark the area of the capsule thickening, its color and thickness.

2. Hyalinosis and sclerosis of valves in rheumatic heart disease.



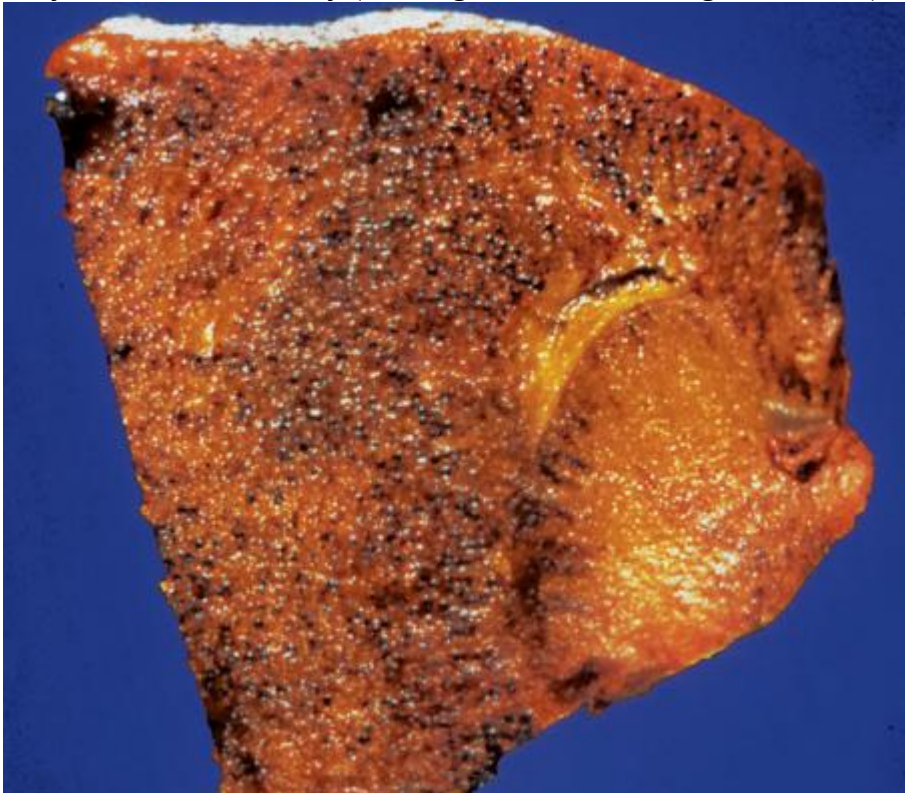
Pay attention to the size of the heart, the thickness of the walls of the ventricles, the size of the heart cavities; the thickness and color of the cusps of the mitral and aortic valves.

3 Kidney amyloidosis.



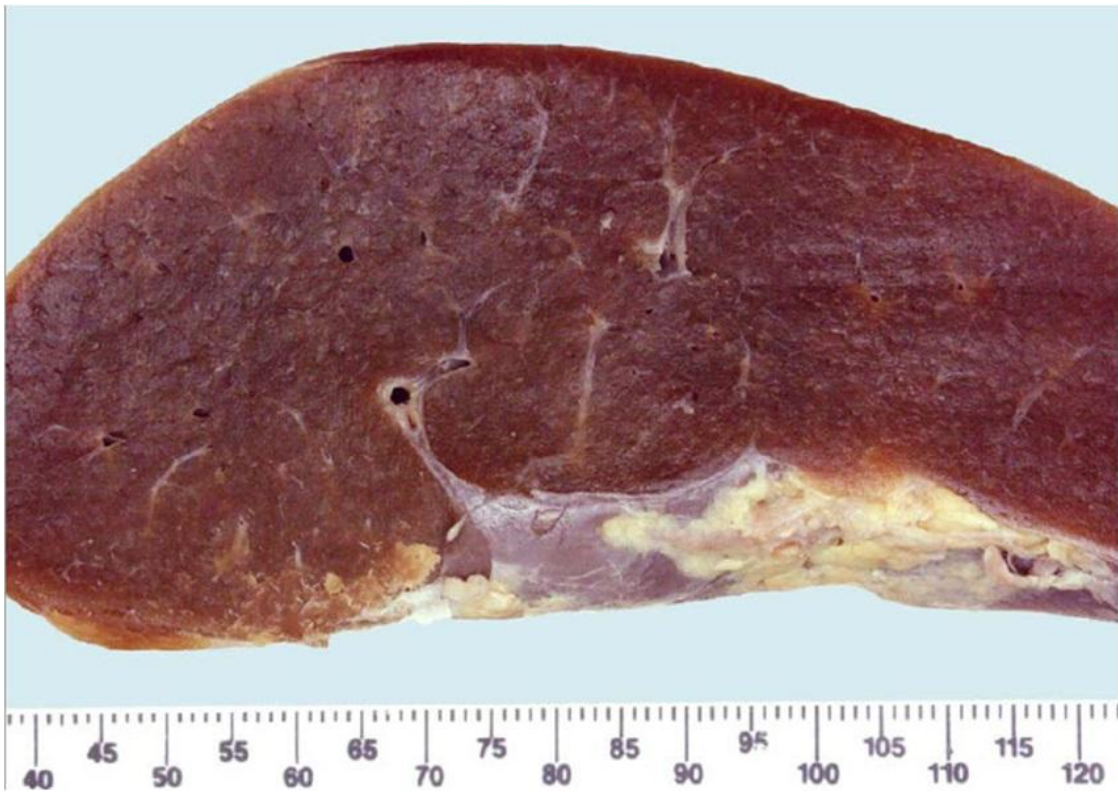


Amyloidosis of the kidney (the drug is treated with Lugol's solution).



