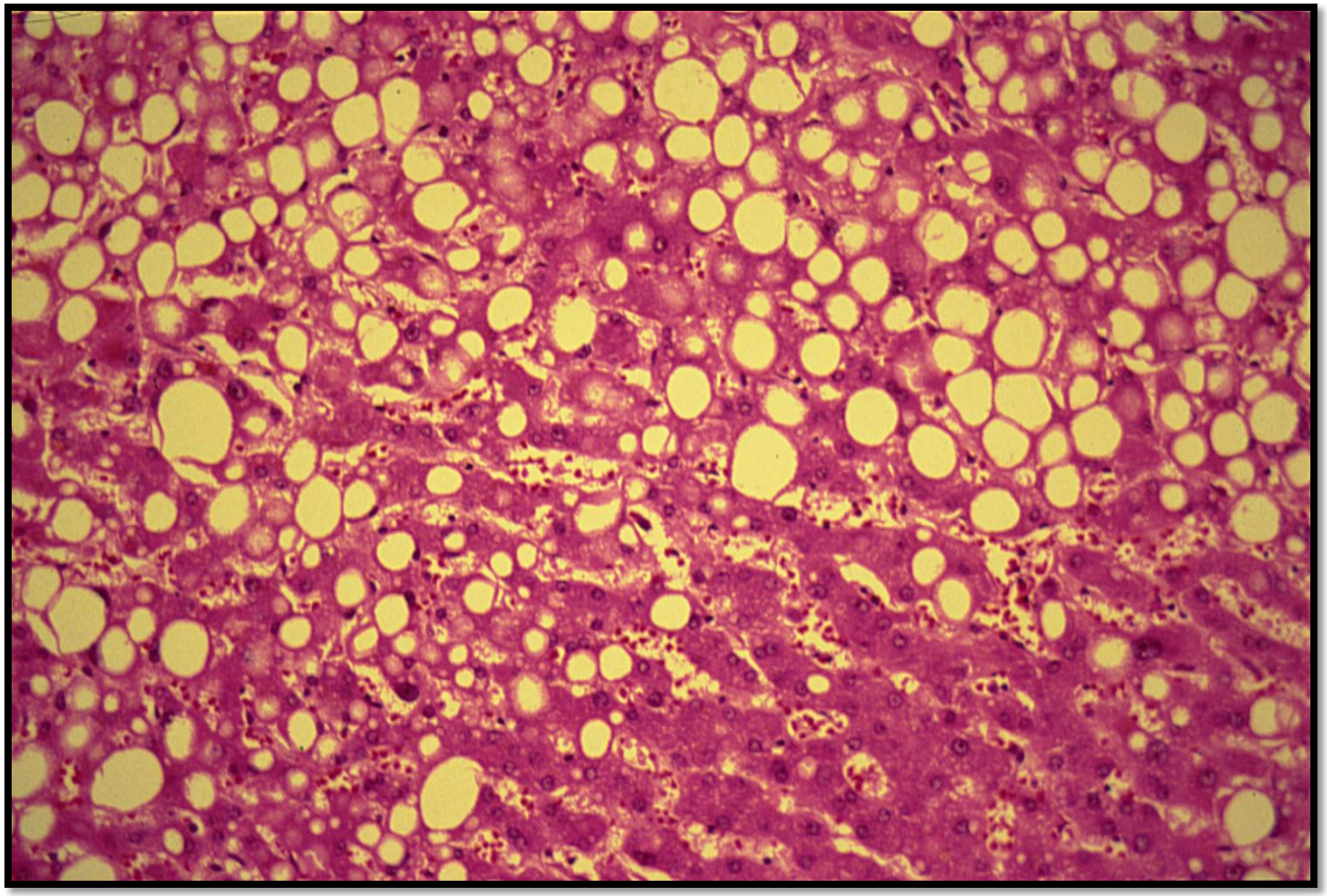
Foundation block

Revision

Organ: Liver

Dx: Steatosis (Fatty Liver)



Organ: Liver Dx: Fatty Change

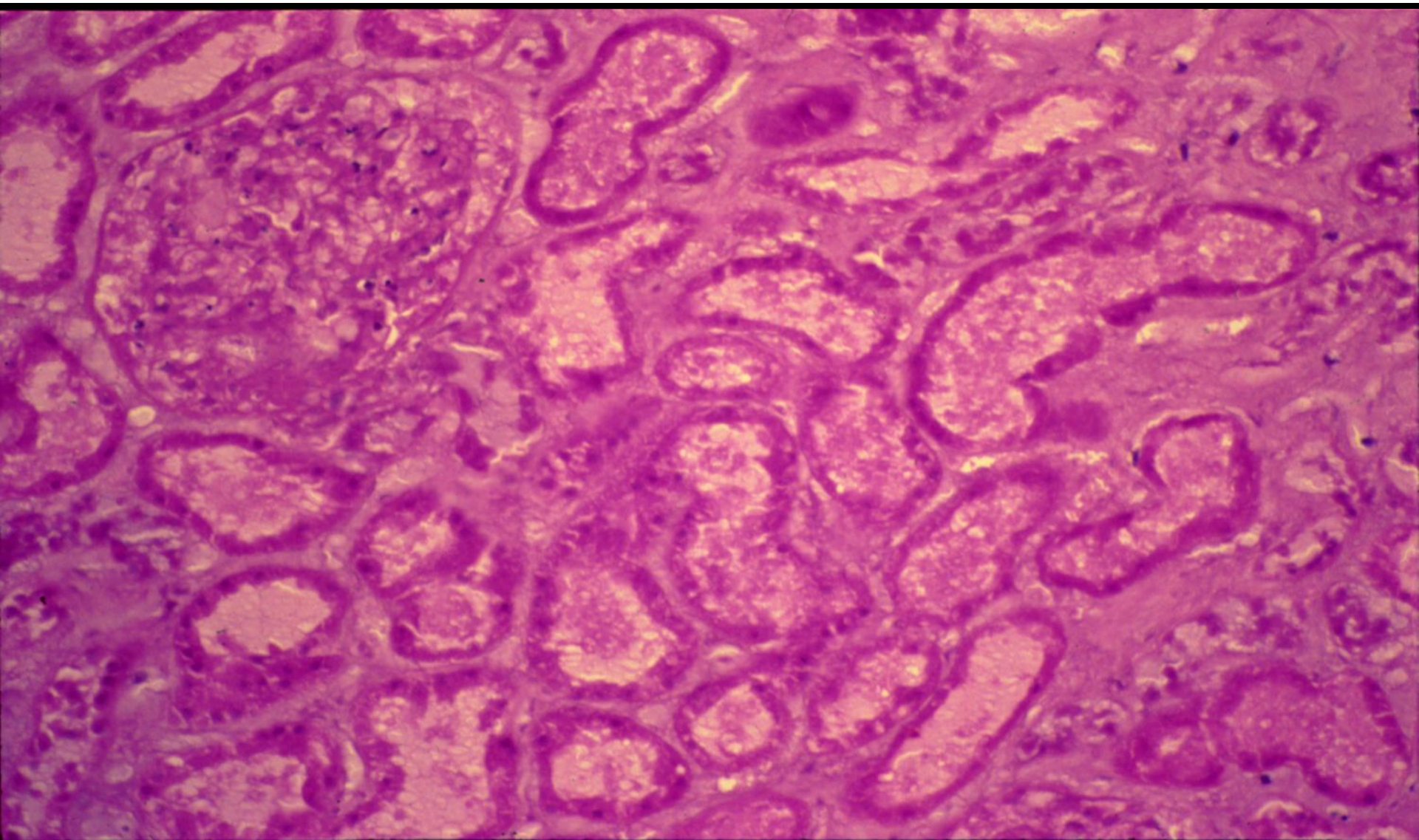
Fatty change of the liver:

Section of liver shows:

- **Normal lobular architecture.**
- **The liver cells are distended متضخمة وممتدة by clear vacuoles of dissolved fat with displacement of the nuclei to the periphery.**
- **Fatty cysts may be seen.**
- **No inflammation and no fibrosis.**

Organ: Kidney Dx:Coagulative necrosis

Coagulative necrosis in an infarcted KIDNEY



Coagulative necrosis in an infarcted kidney:

Section of kidney shows:

- **A cortical infarct showing coagulative necrosis of glomeruli, tubules and interstitial tissue with loss of cell nuclei.**

- **The haemorrhagic zone at the periphery of the infarct shows dilated and congested blood vessels and cellular infiltrate by neutrophils, red blood cells and lymphocytes.**

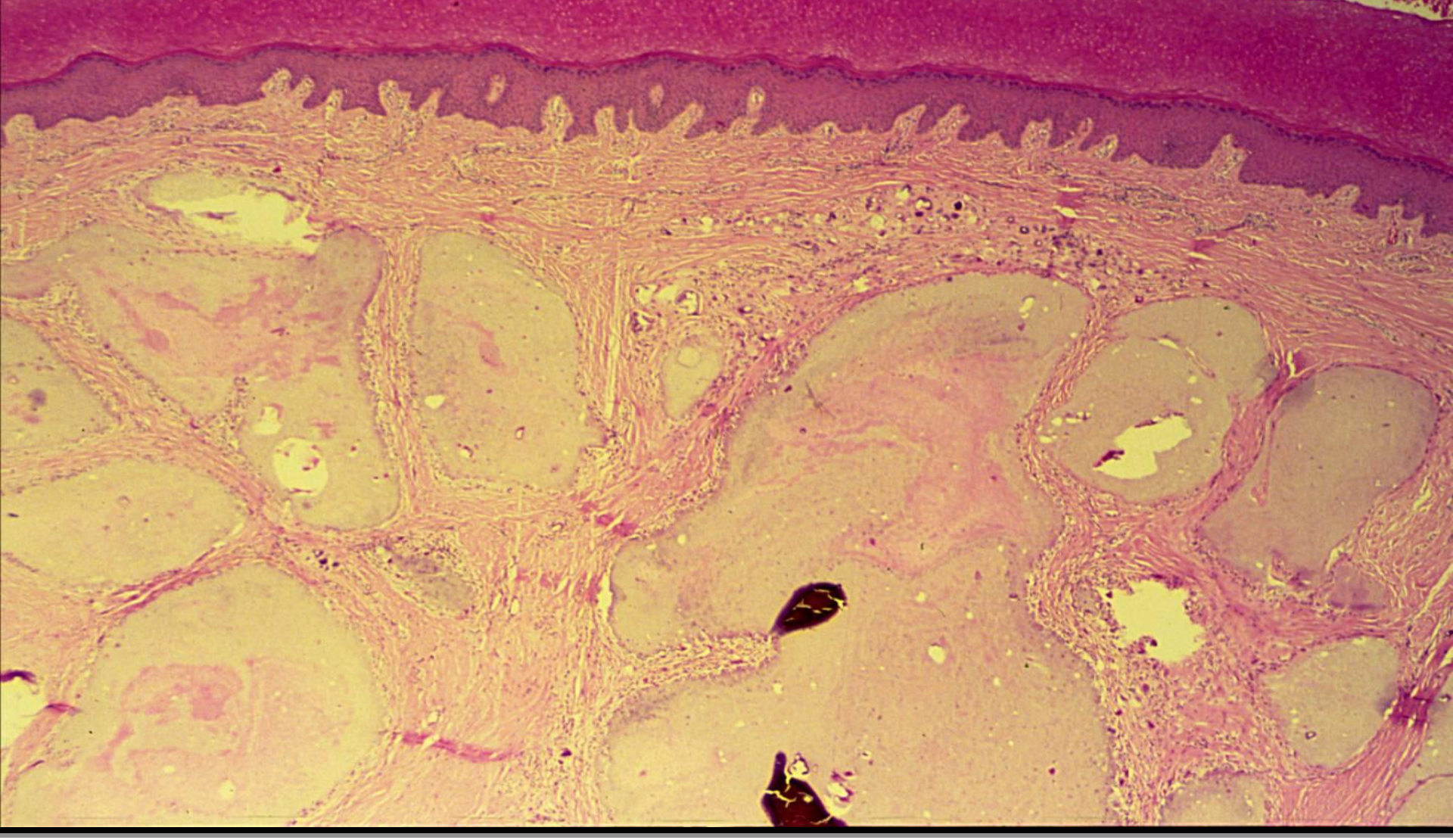
Organ: Brain

Dx: Liquefactive necrosis in brain leads to resolution with cystic spaces.

