VOLGOGRAD STATE
MEDICAL UNIVERSITY
Department of Pathological Anatomy

Adaptation and regeneration processes. Adaptive changes: species, morphological characteristics, clinical significance. Hyperplasia. Hypertrophy. Atrophy. Metaplasia. Dysplasia. Healing wounds. Scar morphogenesis.

Lesson plan.

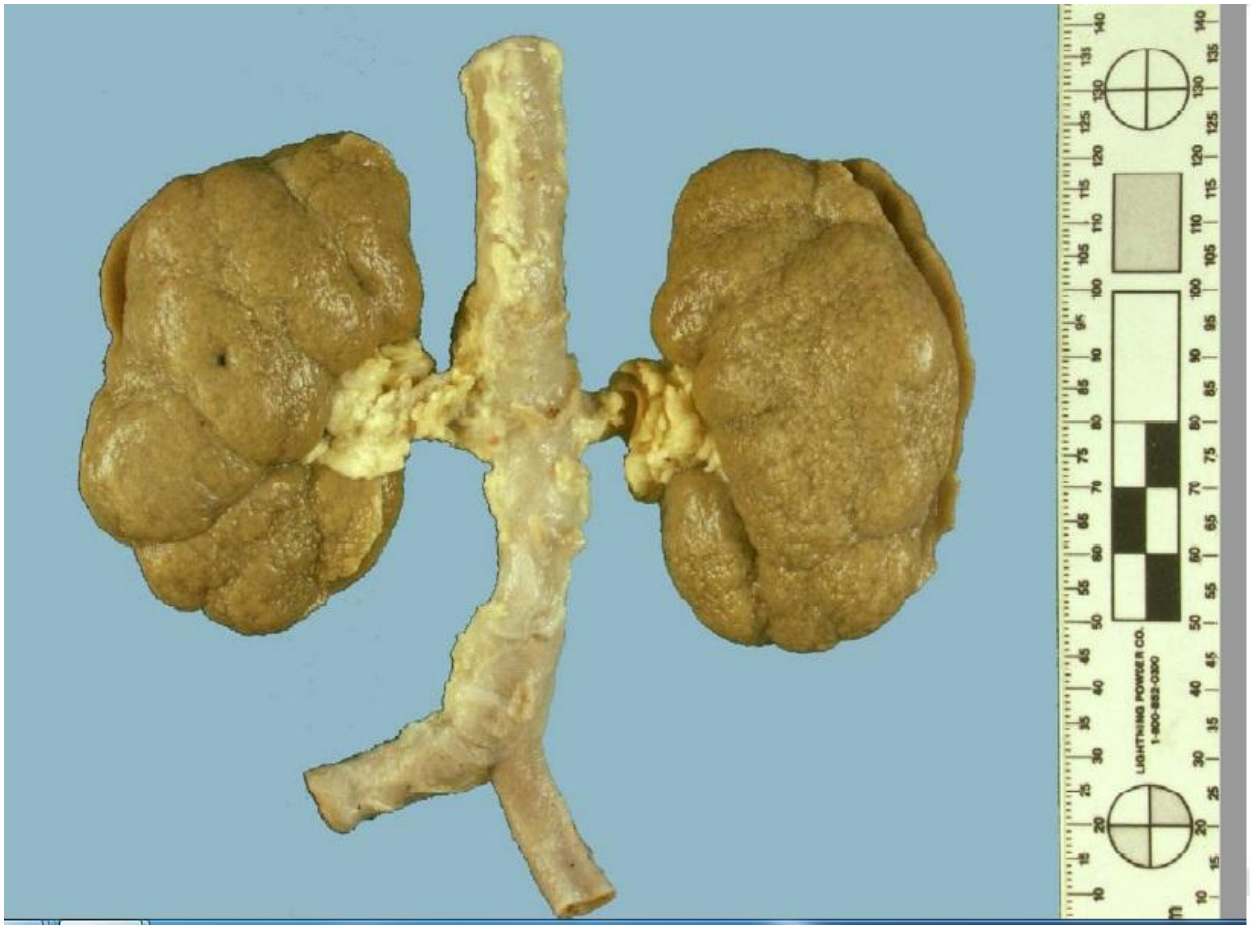
Explore and describe:

Mandatory **macropreparations**:

1. To study the atrophy of the brain according to the macroscopic picture. Describe the size, shape of the brain when studying the drug "Hydrocephalus".