Pay attention to the size of the kidney, note the color of the parenchyma of the organ, the absence (blurring) of the border between the cortex and the medulla.

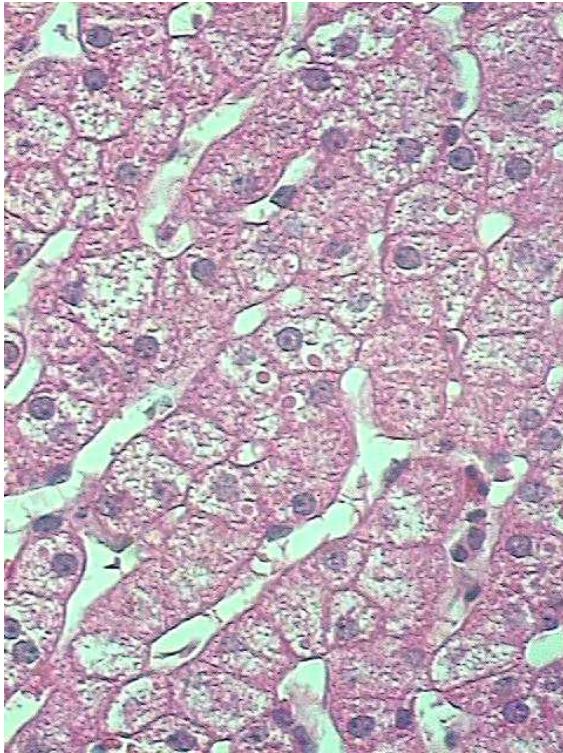
#### 4. Amyloidosis of the spleen.



Pay attention to the size of the spleen, note the change in color and appearance of the parenchyma of the organ on the cut, the state of the capsule.

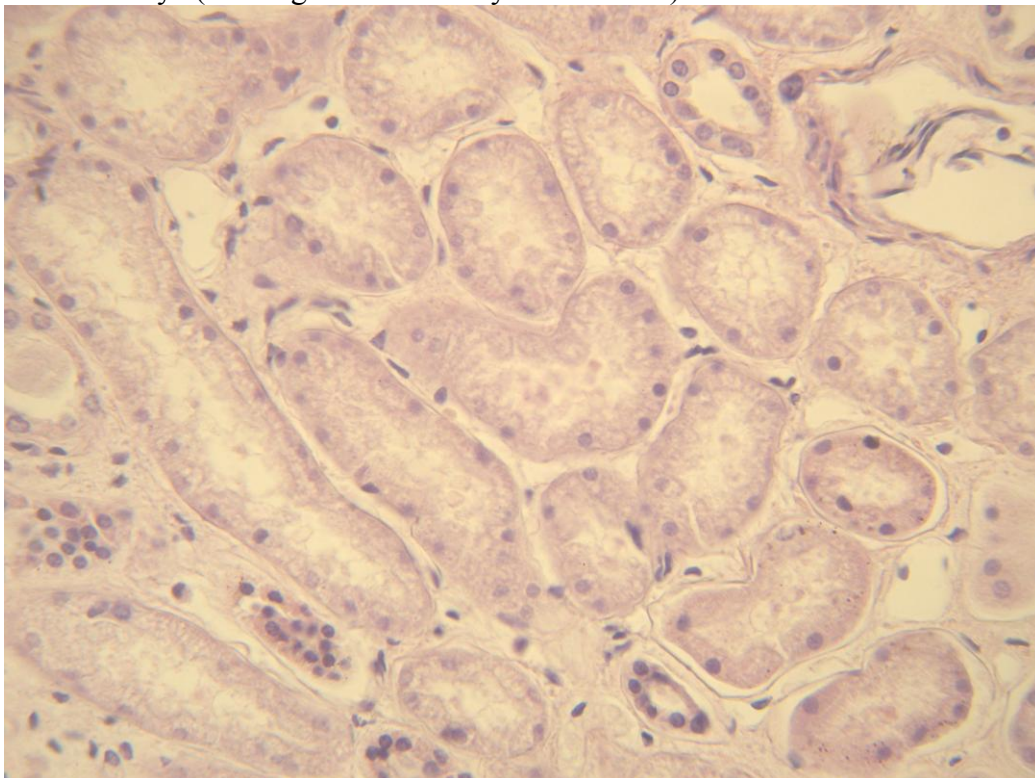
**Micropreparations:**

1. Micropreparation “Protein hyaline drops in the epithelium of the liver (hyaline-drop dystrophy of hepatocytes)” (staining with hematoxylin and eosin).