Organ: lung Dx : Caseous necrosis (tuberculosis)

Organ: aortic valves

Dx: Dystrophic calcification



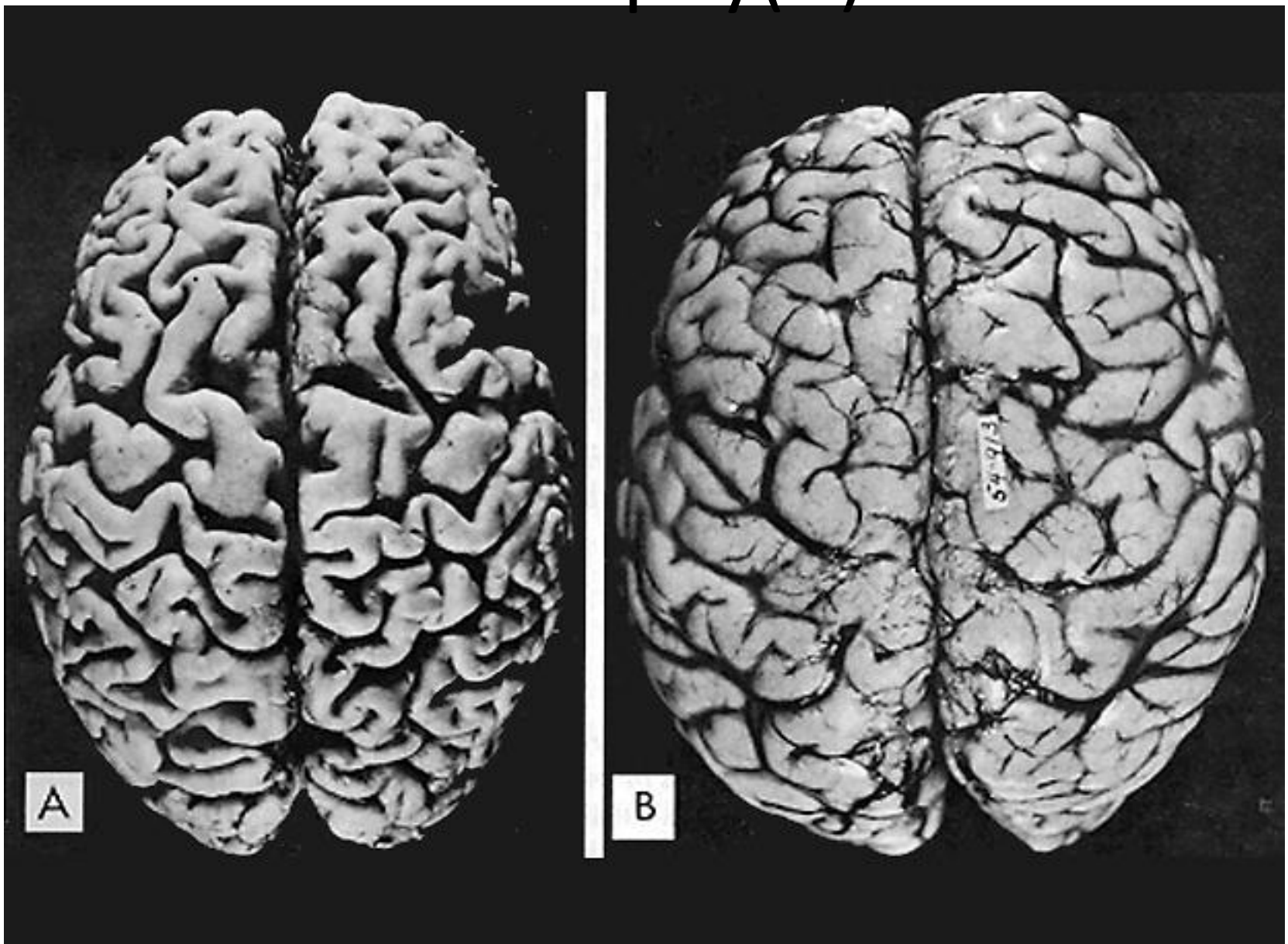
Organ: Skin Dx: DYSTROPHIC CALCIFICATION

Dystrophic calification:

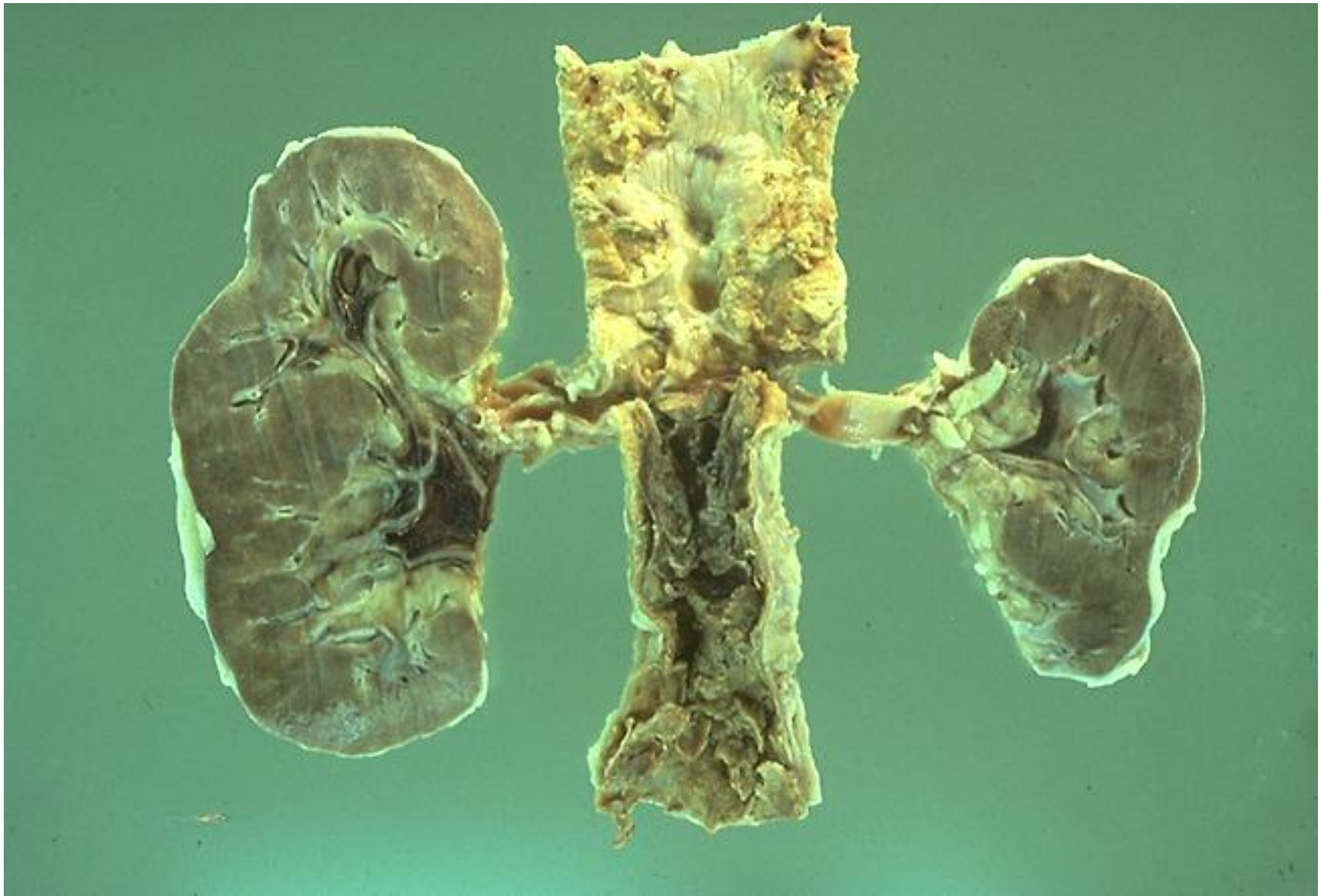
Section of skin shows:

- **Irregular blue granular deposits of calcium in the dermis surrounded by fibrous tissue and foreign body giant cell reaction.**

Brain atrophy(A)



