

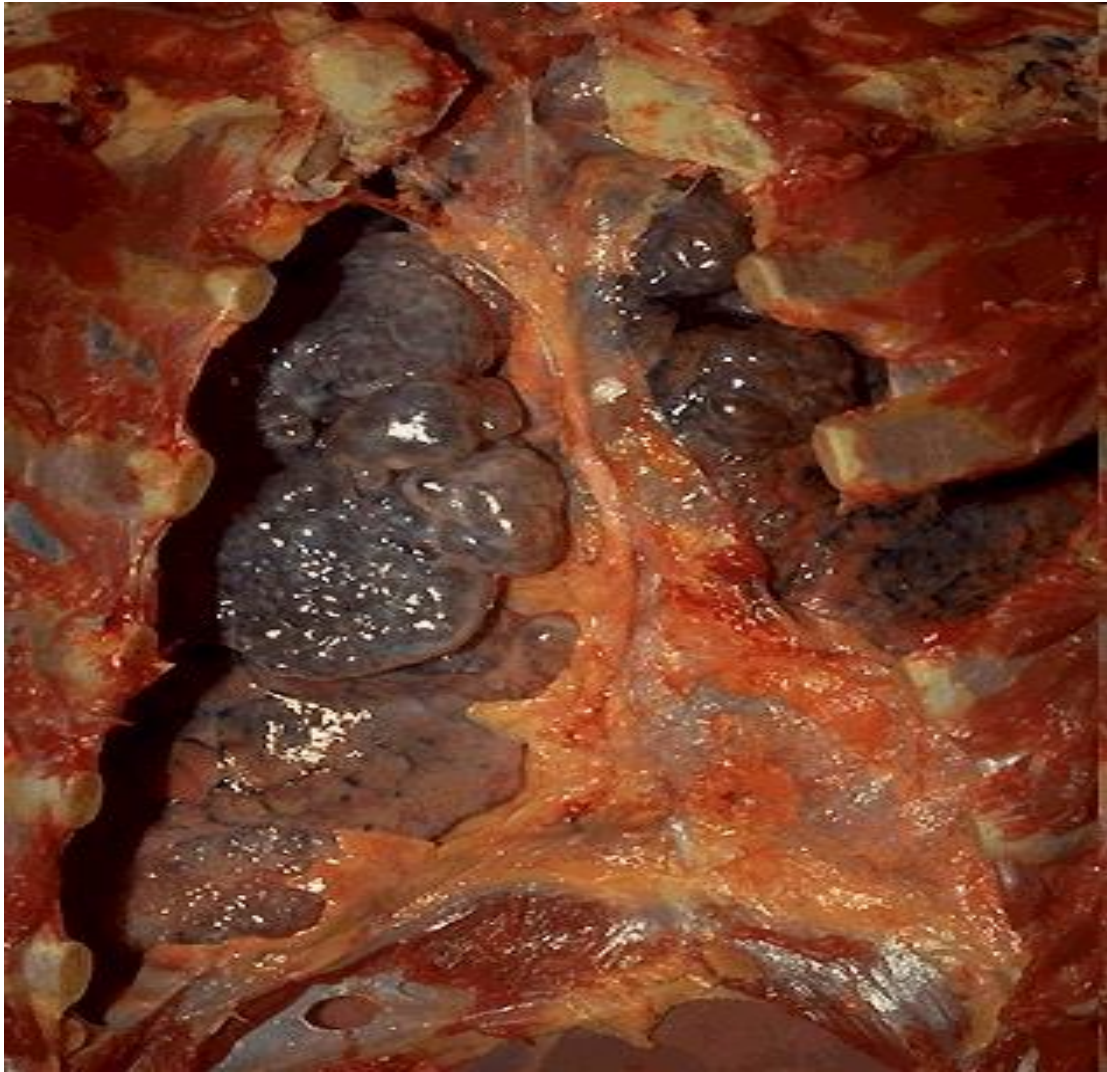
VOLGOGRAD STATE
MEDICAL UNIVERSITY
Department of Pathological Anatomy

Lungs obstructive and restrictive disease. Cancer of lungs.

Lesson plan.**Macropreparations:**

Examine and describe the following macros. Use the diagram to describe the macros.

1. Emphysema of the lungs. Pay attention to the size, color, consistency of the lung, the presence of air bubbles.



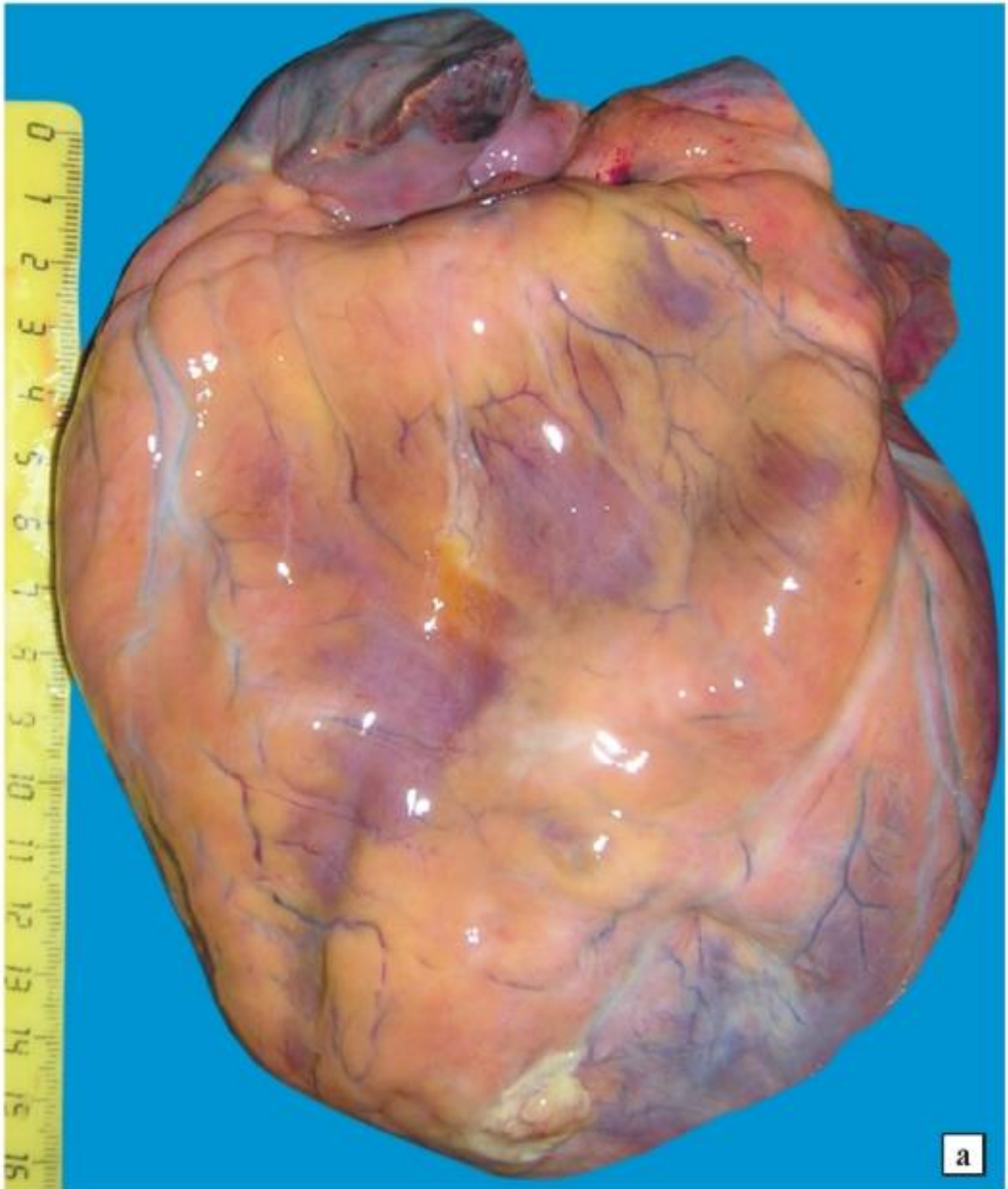
2. Bronchiectasis and pneumosclerosis. Pay attention to the sharp expansion and deformation of the lumen of the bronchi. Note what kind of dilated bronchi acquire, describe the state of the surrounding tissue.