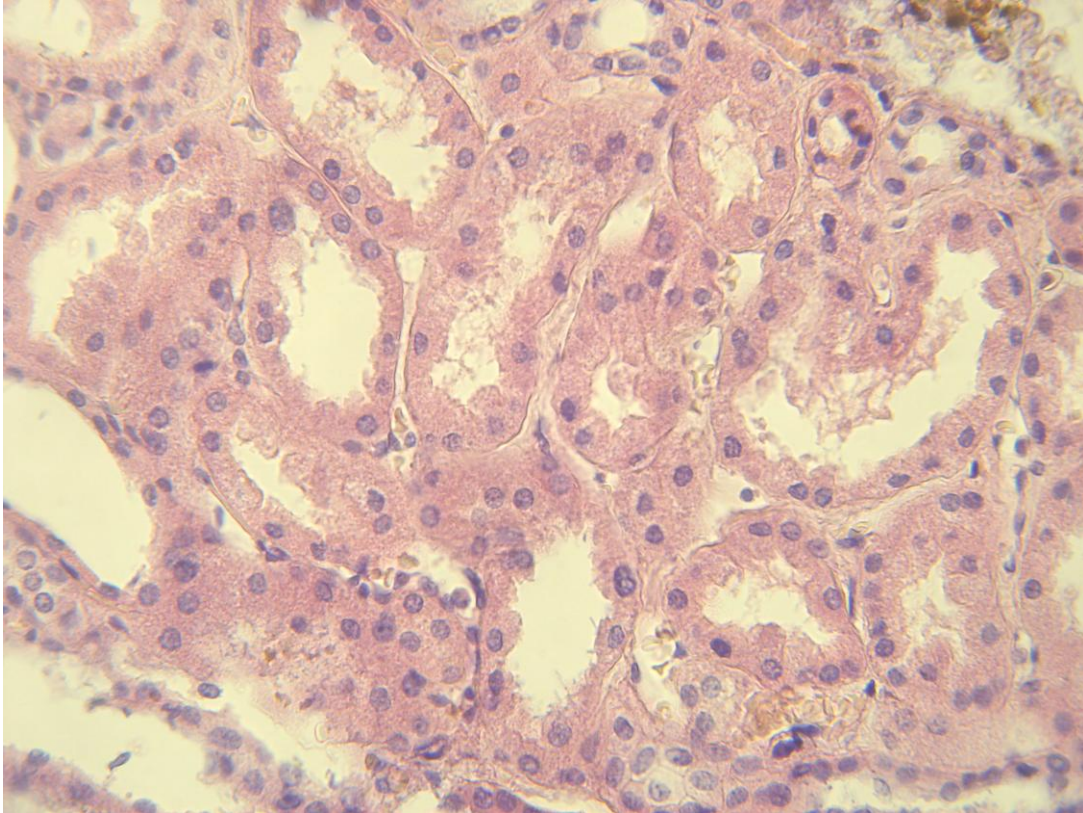
Pay attention to the size, shape, color, number of inclusions in the cytoplasm of the epithelium, the state of the nuclei and the size of epithelial cells, the lumen of the tubules.

2. Micropreparation “Hydropic dystrophy of the epithelium of the proximal convoluted tubules of the kidney” (staining with hematoxylin and eosin).



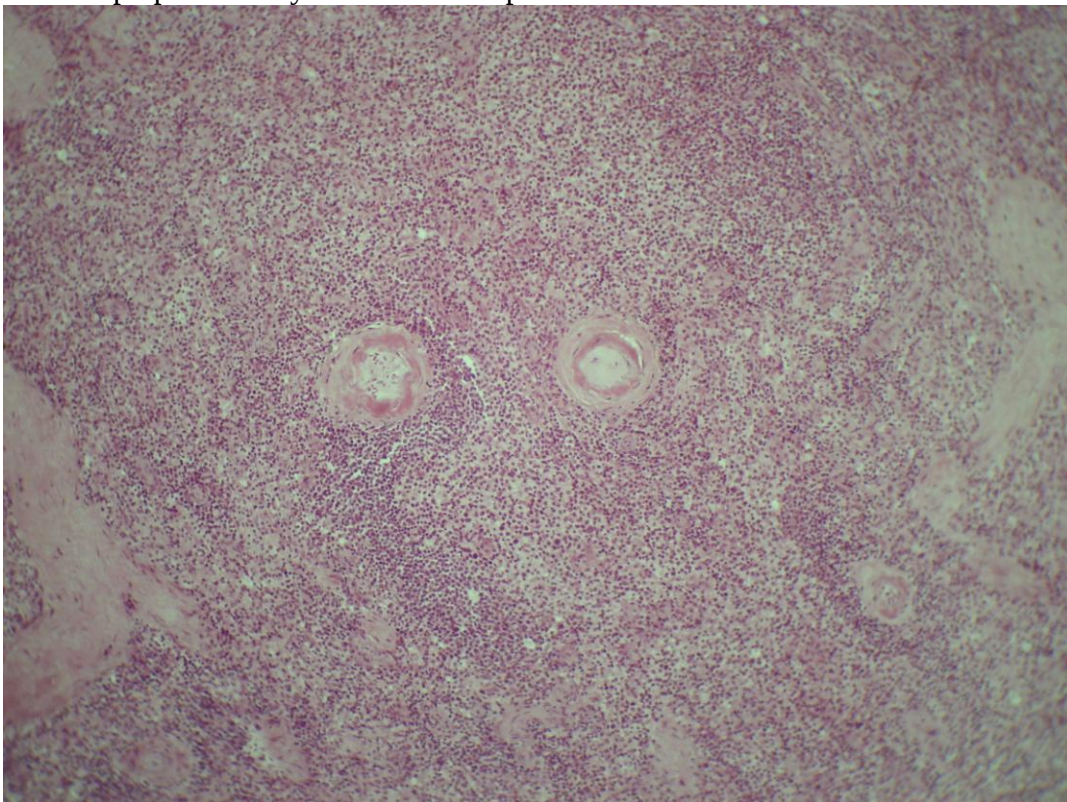
Pay attention to the number and size of vacuoles in the cytoplasm, the state of the nuclei and the size of epithelial cells, the lumen of the tubules.