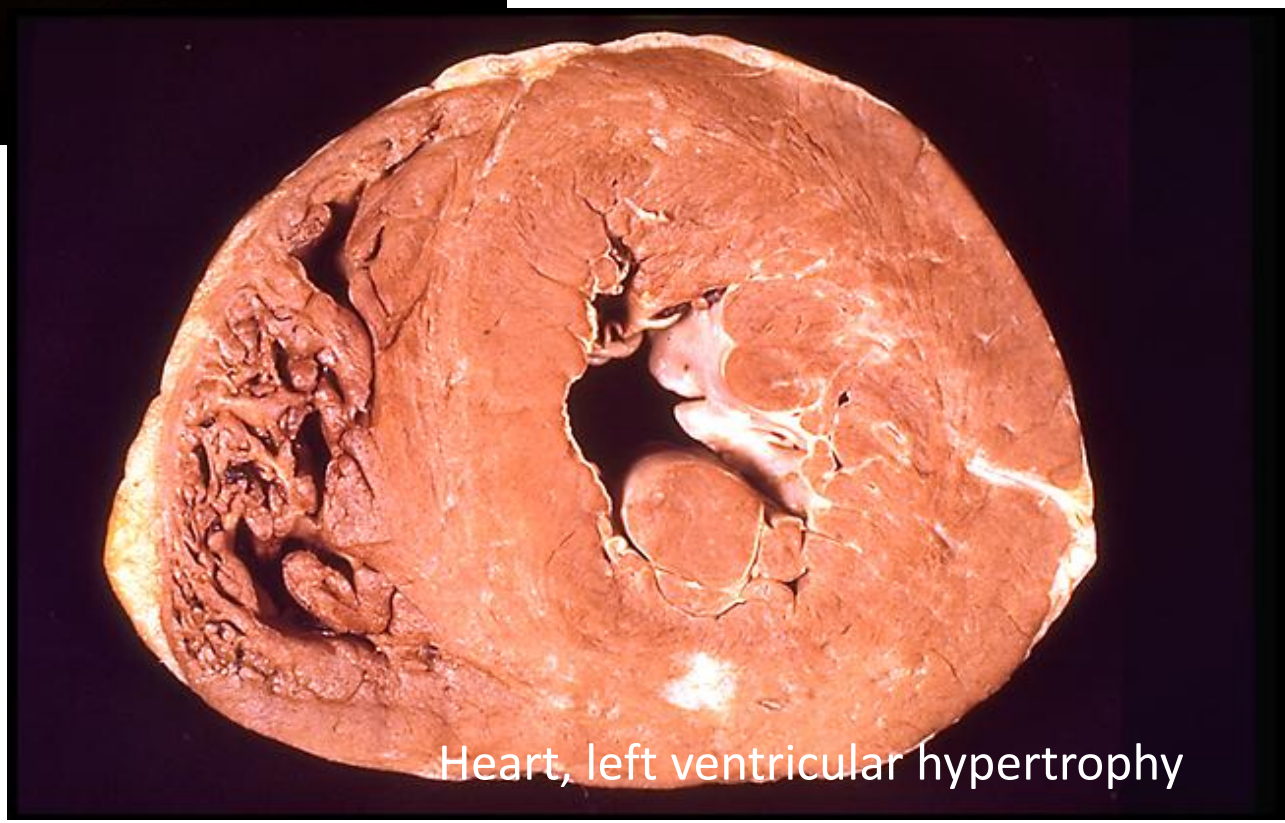
Kidney atrophy



Organ: Testis

Dx: Atrophy

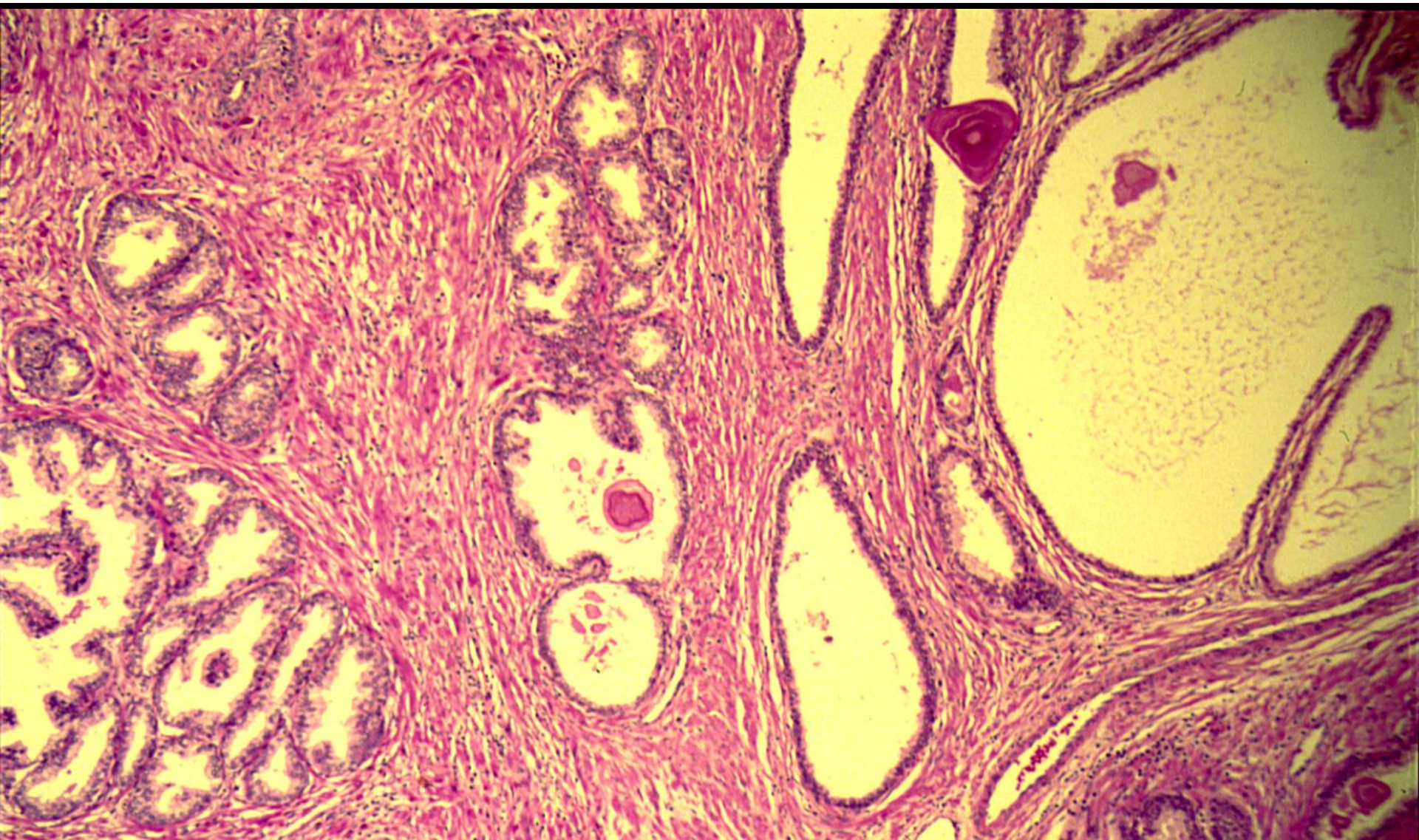
Heart, normal



Heart, left ventricular hypertrophy

Prostatic hyperplasia

HYPERPLASIA OF THE PROSTATE

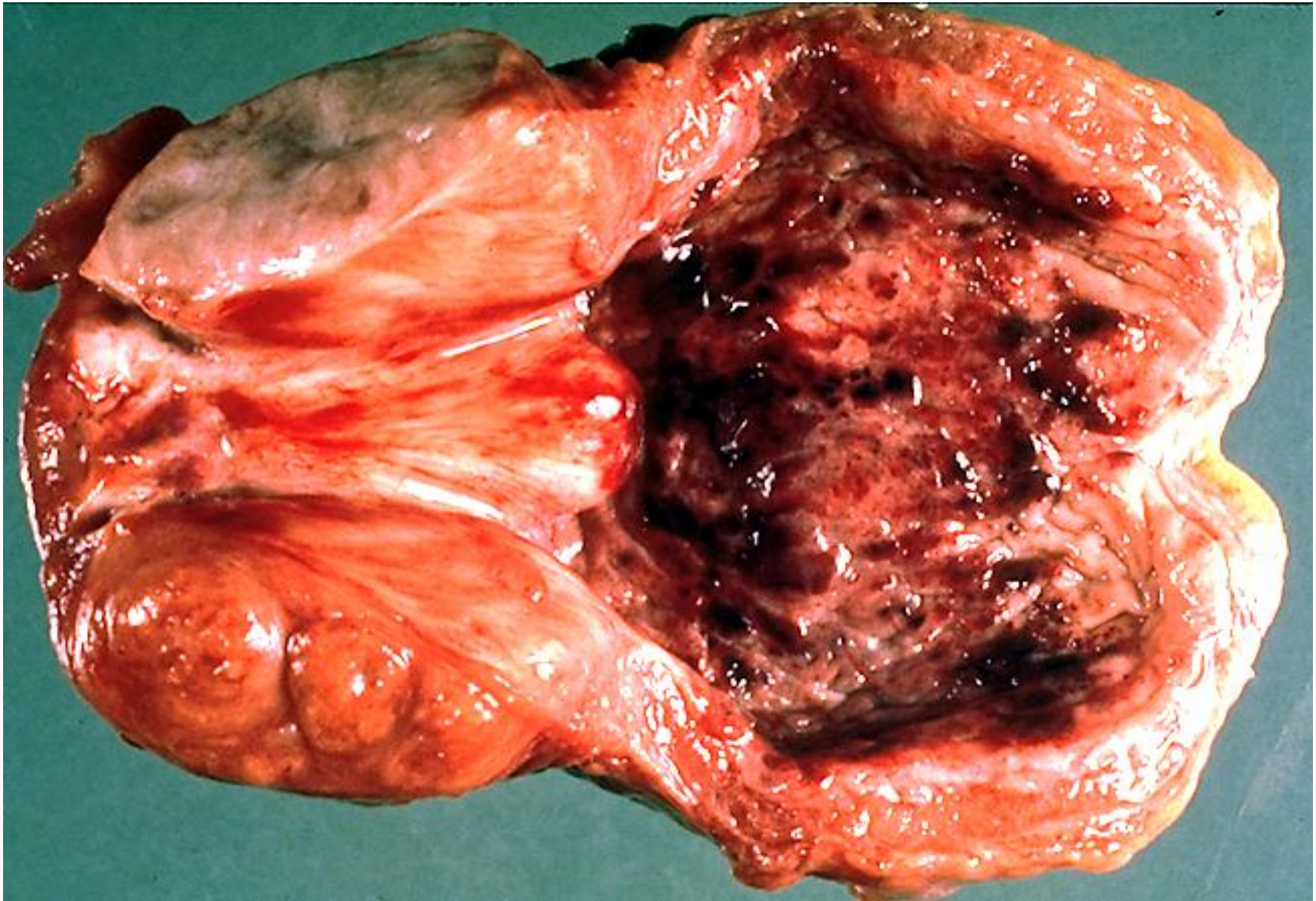


Hyperplasia of the prostate:

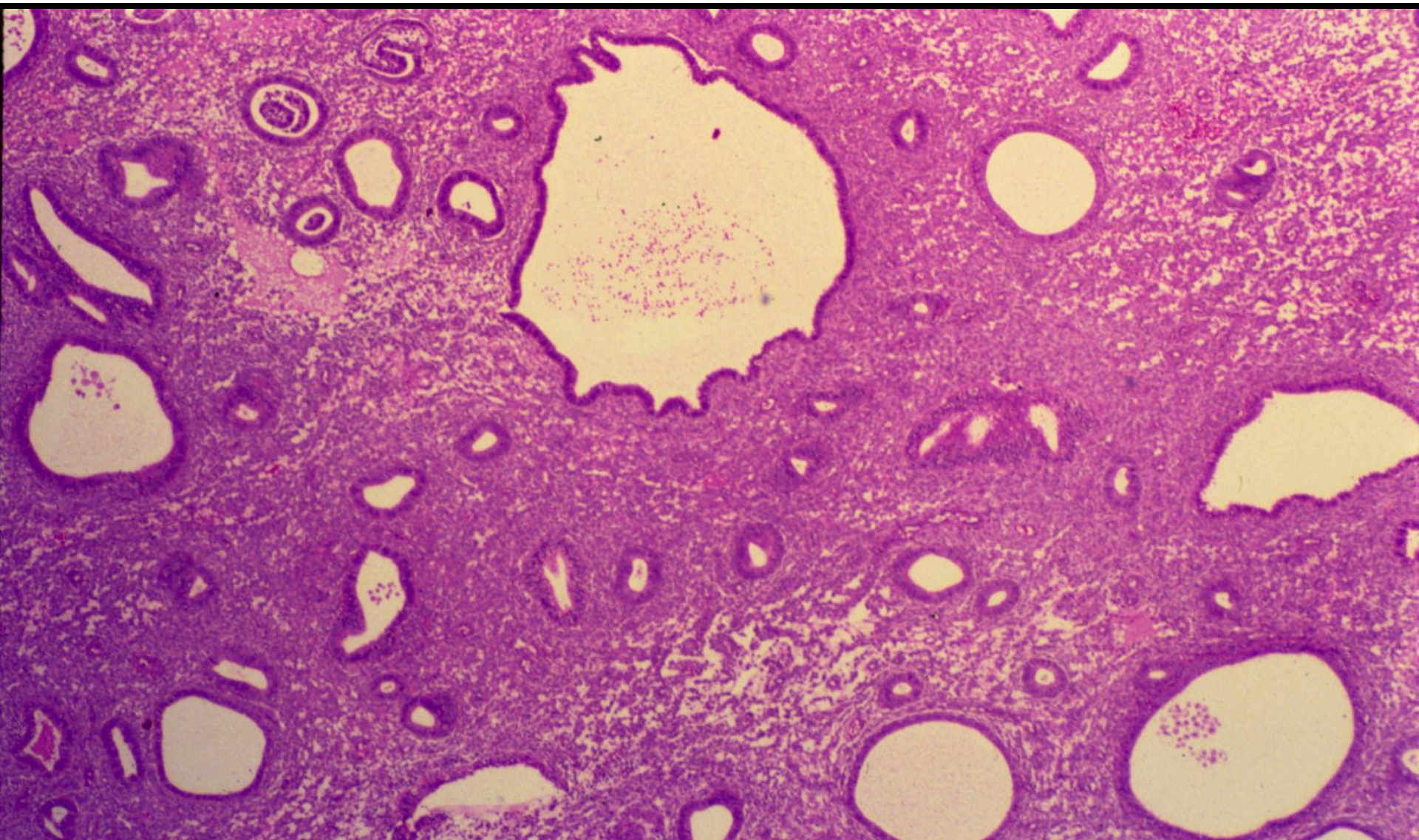
Section of prostate shows:

- **Nodular hyperplasia of glandular and fibromuscular stromal tissue.**
- **Each nodule shows large number of glands of variable sizes lined by tall columnar epithelium and some are cystically dilated.**
- **Eosinophilic hyaline corpora amylacea is present in some glands.**
- **There is increase in fibromuscular stroma around the glands with focal chronic inflammatory cell infiltration.**