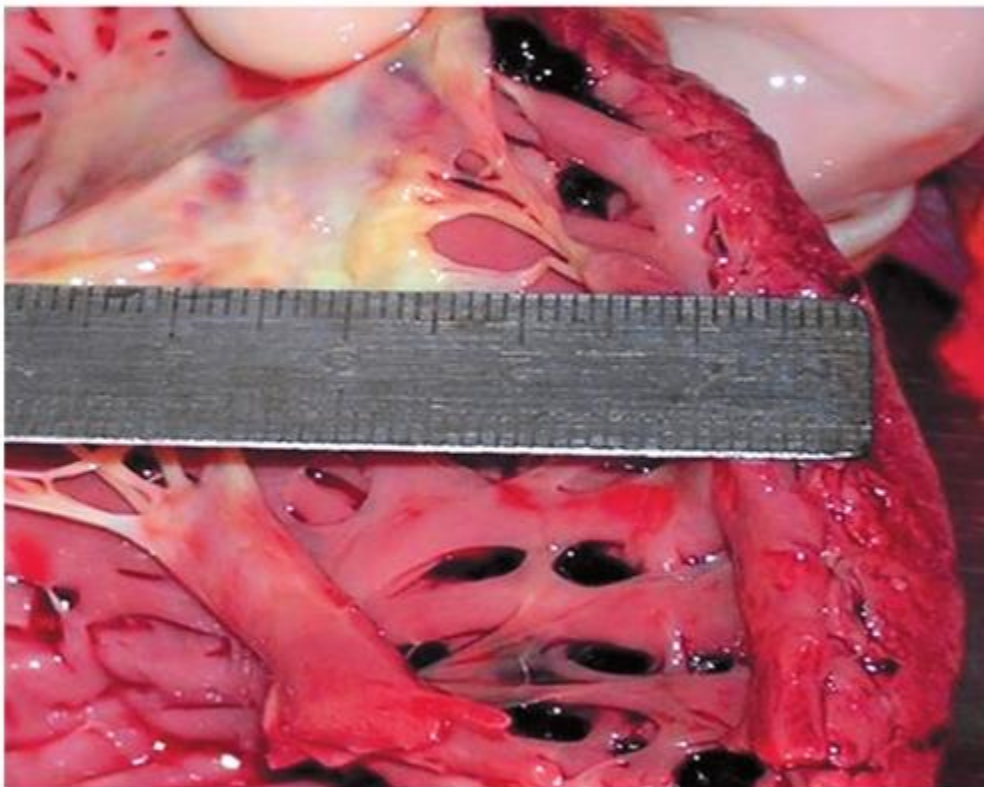


3. Anthracosis of the lung. Pay attention to the size, color, consistency of the lung.



4. Chronic cor pulmonale. Pay attention to the thickness of the wall of the right ventricle, compare the thickness of the wall of the left and right ventricles of the heart, describe the state of the cavities of the heart.



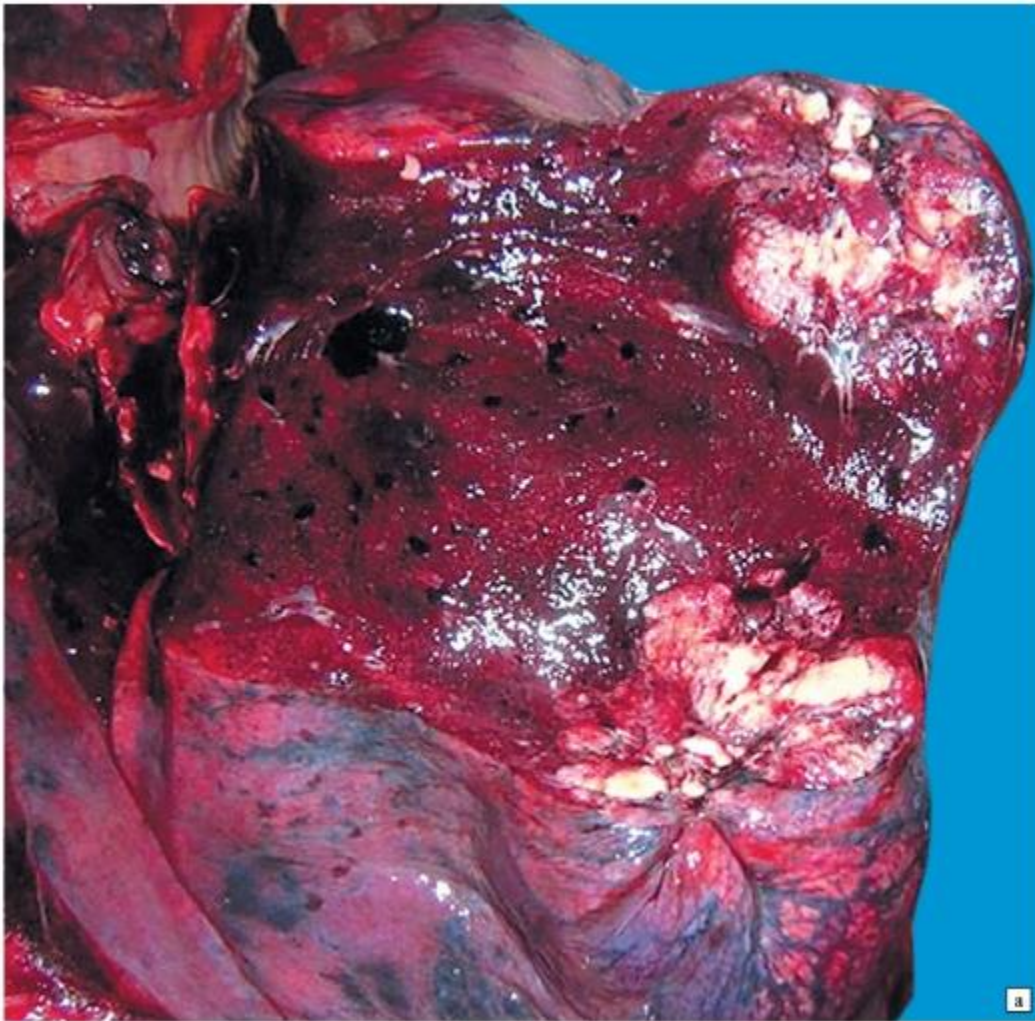


5. Central lung cancer. Describe the localization of the tumor, its color, the state of the bronchial mucosa associated with the tumor, the state of the surrounding tissue.