3. Micropreparation “Granular dystrophy of the epithelium of the proximal convoluted tubule of the kidney” (staining with hematoxylin and eosin).



Pay attention to the presence of granularity in the cytoplasm, the state of the nuclei and the size of epithelial cells, the lumen of the tubules.

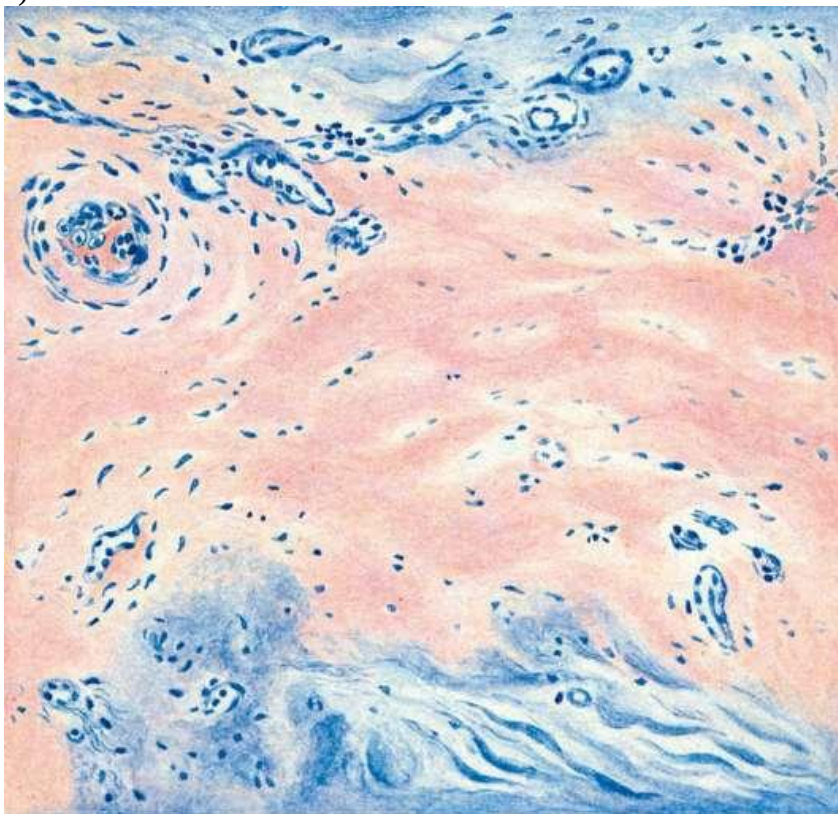
4. Micropreparation Hyalinosis of the spleen arteries.