Endometrial hyperplasia



CYSTIC HYPERPLASIA OF THE ENDOMETRIUM

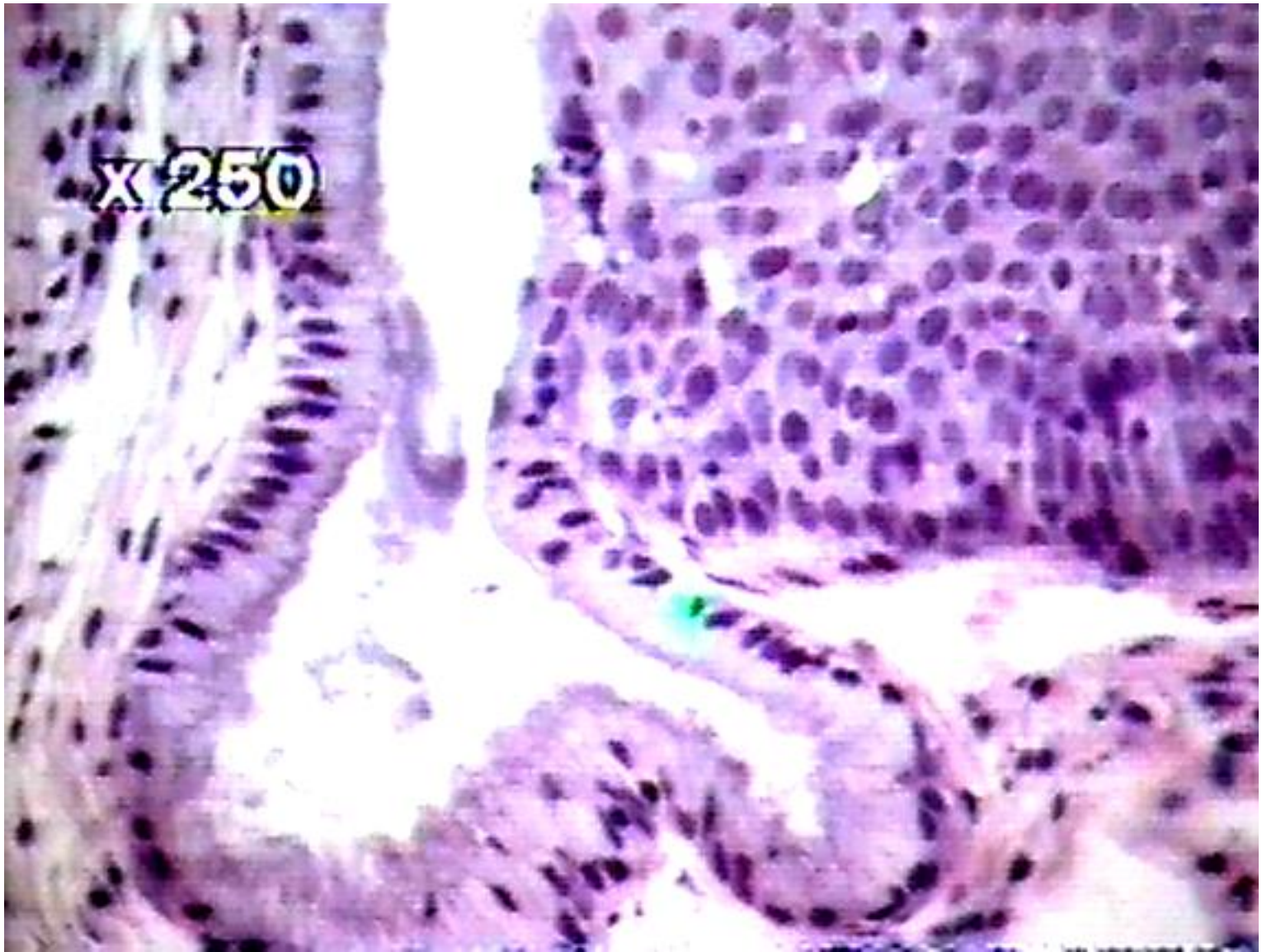


Cystic hyperplasia of the endometrium:

Section shows fragments of endometrial tissue and blood clot:

- **The endometrial glands are increased in number and show marked variation in size and shape and some are cystically dilated.**
- **The glands are lined by more than one layer of tall columnar epithelium with many mitoses.**
- **The stroma in between the glands is increased and cellular.**

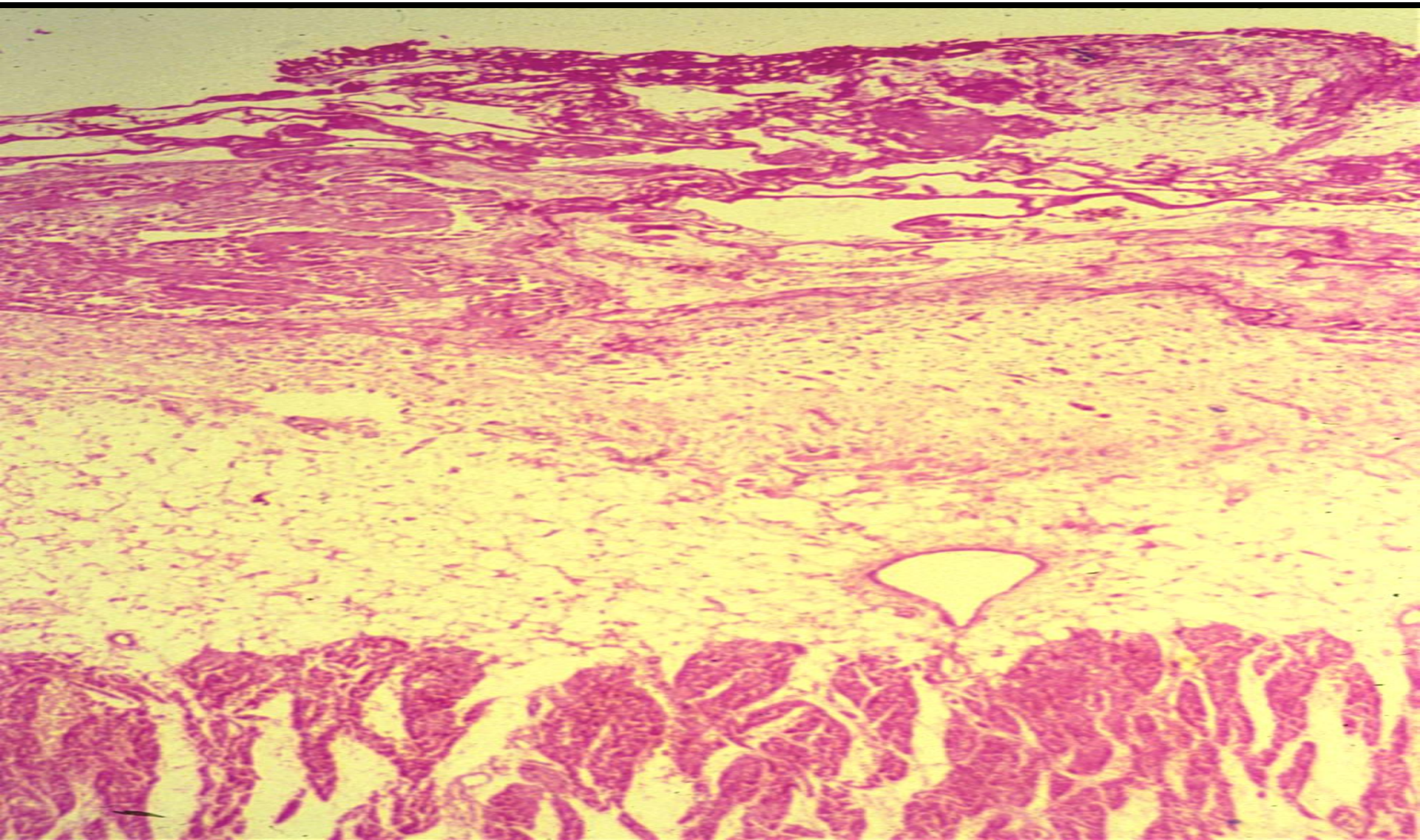
Endocervical squamous metaplasia



Organ: Pericardium

Dx: Fibrinous Inflammation

ACUTE FIBRINOUS PERICARDITIS



Fibrinous Pericarditis:

Section of Heart shows:

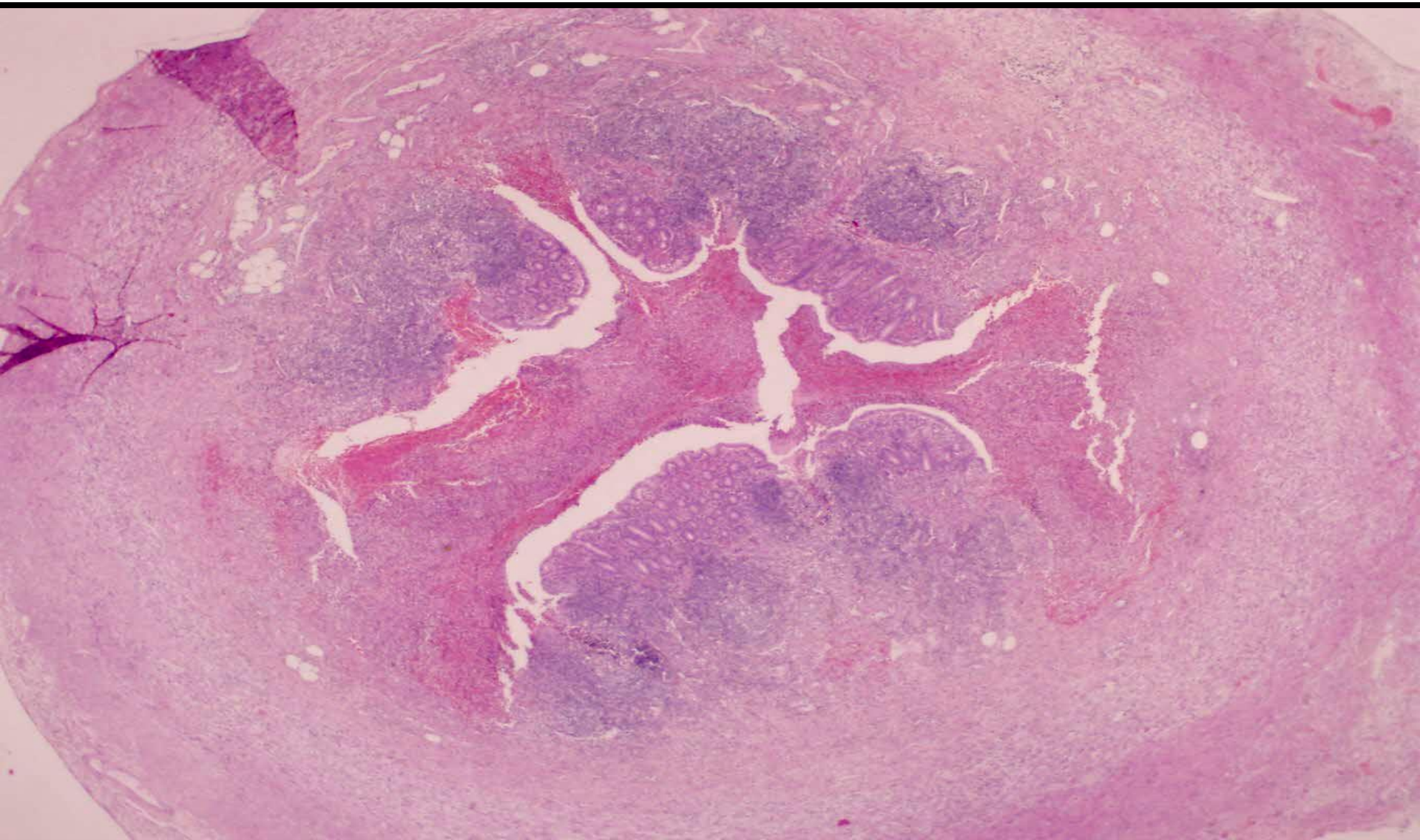
- **The pericardium is distorted by thick irregular layer of pinkish fibrinous exudate with some red cells and inflammatory cells.**