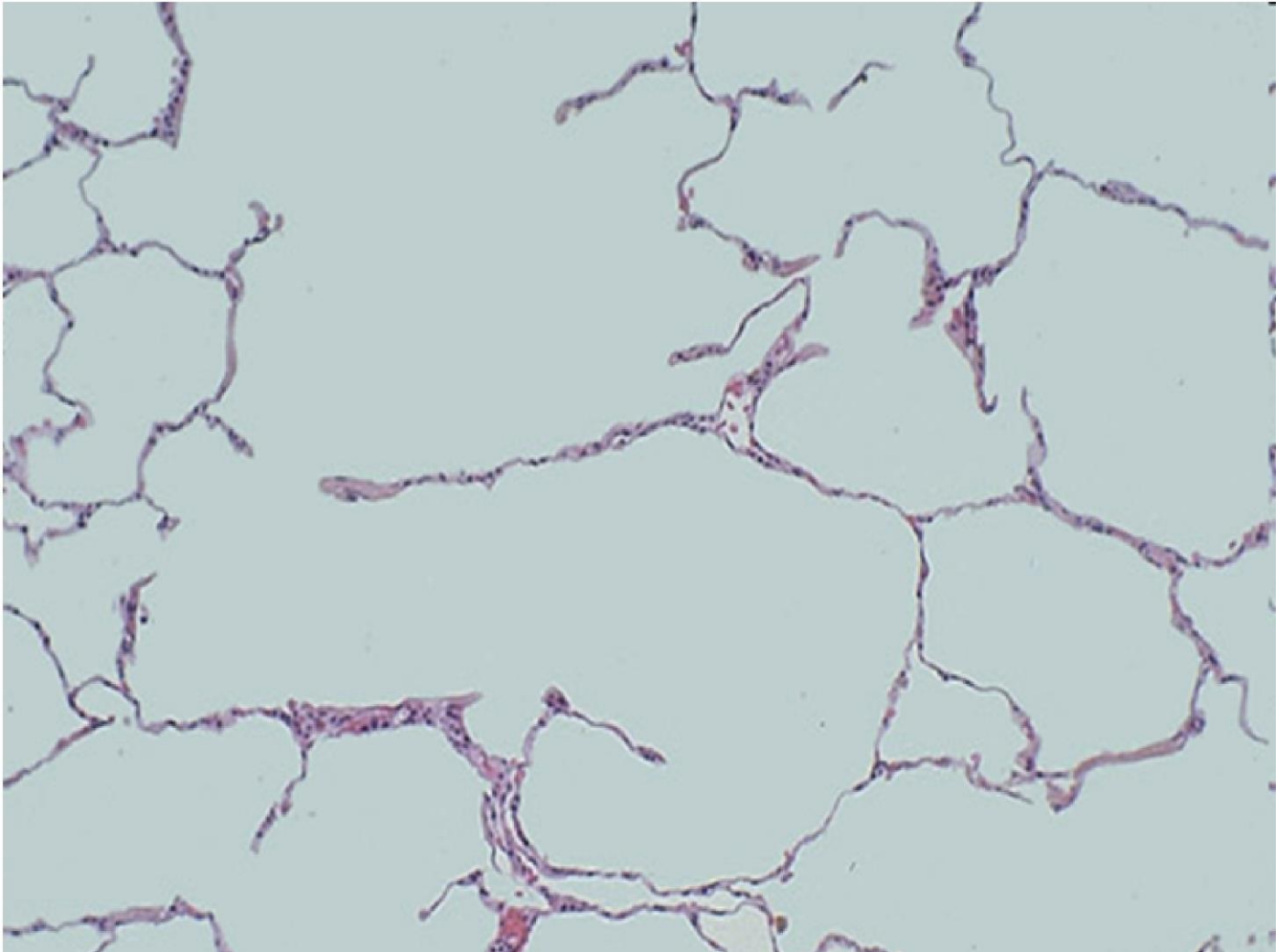
6. Peripheral lung cancer. Pay attention to the localization of the tumor, its shape, borders, connection with the bronchus and pleura.



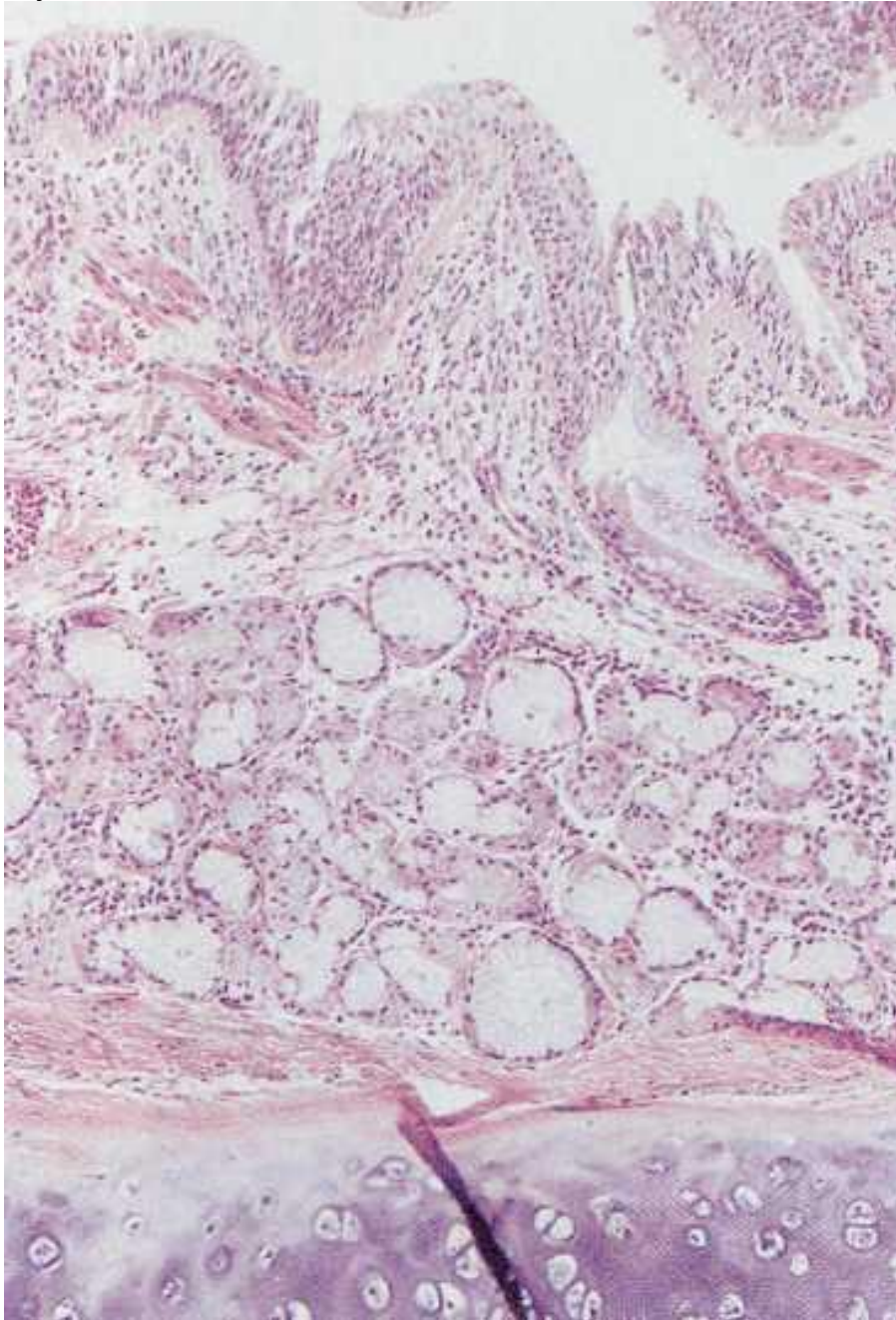
Micropreparations

Examine, sketch, and describe the following slides.