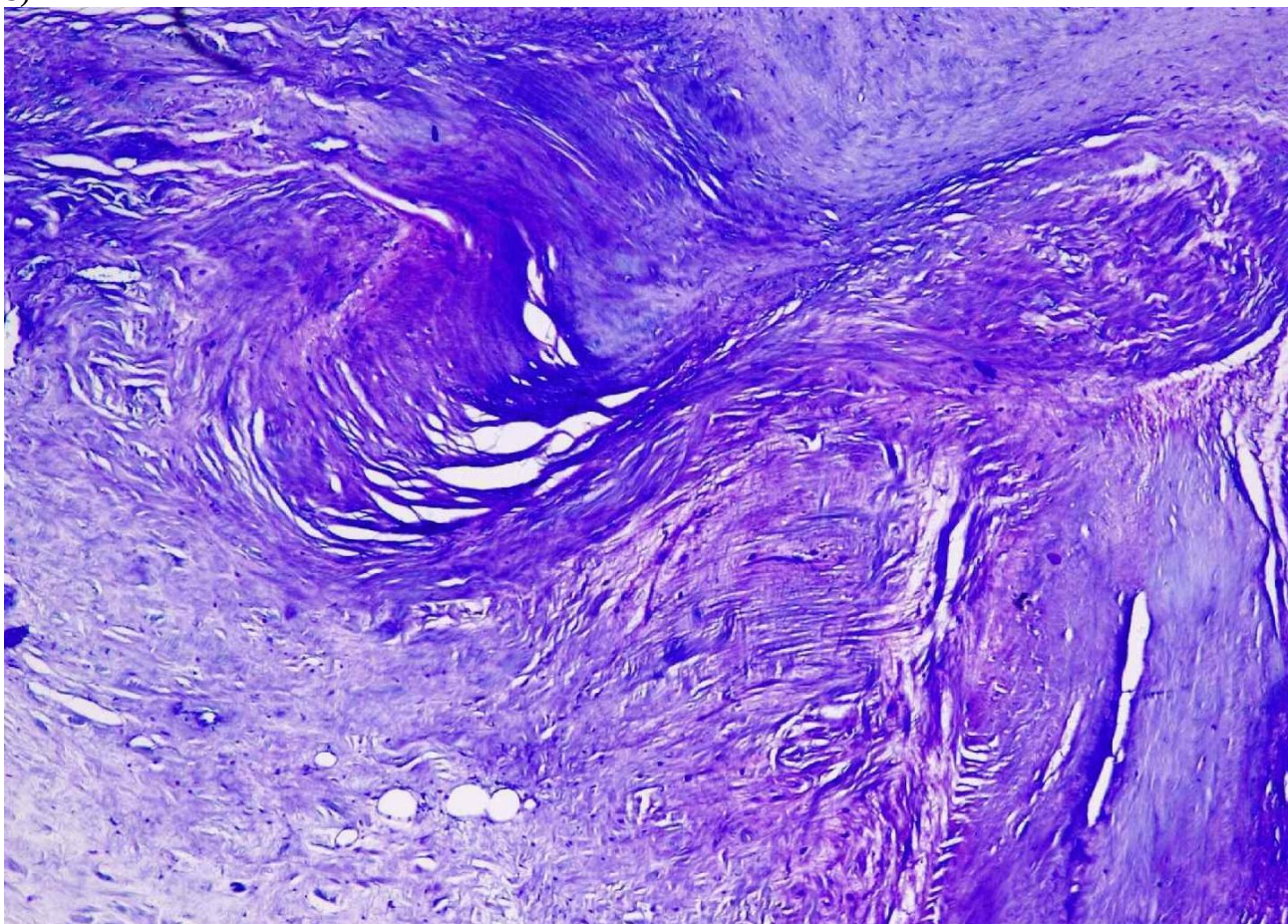
Pay attention to the decrease in the lumen of the arteriole, to the deposits of a homogeneous substance, to note the localization of the process.

5. Micropreparation "Muroid swelling of the connective tissue." Stained with hematoxylin and eosin (a), toluidine blue (b).

a)

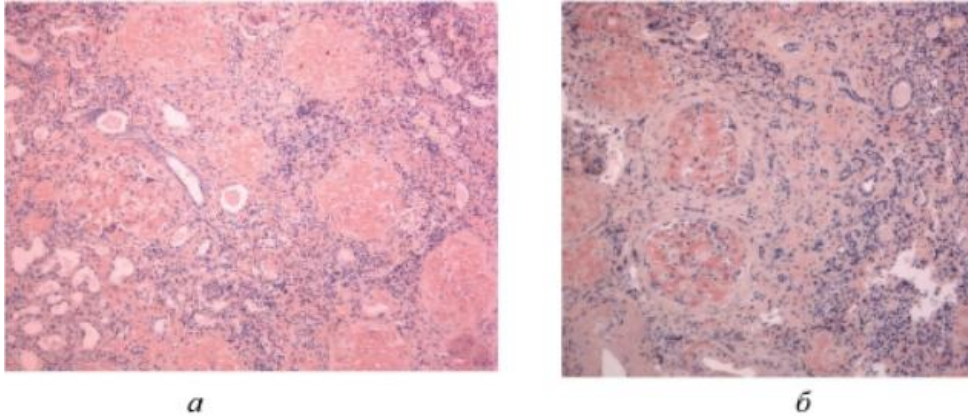


b)