- **The subpericardial layer is thickened by edema and shows dilated blood vessels, chronic inflammatory cells and areas of calcification.**

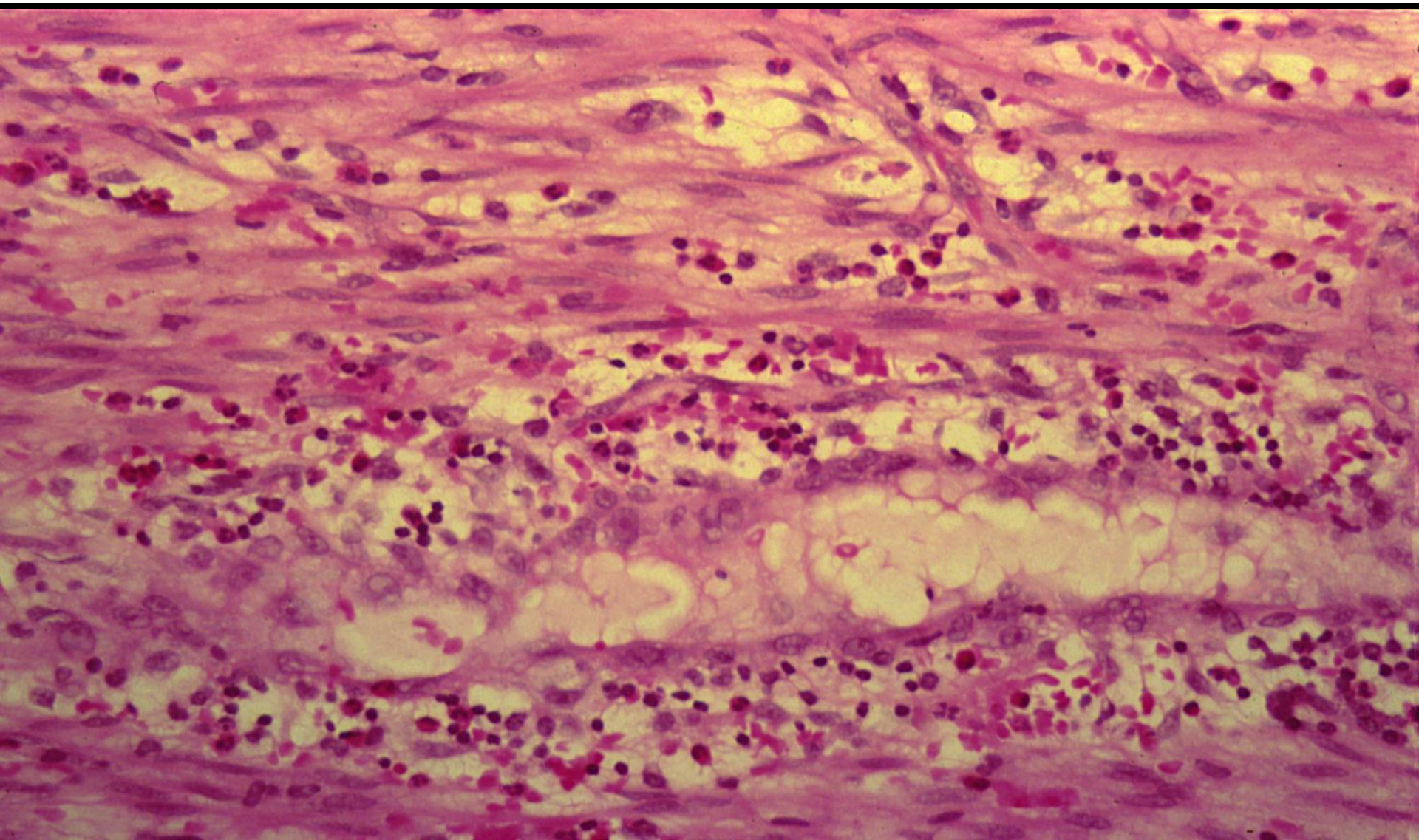
ACUTE APPENDICITIS

What is the white junk coating the surface?

ACUTE APPENDICITIS



ACUTE APPENDICITIS



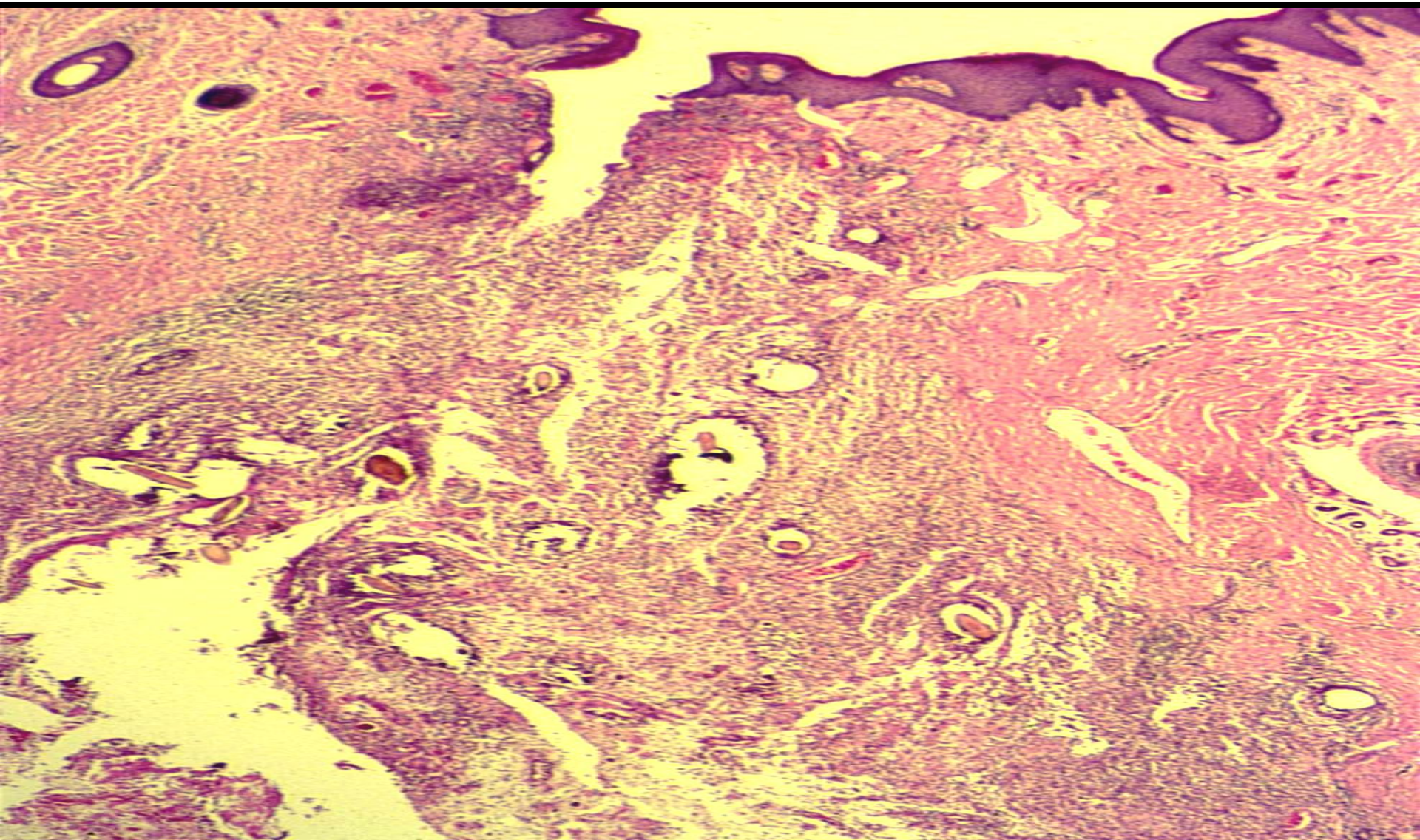
Acute Suppurative appendicitis:

Cross Section of Appendix shows:

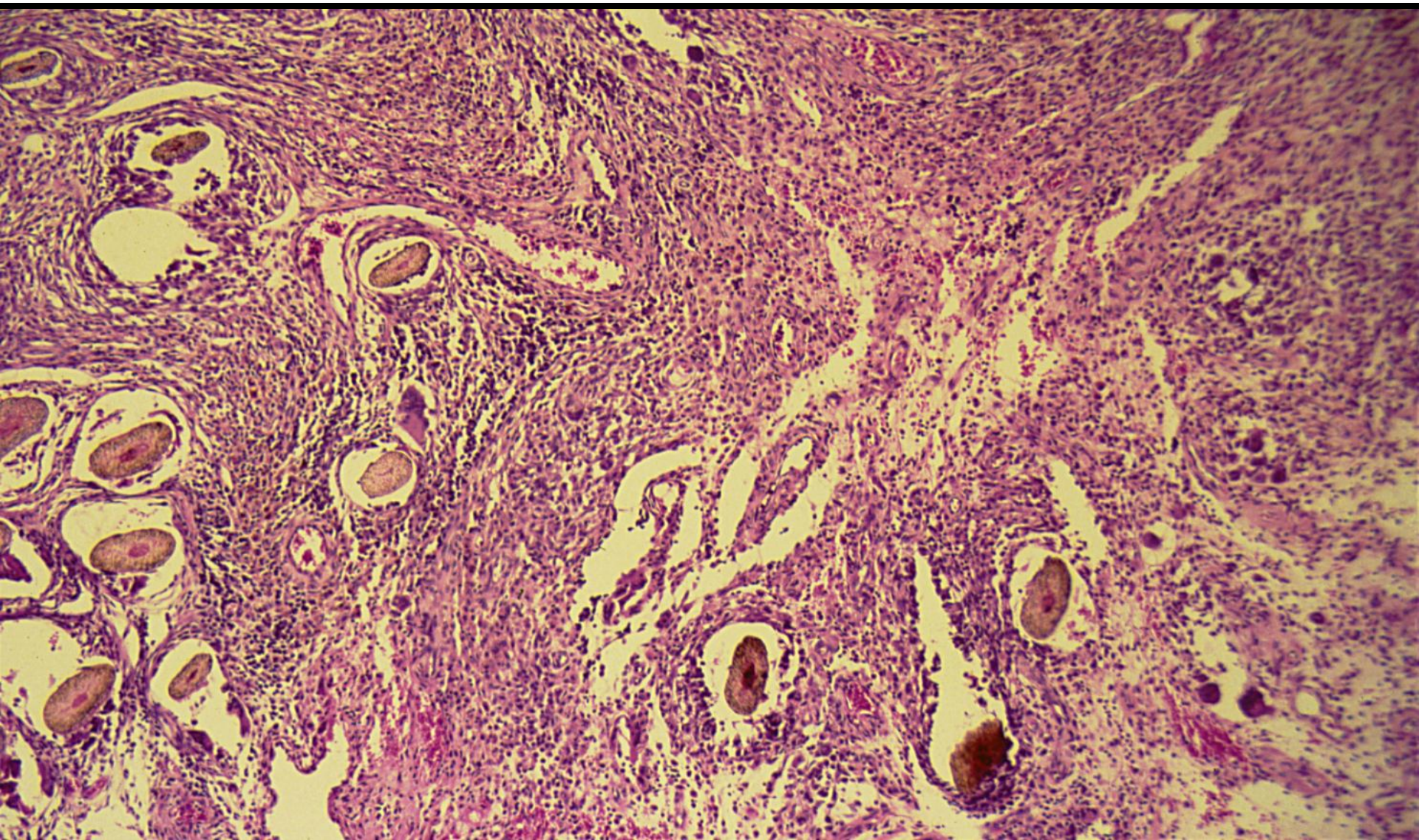
- **Accumulation of inflammatory exudate and pus cells in the lumen and the mucosa is ulcerated.**
- **All layers of the appendix wall show edema, dilated and congested blood vessels and infiltration by many neutrophils.**
- **Fibrino-purulent exudate is present on the serosal surface**.