1. Emphysema of the lungs. Pay attention to the condition of the interalveolar septa, the expansion of the lumen of the alveoli with the formation of large cavities, the change in the capillary bed of the interalveolar septa, areas of sclerosis around the bronchi and blood vessels. Stained with hematoxylin and eosin x100.

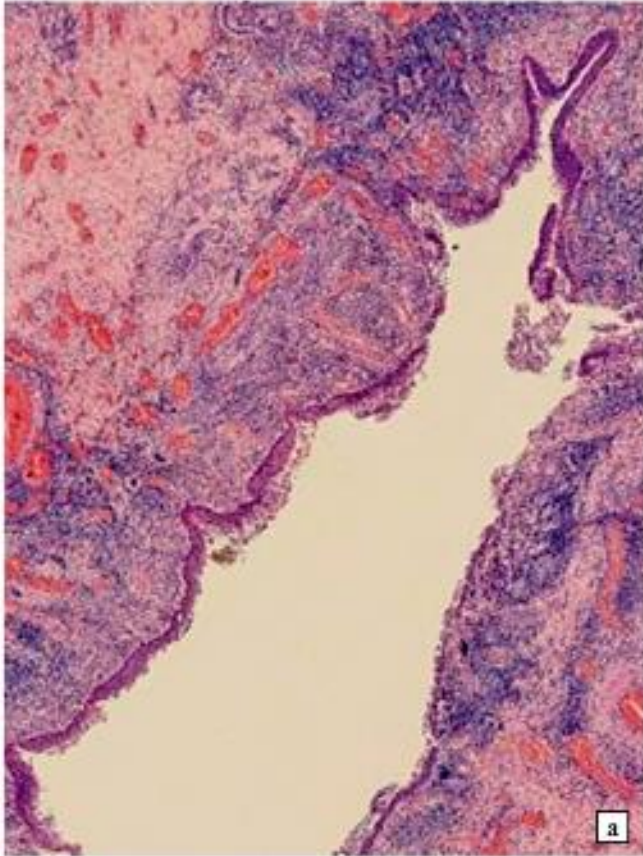


2. Chronic bronchitis. Pay attention to the condition of the bronchial wall (on the quantitative and qualitative composition of the inflammatory infiltrate, for the presence granulation and connective tissue) and adjacent lung tissue. Stained with hematoxylin and eosin x100.

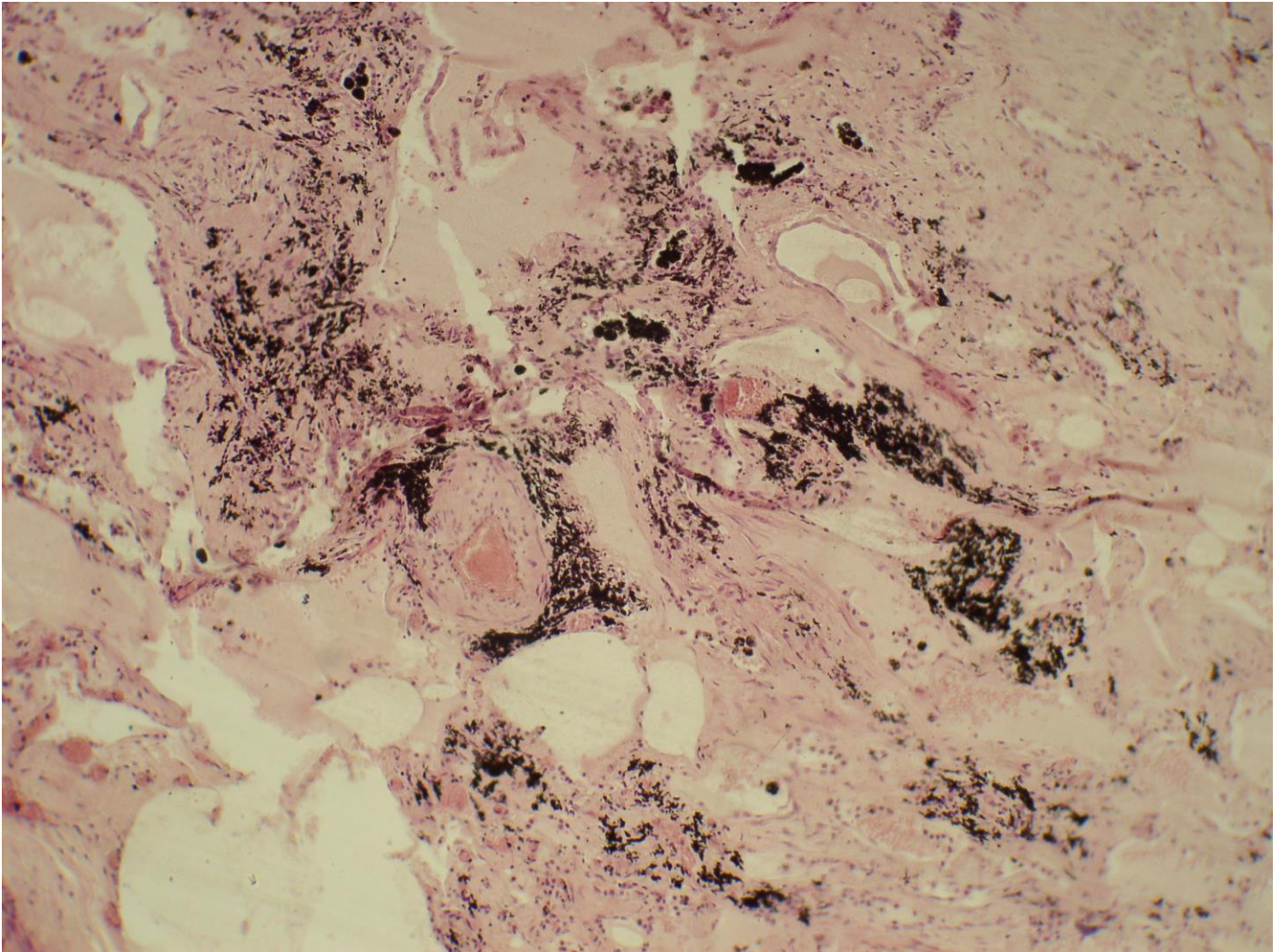


3. Bronchiectasis. Pay attention to the structure of the bronchiectasis wall: the state of the epithelium, basement membrane, submucosal and muscular layers; note the cellular composition of the infiltrate; the state of blood vessels and surrounding lung tissue.