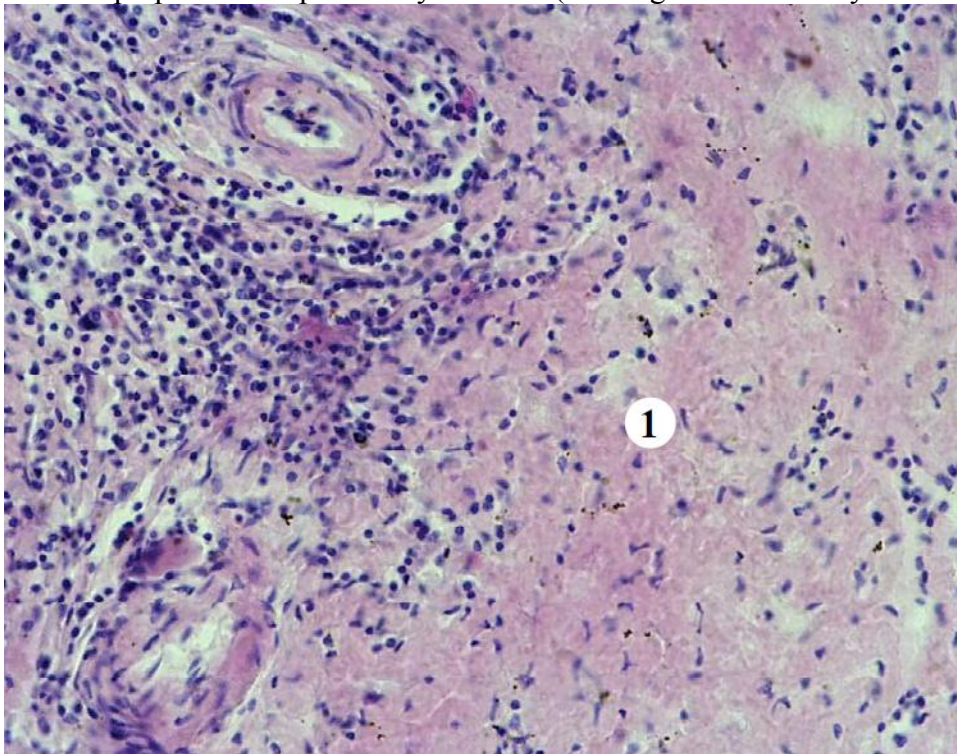
Pay attention to the nature of the color of the connective tissue, find areas of metachromasia.

6 Micropreparation “Kidney amyloidosis” (staining with hematoxylin-eosin (a) or staining with Congo-red (b)).



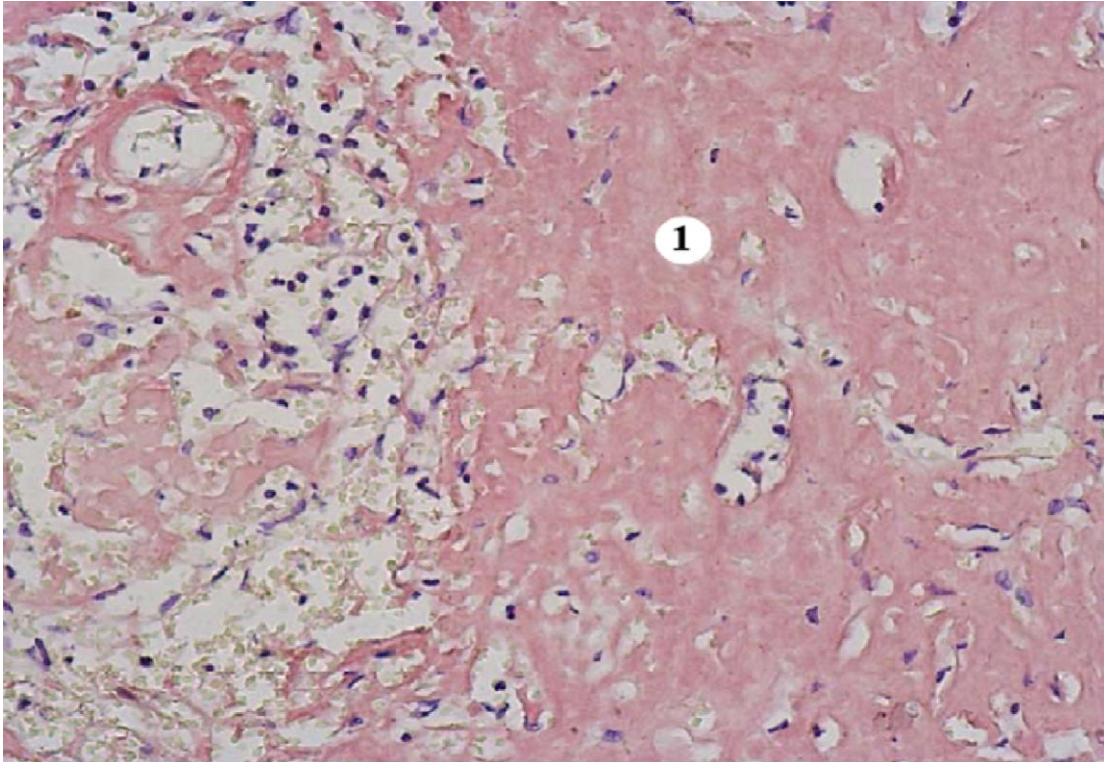
Pay attention to the increase in the size of the glomeruli and thickening of the walls of arterioles due to the deposition of a homogeneous acidophilic substance, note the localization of the process.

7. Micropreparation “Spleen amyloidosis” (staining with hematoxylin-eosin).



Pay attention to the deposits of a homogeneous acidophilic substance, note the localization of the process. Pay attention to the localization, structure and color of amyloid, the state of the cellular elements of the pulp.