Skin pilonidal sinus

FOREIGN BODY REACTION
(PILONIDAL SINUS)



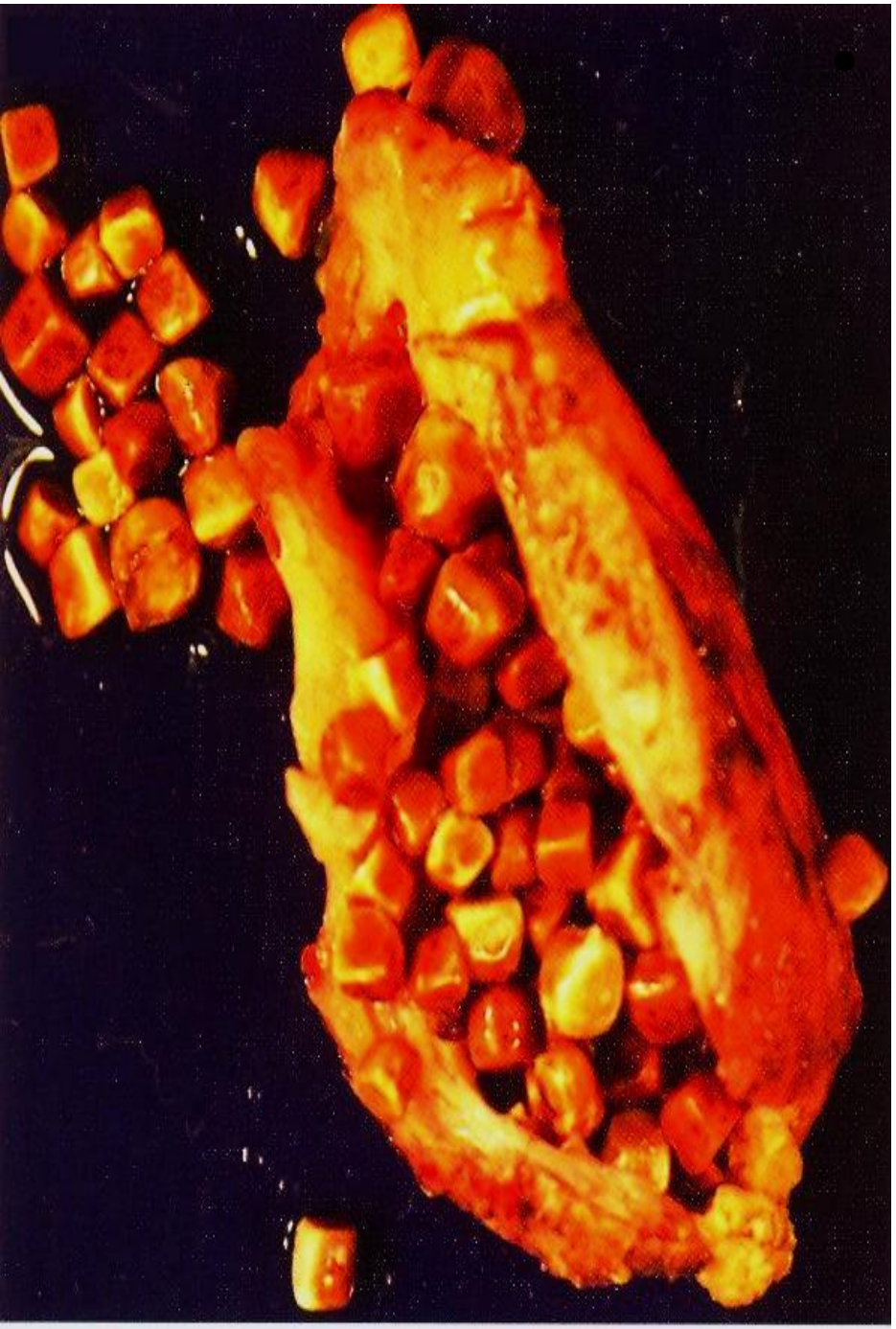
FOREIGN BODY REACTION
(PILONIDAL SINUS)



Foreign Body reaction (Pilonidal sinus):

Section of Skin Shows:

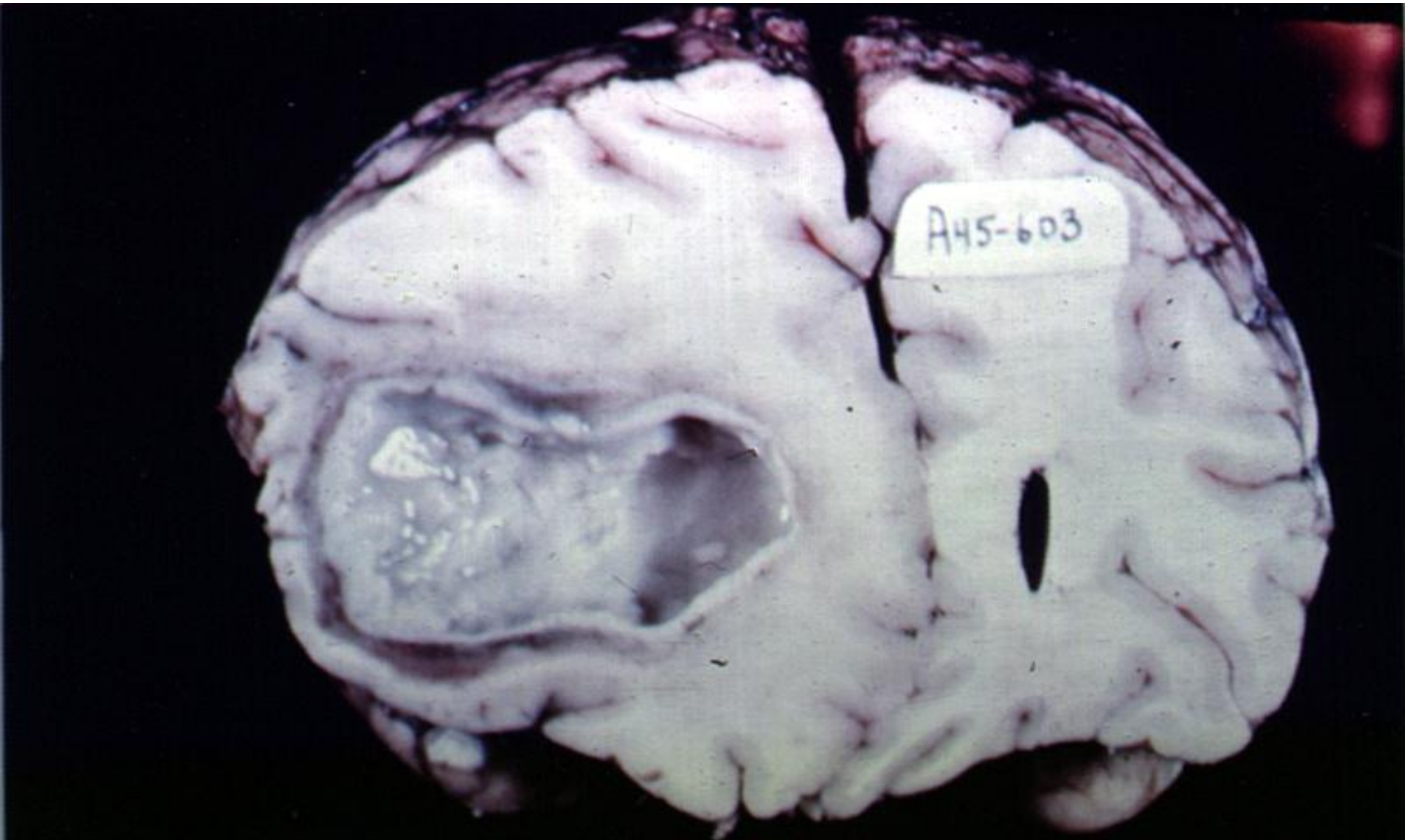
- **A sinus tract lined by an inflammatory granulation tissue in the dermis .**
- **The lumen of sinus and wall contain large number of hair shafts with foreign body reaction : giant cells, lymphocytes , macrophages & neutrophils .**