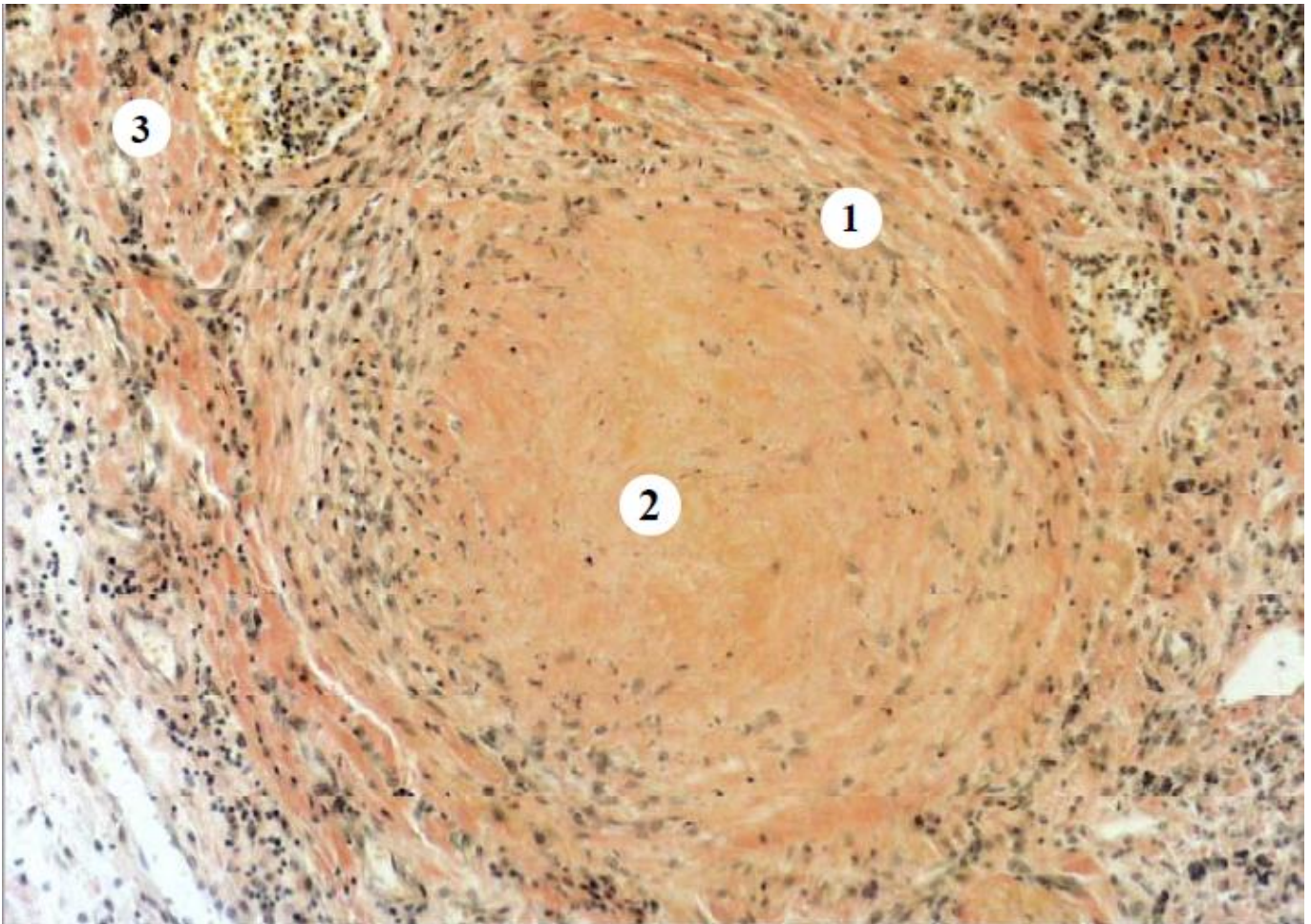
Sclerosis and diffuse inflammatory infiltration (leukocytes, lymphocytes, macrophages) of the submucosal layer (a), the mucous glands and the muscle plate are hypertrophied or atrophic (b). Staining with hematoxylin and eosin: a - x60, b - x 10 (b - preparation of A.L. Chernyaev, M.V. Samsonova)



4. Anthracosis of the lung. Pay attention to the condition of the lung tissue, to the accumulation of black carbon pigment in the tissue. Stained with hematoxylin and eosin x100.



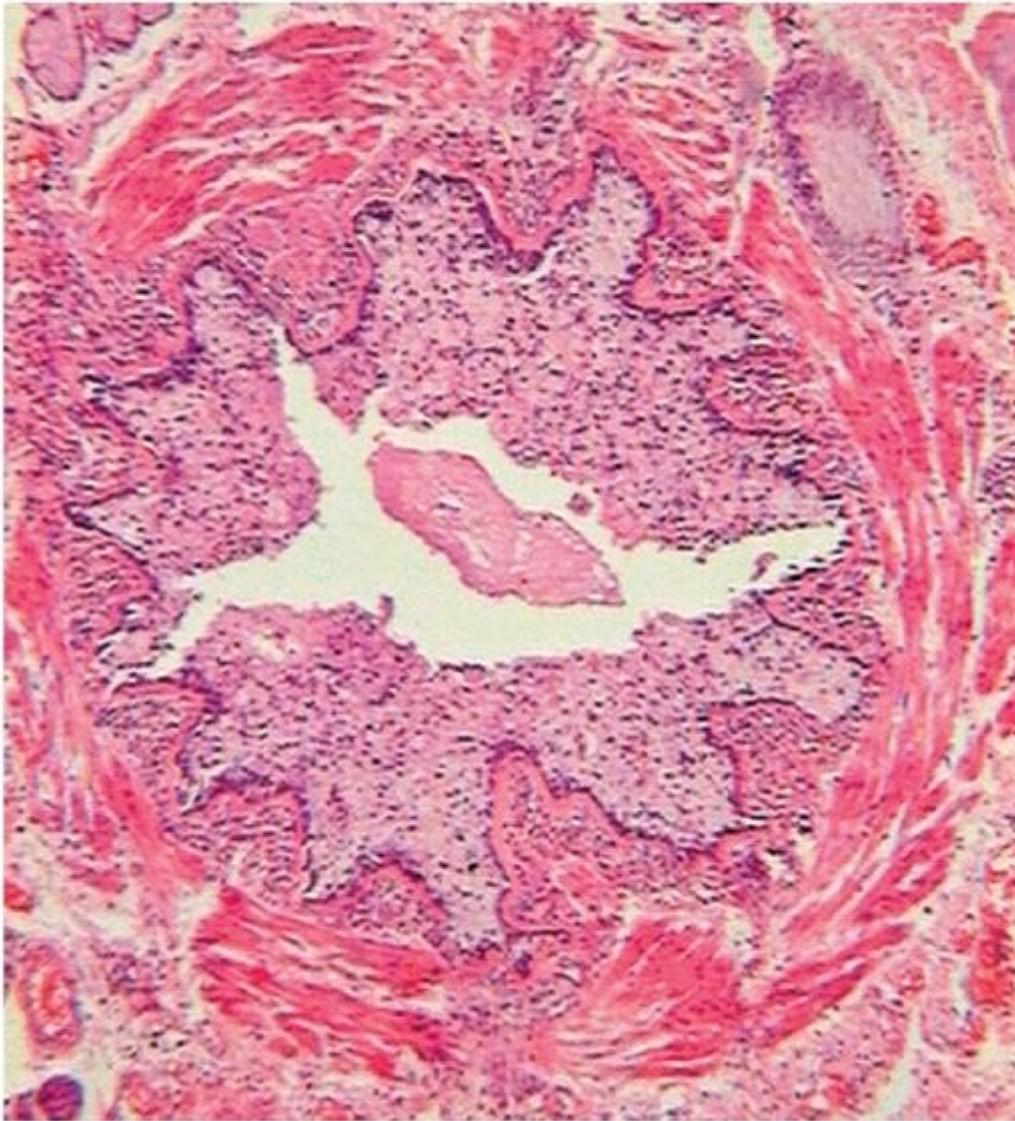
5. Lung silicosis. Sketch multiple nodules consisting of concentrically located collagen fibers and single dust cells of the lung (coniphoages). Van Gieson staining x100.