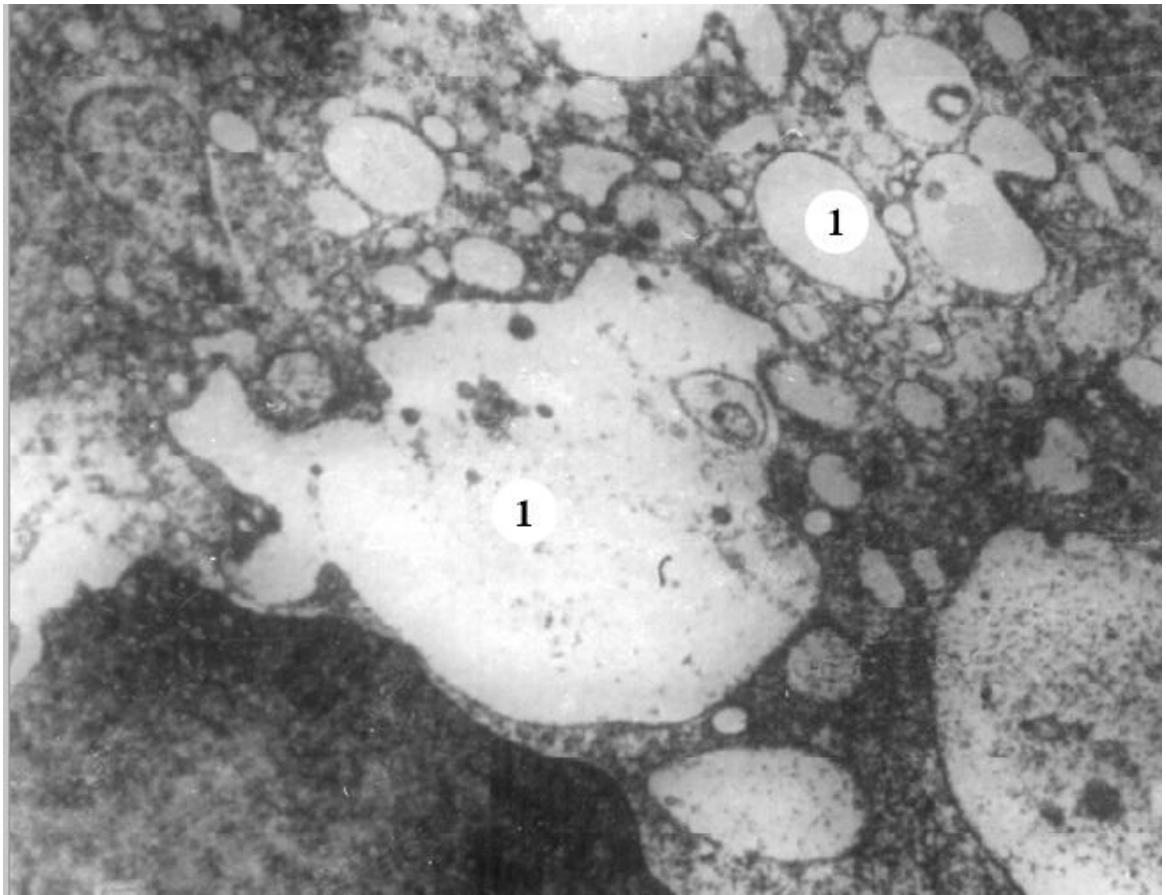
8. Micropreparation “Spleen amyloidosis” (Congo red staining) - pay attention to the deposits of a homogeneous acidophilic substance, note the localization of the process.



Pay attention to the localization, structure and color of amyloid, the state of the cellular elements of the pulp. Mark the amyloid color when using Congo red.