Chronic cholecystitis with stons

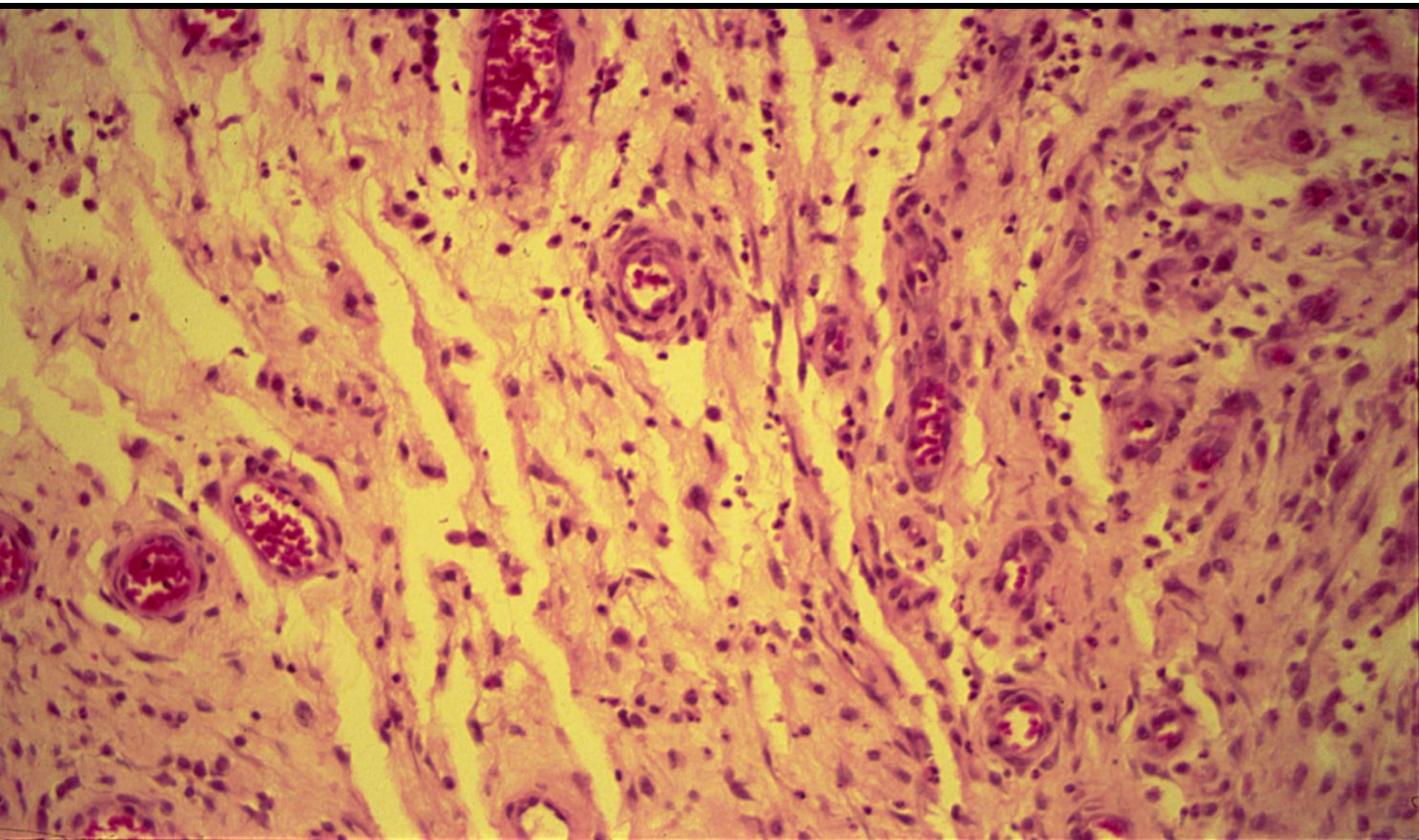
- Lung , Bronchiectasis

Brain abscess



Kidney , pyemic abscesses

GRANULATION TISSUE



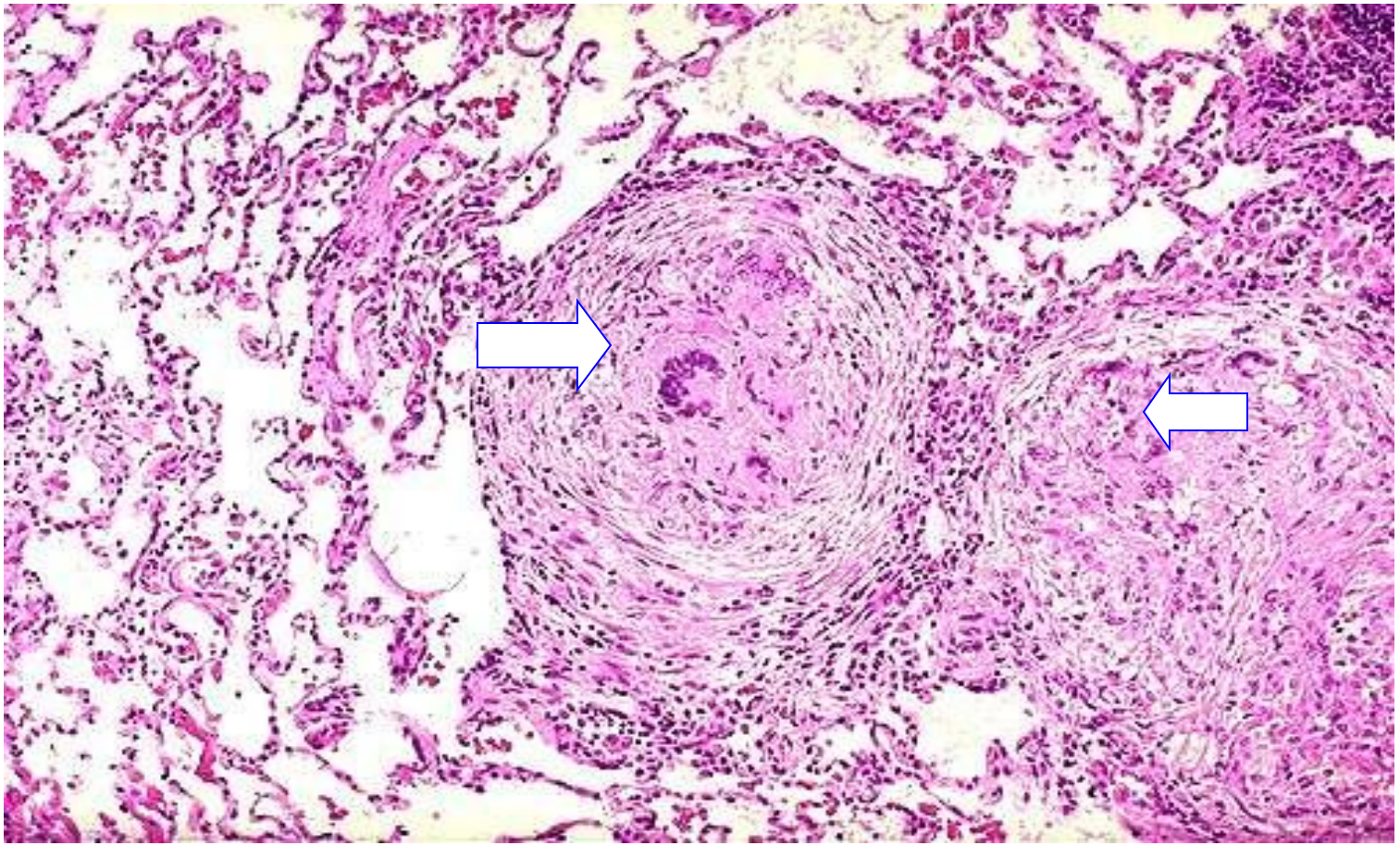
Granulation Tissue:

Section of fragments of edematous, loose connective tissue shows:

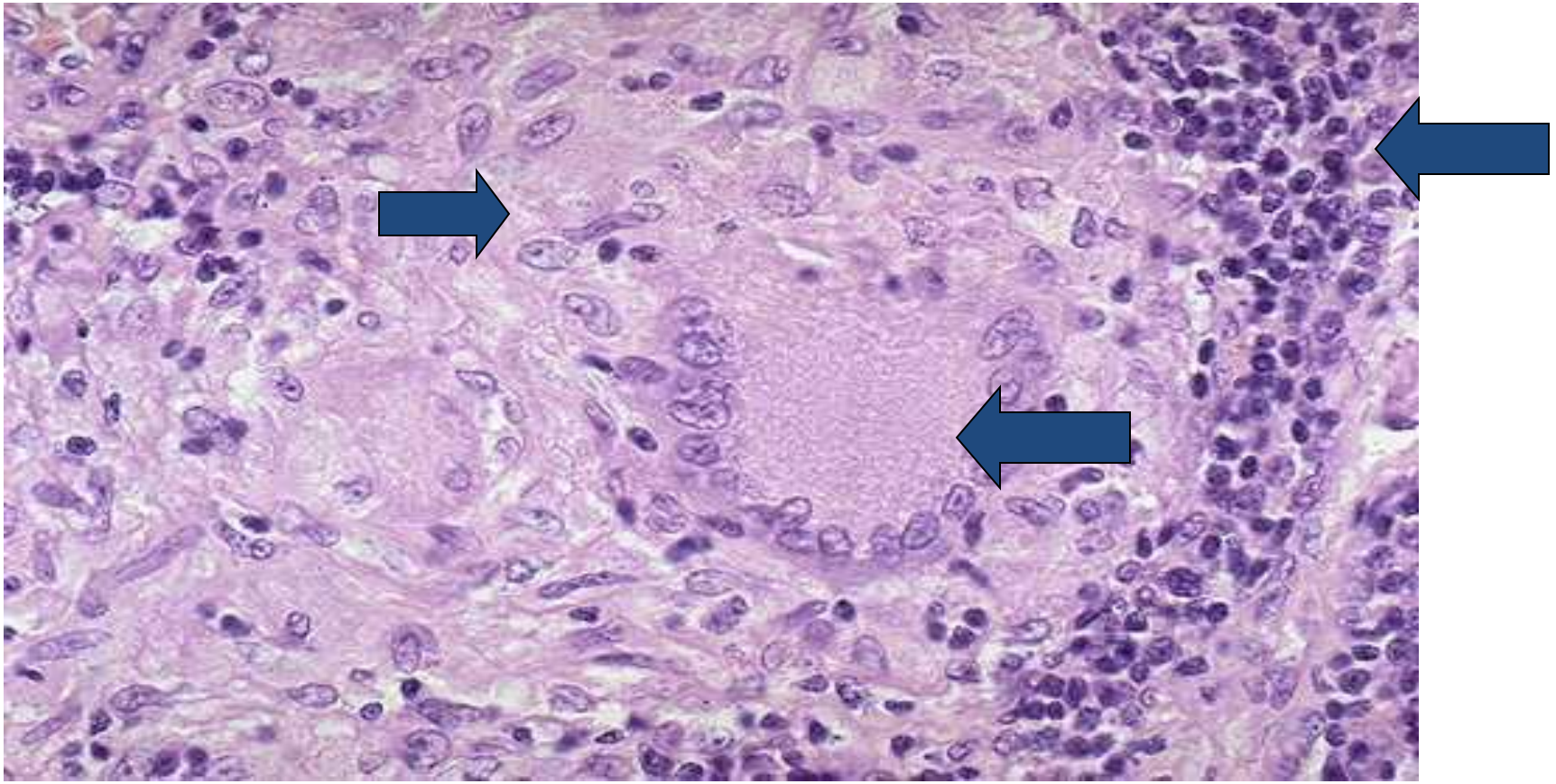
- Many small newly formed capillaries,Proliferation of fibroblast with inflammatory cell infiltration
- **Proliferation of fibroblasts is seen.**
- **Inflammatory cells including macrophages, lymphocytes, plasma cells and neutrophils in the oedematous stroma.**
- **Pink homogenous collagen fibres may be identified.**