11.16. Силикоз легких (окраска по ван Гизону).

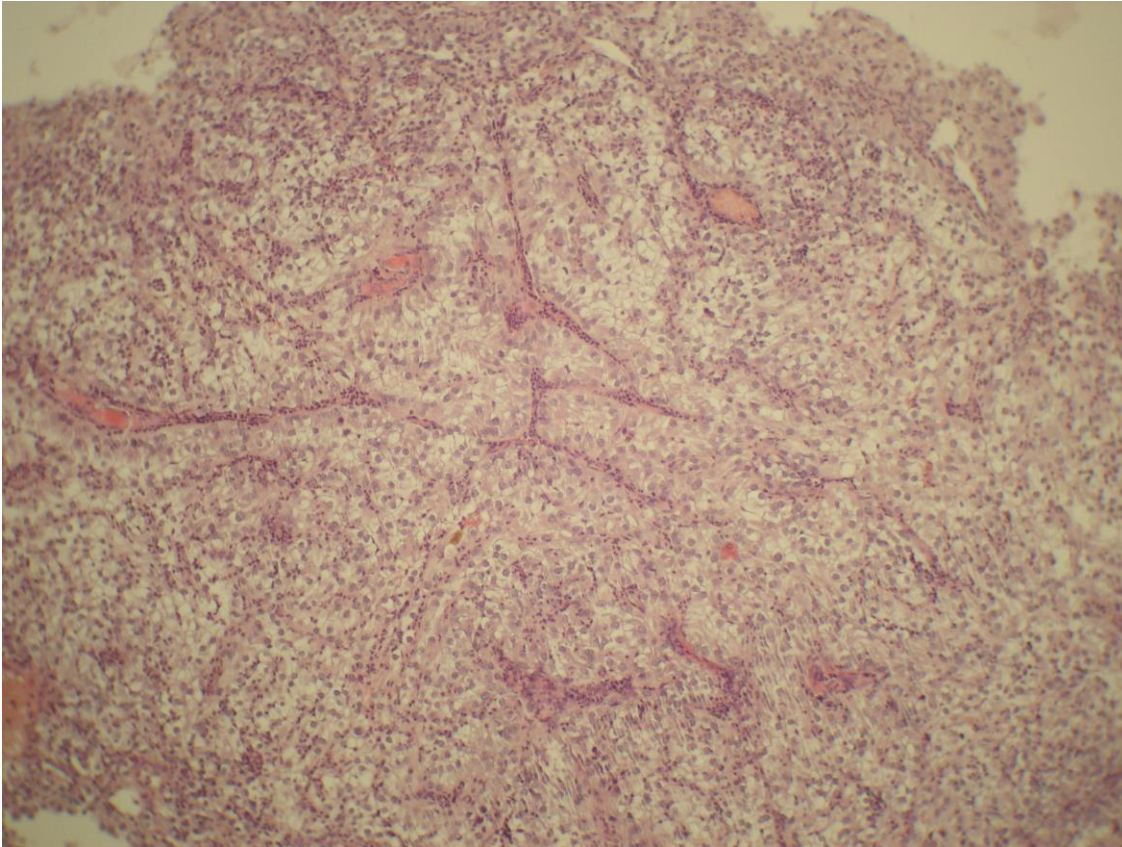
В периферических отделах силикотического узелка расположенные концентрически коллагеновые волокна окрашиваются в кирпично-красный цвет (1). В центре узелка наряду с отдельными коллагеновыми волокнами видны участки гиалиноза и распада желтого цвета (2). В окружающей ткани легкого – диффузный склероз (3).

6. Bronchial asthma. Asthmatic status. Stained with hematoxylin and eosin x100.
(preparation of A.L. Chernyaev, M.V. Samsonova).

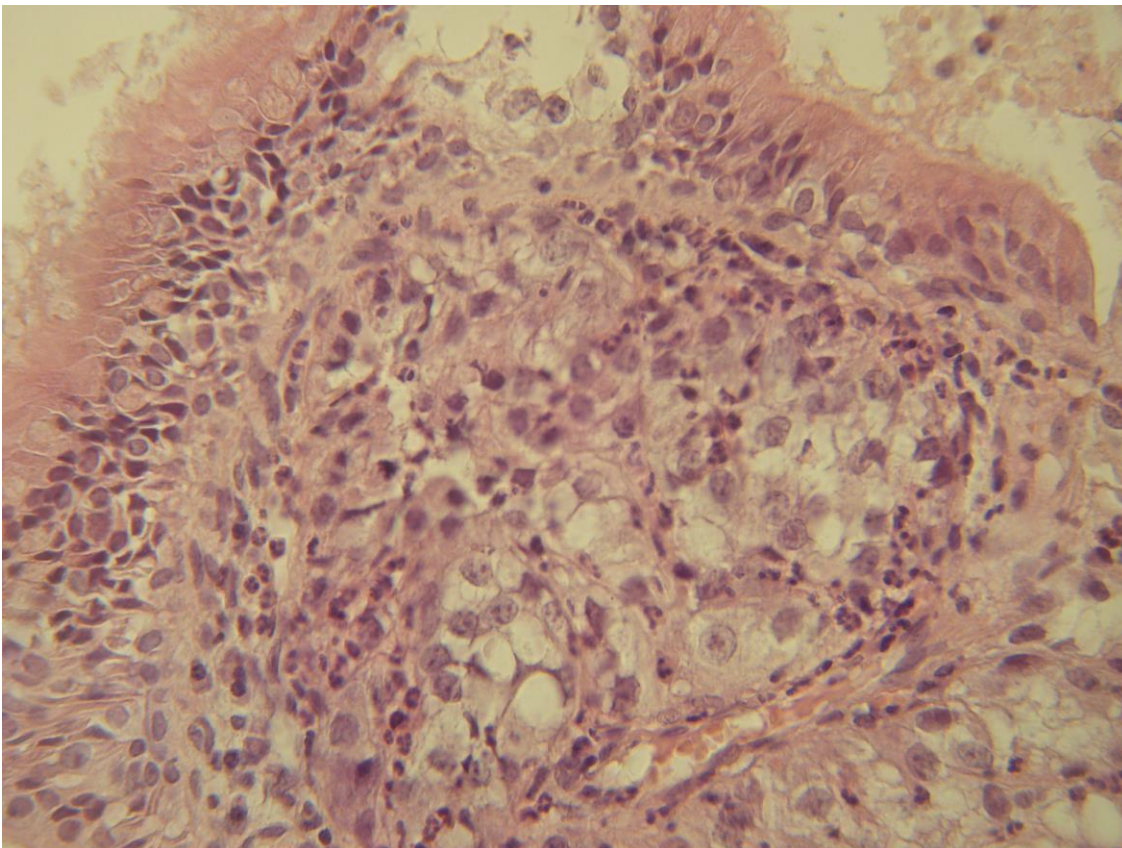


7. Lung cancer. Pay attention to signs of tissue and cellular atypism, note the invasion of atypical cells into the bronchial wall and peribronchial tissue. Stained with hematoxylin and eosin.