2. To study cardiac hypertrophy according to the macroscopic picture. Describe the drug "Hypertrophy of the left ventricular myocardium in hypertension", pay attention to the size of the organ, the size of the wall of the atria and ventricles, the size of the cavities, the consistency and color of the myocardium.

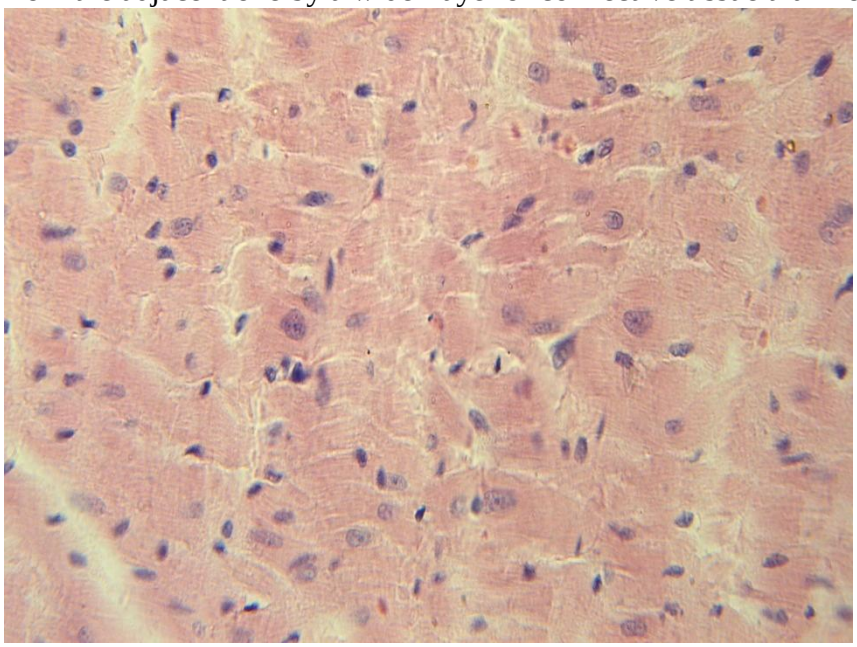
3. To study kidney atrophy according to the macroscopic picture. Describe the "Shriveled kidney" macro-preparation. Pay attention to the size, color and consistency of the organ.



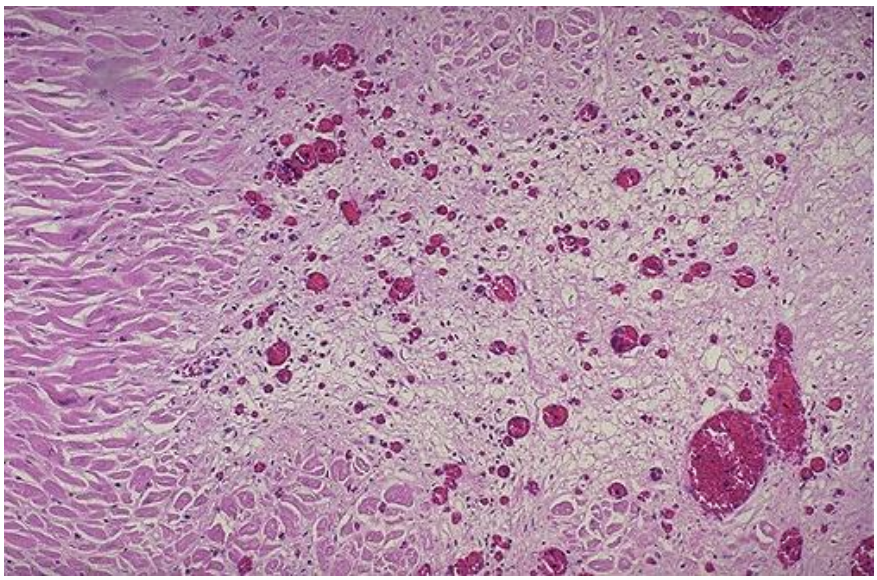
4. To study kidney atrophy according to the macroscopic picture. Describe the "Hydronephrosis" macro-preparation. Pay attention to the size, color and consistency of the organ, size and lining of the cavities.