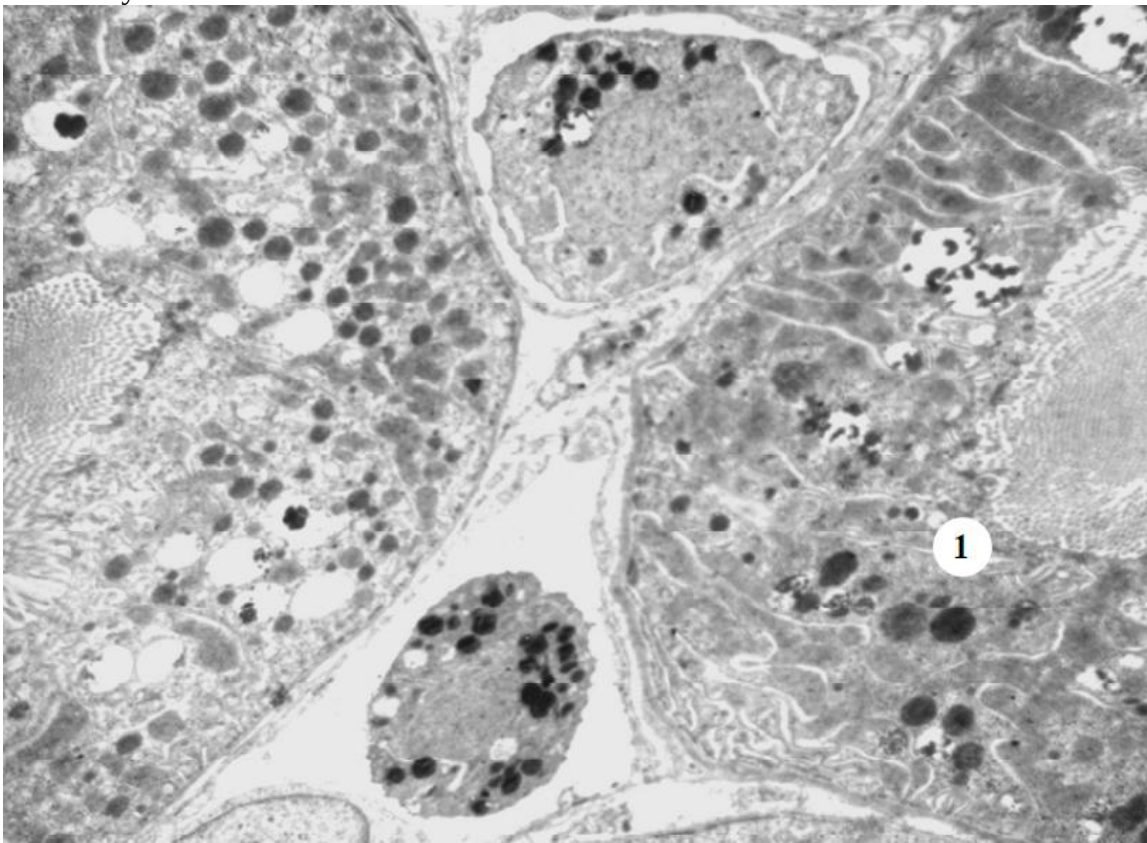
### **Electronograms**

1. Electronogram "Balloon dystrophy of hepatocyte".



Pay attention to the state of the cytoplasmic reticulum.

2. Electronogram "Protein hyaline drops in the epithelium of the proximal convoluted tubules of the kidney".



Pay attention to hyaline drops in the cytoplasm.

## **List of recommended literature:**

### **Basic literature:**

1. "Basic pathology" Vinay Kumar, Ramzi S. Cotran, Stanley L. Robbins, 1997.

### **Additional literature:**

1. "Pathology. Quick Review and MCQs" Harsh Mohan, 2004.
2. "Textbook of Pathology" Harsh Mohan, 2002.
3. "General and Systemic Pathology" Joseph Hunter, 2002.
4. "General and Systematic Pathology" Ed. J.C.E. Underwood – Edinburgh: Churchill Livingstone, 1996 (2<sup>th</sup>).
5. "Histology for Pathologist" Ed. S.S.Sternberg – Philadelphia: Lippincott Raven Publ, 1997 (2<sup>th</sup>).
6. "Histopathology. A Color Atlas and Textbook" Damjanov I., McCue P.A. – Baltimore, Philadelphia, London, Paris etc.: Williams and Wilkins, A Waverly Co., 1996.
7. "Muir's Textbook of Pathology" Eds. R.N.M. MacSween, K. Whaley London: ELBS, 1994 (14<sup>th</sup>).
8. "Pathology" Eds. Rubin, J.L. Farber – Philadelphia: Lippincott Raven Publ, 1998 (3<sup>th</sup>).
9. "Pathology Illustrated" Govan A.D.T., Macfarlane P.S., Callander R. – Edinburgh: Churchill Livingstone, 1995 (4<sup>th</sup>).
10. "Robbins Pathologic Basic of Disease" Eds. R.S.Cotran, V.Kumar, T.Collins – Philadelphia, London, Toronto, Montreal, Sydney, Tokyo: W.B.Saunders Co., 1998 (6<sup>th</sup>).
11. "Wheater's Basic Histopathology. A Color Atlas and Text" Burkitt H.G., Stevens A.J.S.L., Young B. – Edinburgh: Churchill Livingstone, 1996 (3<sup>th</sup>).
12. "Color Atlas of Anatomical Pathology" Cooke R.A., Steward B. – Edinburgh: Churchill Livingstone, 1995 (10<sup>th</sup>).
13. "General Pathology" Walter J.B., Talbot I.C. – Edinburgh: Churchill Livingstone, 1996 (7<sup>th</sup>).
14. "Concise Pathology" Parakrama Chandrasoma, Glive R. Taylor.
15. "Pathology" Virginia A. LiVolsi, Maria J. Merino, John S. J. Brooks, Scott H. Saul, John E. Tomaszewski, 1994.
16. "Short lectures on pathology" Zagoroulko A., 2002
17. "Robbins pathologic basis of diseases" Cotran R., Kumar V., Collins T.
18. "General pathology" Dr. Fatma Hafez, 1979.
19. "Anderson's Pathology" Damjanov I., Linder J. – St. Louis: Mosby Inc., 1995 (10<sup>th</sup>).

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