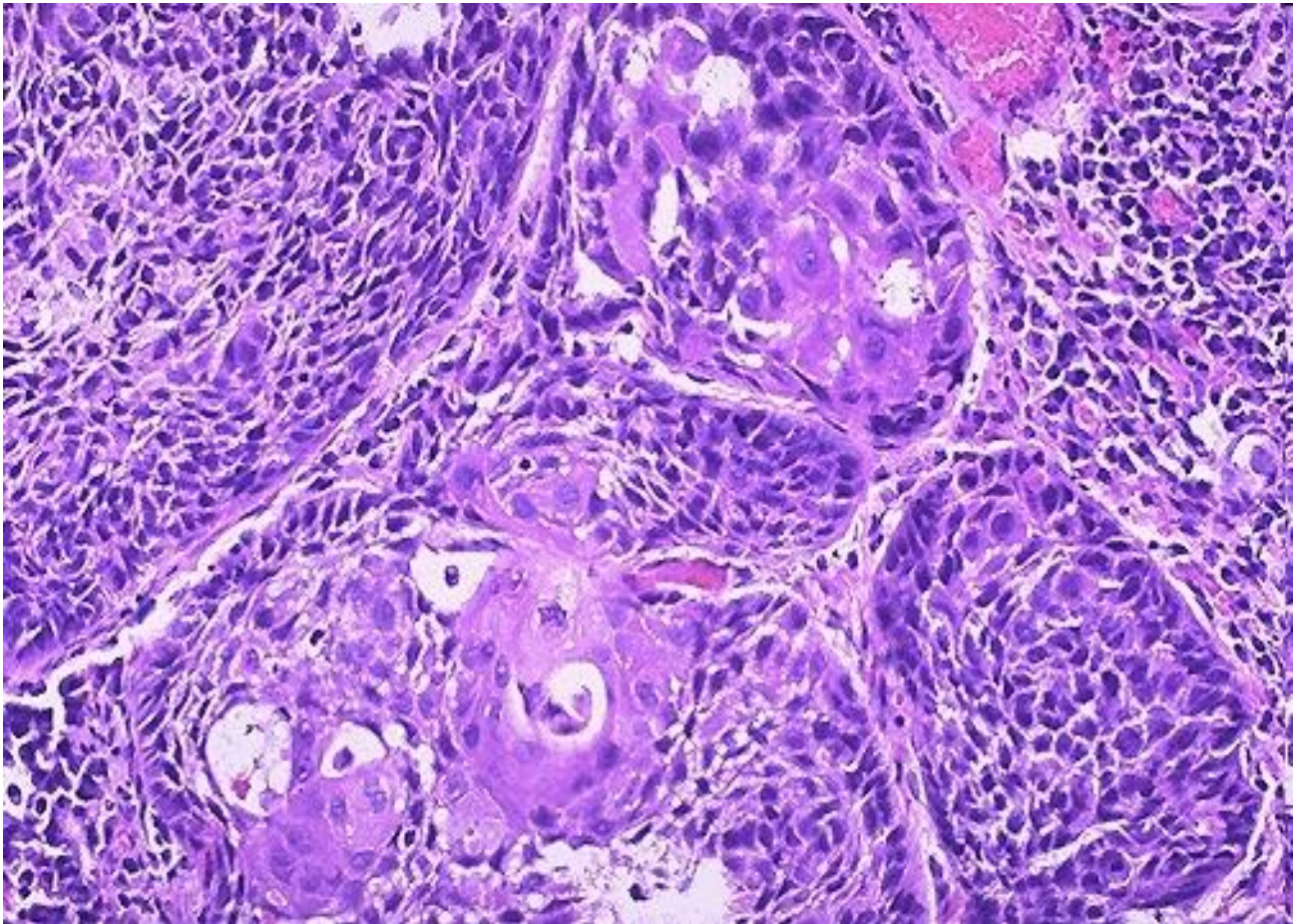
x100



x400

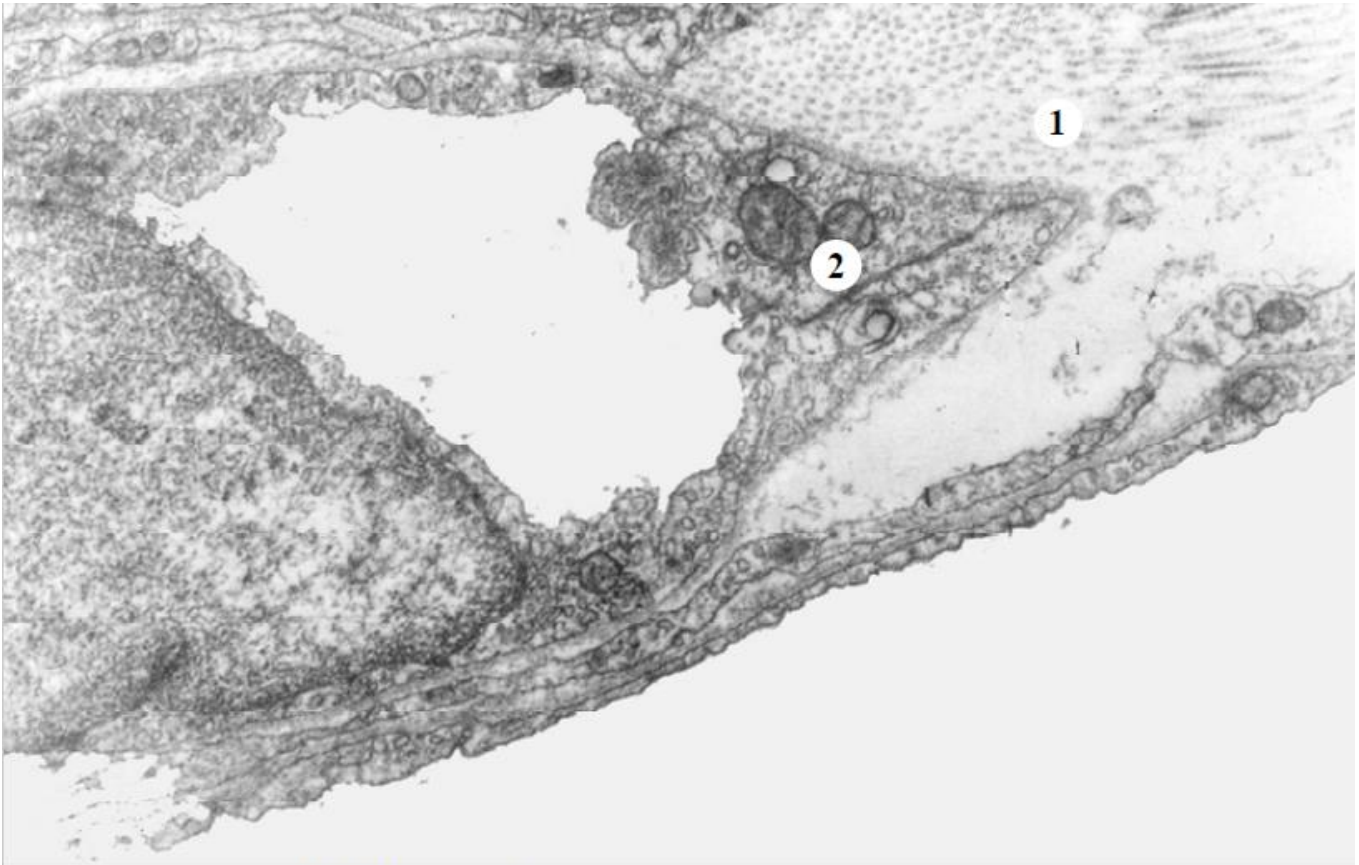


x400



Electronograms

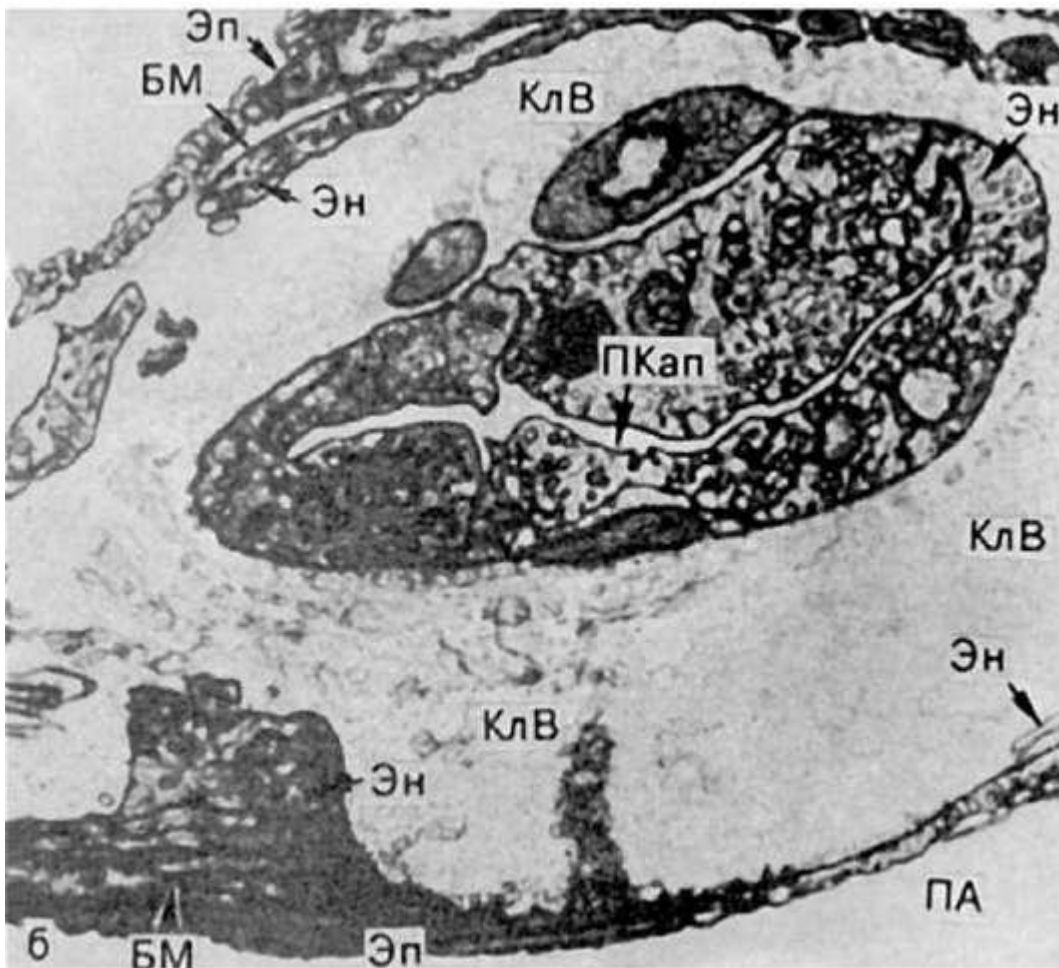
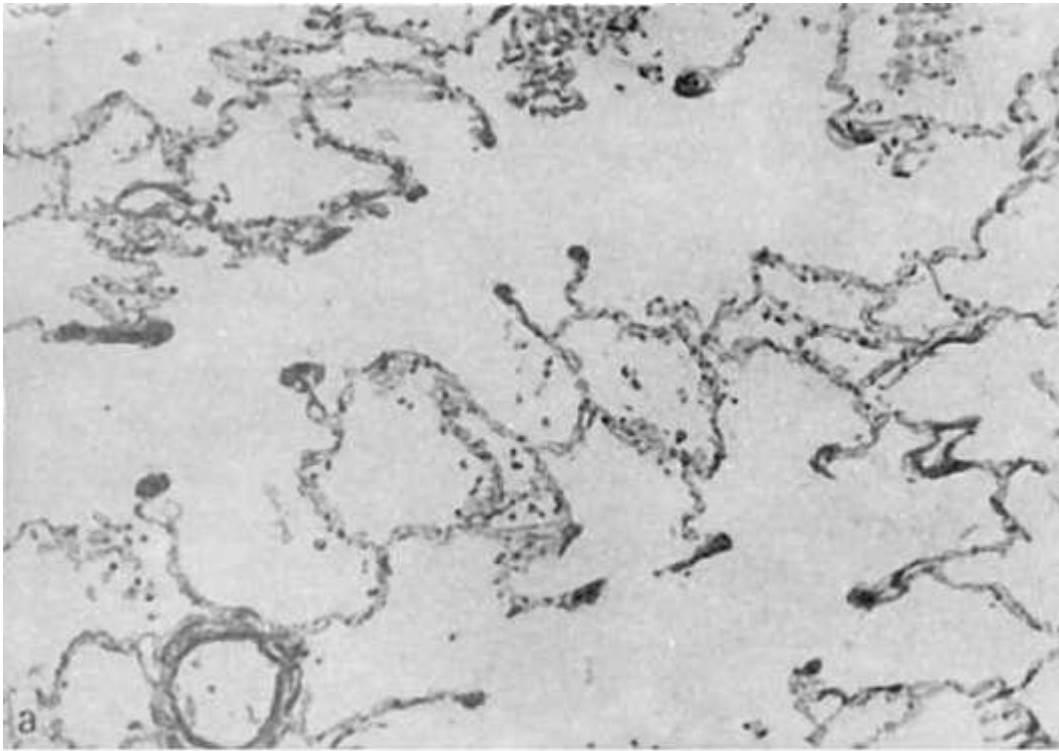
1. Intracapillary sclerosis with pulmonary emphysema.



11.13. Интракапиллярный склероз при эмфиземе легких.

При электронно-микроскопическом исследовании в просвете капилляра видны коллагеновые волокна (1), местами выстланные новым слоем эндотелия; формируется капилляр с утолщенной склерозированной стенкой (2); аэрогематический барьер разрушен.

2. Obstructive pulmonary emphysema, pneumosclerosis.



a - sharply dilated respiratory bronchiole, centroacinar emphysema (preparation by I.K. Esipova);
 b - intracapillary sclerosis. Capillary lumen overgrowth (ПКан).

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 (2th).
5. "Histology for Pathologist" Ed. S.S.Sternberg – Philadelphia: Lippincott Raven Publ, 1997 (2th).
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 (14th).
8. "Pathology" Eds. Rubin, J.L. Farber – Philadelphia: Lippincott Raven Publ, 1998 (3th).
9. "Pathology Illustrated" Govan A.D.T., Macfarlane P.S., Callander R. – Edinburgh: Churchill Livingstone, 1995 (4th).
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 (6th).
11. "Wheater's Basic Histopathology. A Color Atlas and Text" Burkitt H.G., Stevens A.J.S.L., Young B. – Edinburgh: Churchill Livingstone, 1996 (3th).
12. "Color Atlas of Anatomical Pathology" Cooke R.A., Steward B. – Edinburgh: Churchill Livingstone, 1995 (10th).
13. "General Pathology" Walter J.B., Talbot I.C. – Edinburgh: Churchill Livingstone, 1996 (7th).
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 (10th).

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