Micropreparations

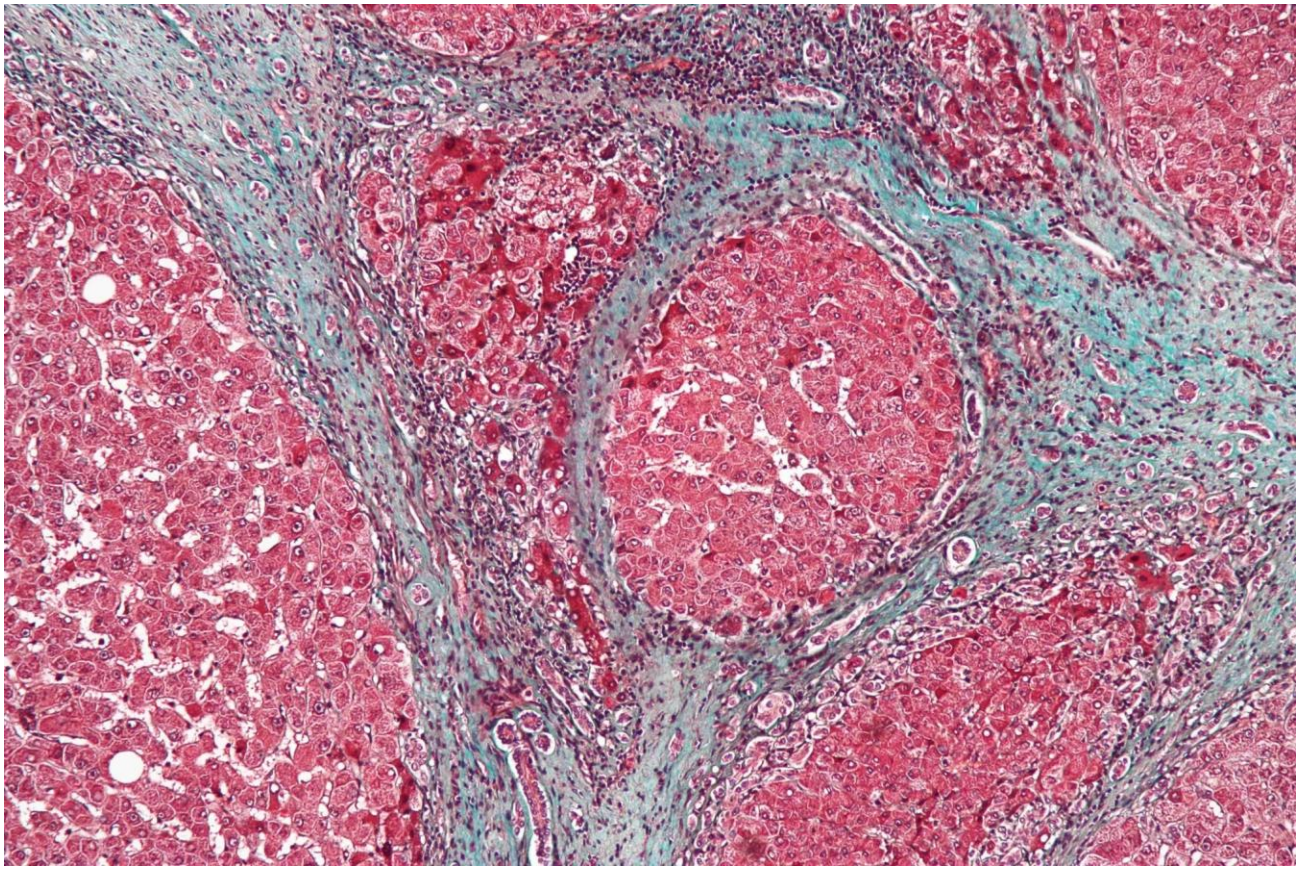
1. To study heart hypertrophy by microscopic picture. Describe the micropreparation "Myocardial hypertrophy", pay attention to the fact that muscle fibers are much thicker compared to normal ones, their nuclei are large, hyperchromic. Each muscle fiber is separated from the adjacent one by a wider layer of connective tissue than normal.



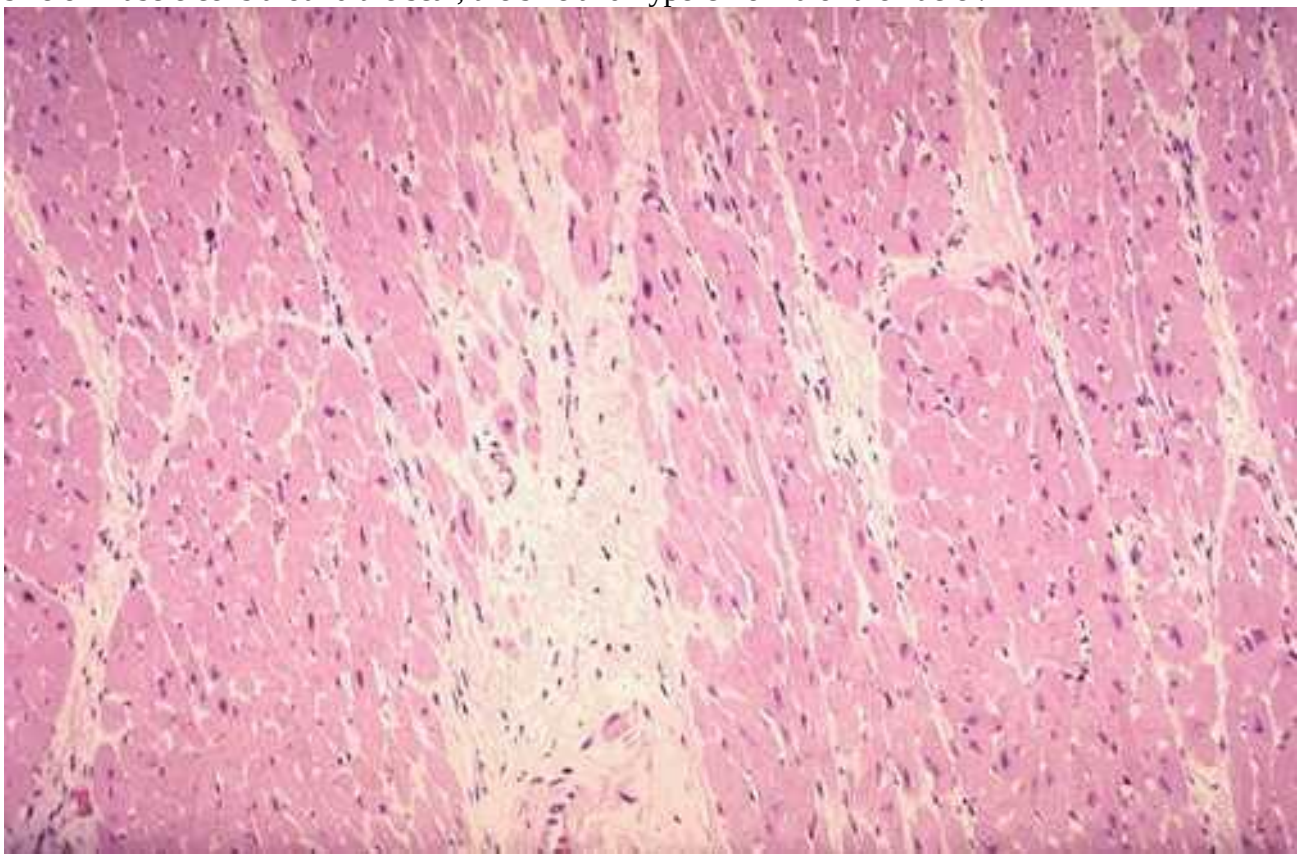
2. Examine the granulation tissue by a microscopic picture. Describe the micropreparation "Granulation tissue". A significant defect is filled with young connective tissue rich in capillary vessels. The upper granulation layer is rich in segmented leukocytes. The layer is covered with fibrinous masses with epithelial residues. Undifferentiated connective tissue cells predominate in the middle layer. Differentiated cells appear in the lower parts: histiocytes, fibroblasts, fibrillogenesis phenomena are noted.



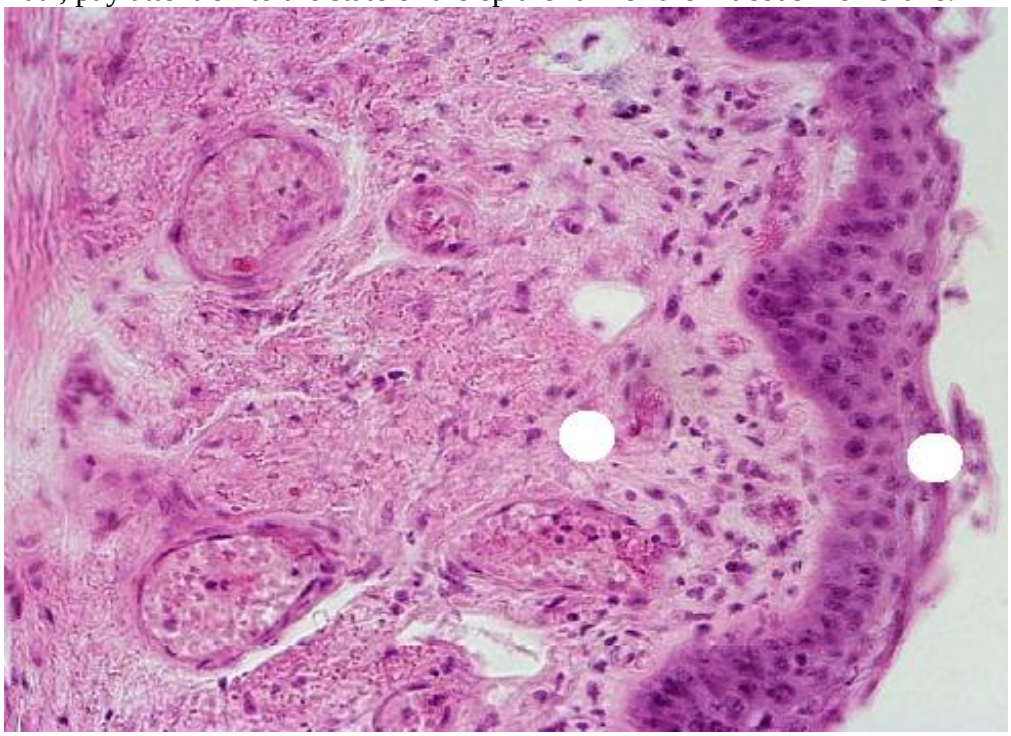
3. To study the hypertrophy of hepatocytes in cirrhosis. Describe the micropreparation "Regenerative hypertrophy of hepatocytes in cirrhosis", pay attention to the fact that structural reorganization is noted in the liver tissue, expressed in the formation of "false" hepatic lobules surrounded by connective tissue. The structure of the lobule is changed - there are no hepatic tracts, the central vein is absent or is located eccentrically. Some of the hepatocytes in the newly formed "false" hepatic lobules are hypertrophied.



4. To study large-focal cardiosclerosis by microscopic picture. Describe the micropreparation "Cardiosclerosis", pay attention to the difference in the color of muscle and connective tissue, the size of muscle cells around the scar, the size and hyperchromia of the nuclei.



5. Examines the metaplasia of the simple epithelium into the stratified squamous epithelium. Describe the micropreparation "Metaplasia of the glandular epithelium of the bronchus in the flat", pay attention to the state of the epithelium of the mucous membrane.



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^{th}).
5. “Histology for Pathologist” Ed. S.S.Sternberg – Philadelphia: Lippincott Raven Publ, 1997 (2^{th}).
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^{th}).
8. “Pathology” Eds. Rubin, J.L. Farber – Philadelphia: Lippincott Raven Publ, 1998 (3^{th}).
9. “Pathology Illustrated” Govan A.D.T., Macfarlane P.S., Callander R. – Edinburgh: Churchill Livingstone, 1995 (4^{th}).
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^{th}).
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^{th}).
12. “Color Atlas of Anatomical Pathology” Cooke R.A., Steward B. – Edinburgh: Churchill Livingstone, 1995 (10^{th}).
13. “General Pathology ” Walter J.B., Talbot I.C. – Edinburgh: Churchill Livingstone, 1996 (7^{th}).
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^{th}).

https://www.volgmed.ru/ru/depts/list/69/
https://volgmu-pat-anat.3dn.ru/
https://webpath.med.utah.edu/