Lung , miliary tuberculosis

Tuberculous Granulomas



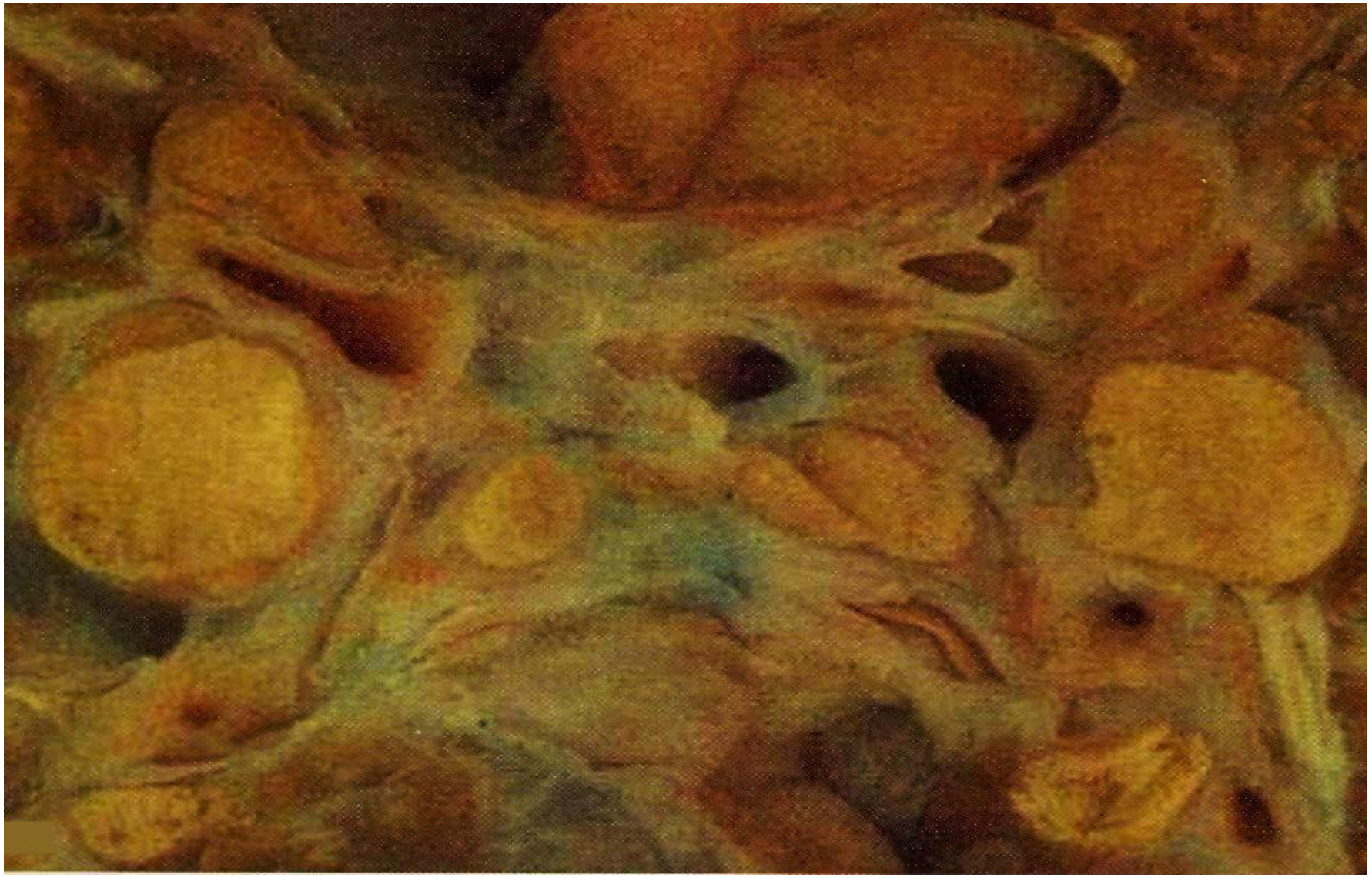
Epitheloid cells in Granuloma



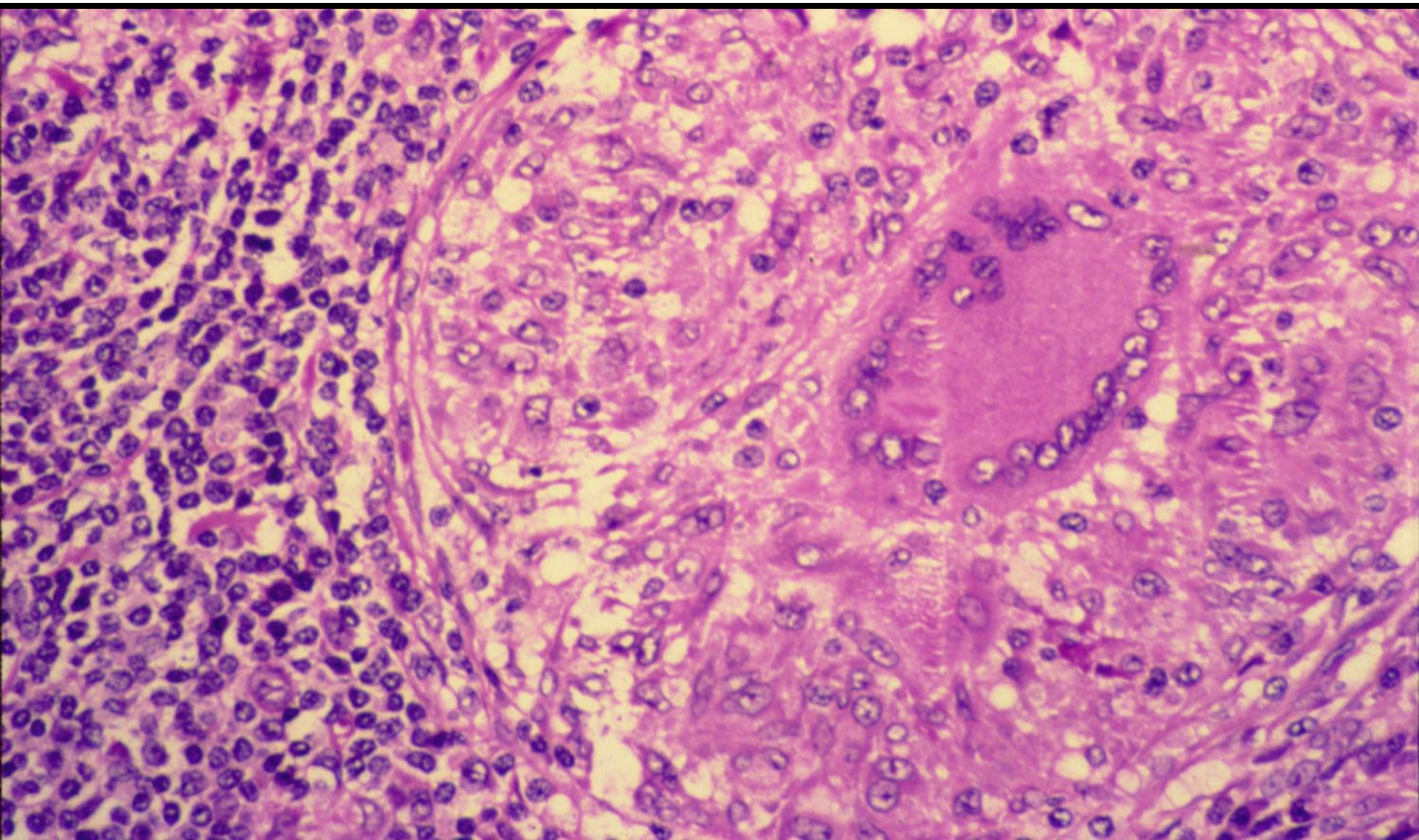
Miliary tuberculosis of the lung :

- Section of the lung shows :
  The alveolar septae contain many tubercles/granuloma which consist of epithelioid cells , few langhan's giant cells and peripheral rim of lymphocytes **with or without caseation**

Tuberculous lymphadenitis



TUBERCULOUS LYMPHADENITIS



Tuberculous lymphadenitis :

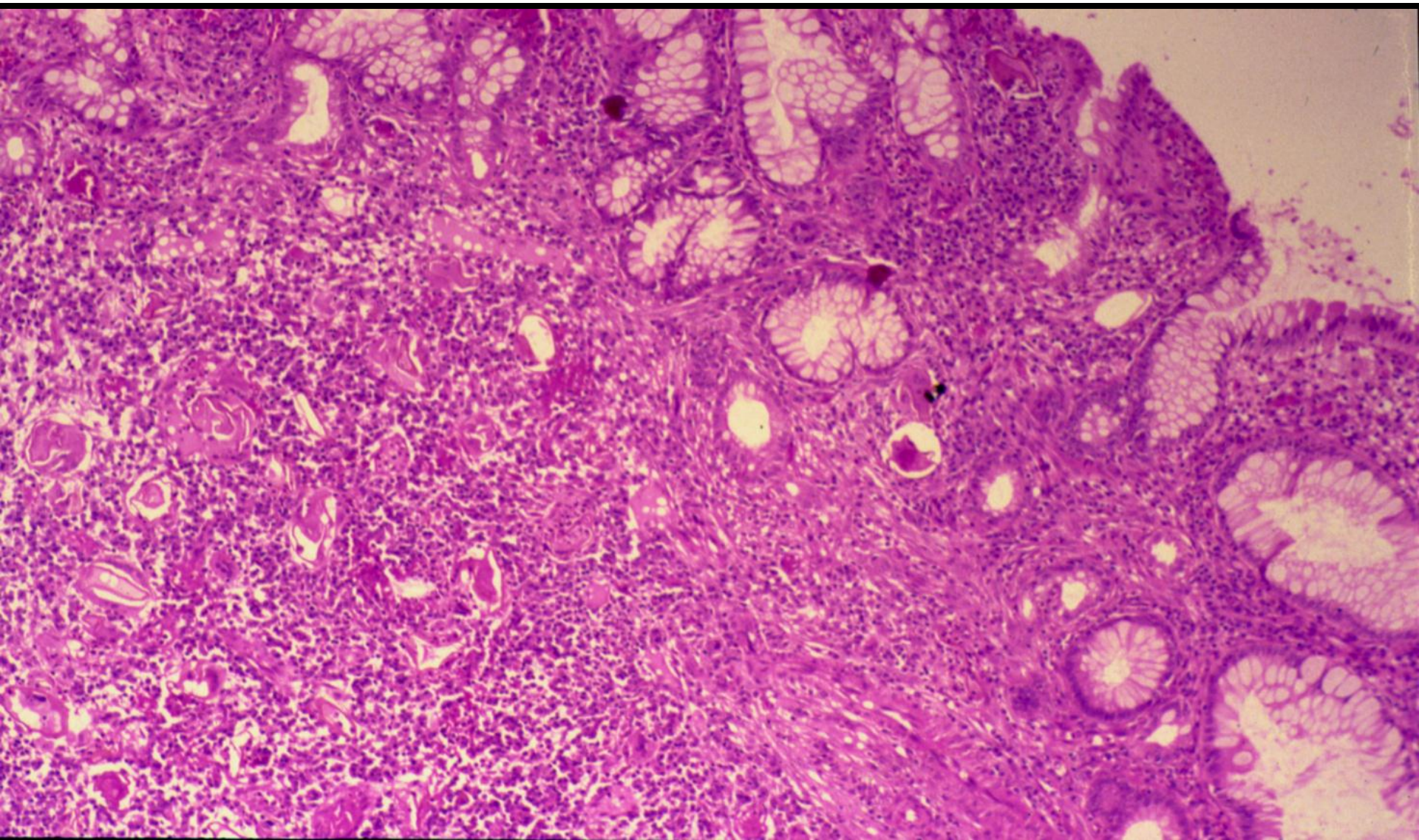
Section of a lymph node with connective tissue capsule and lymphoid tissue shows:

- **Many round and oval tubercles/ granulomas with or without central caseation that appears structureless, homogenous and pink in colour.**

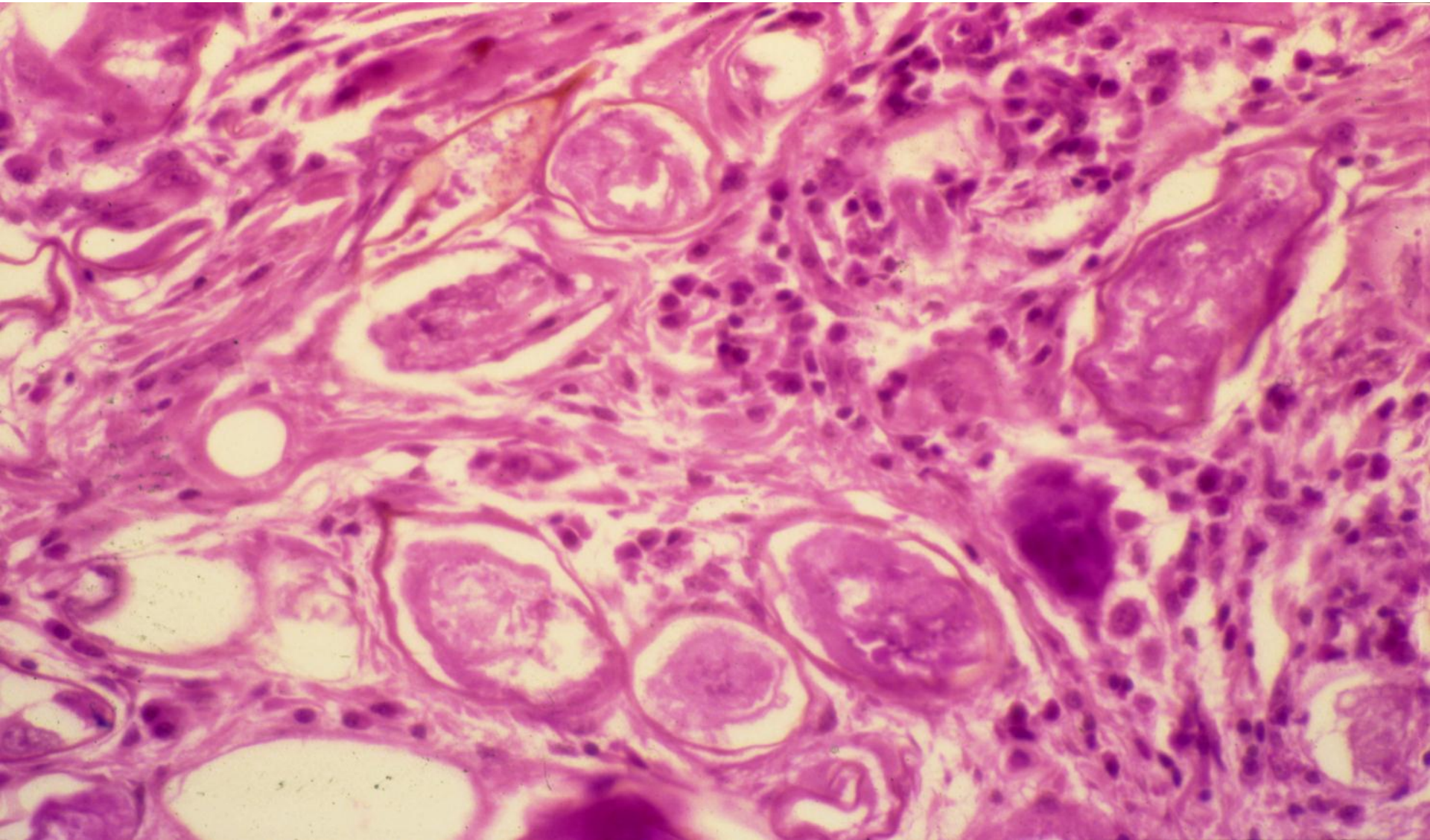
- **The granulomas consists of epithelioid cells, few langhan's giant cells (large cell with multiple peripheral nuclei) and peripheral rim of lymphocytes.**

- Kidney, tuberculosis

COLONIC BILHARZIASIS



SCHISTOSOMIASIS



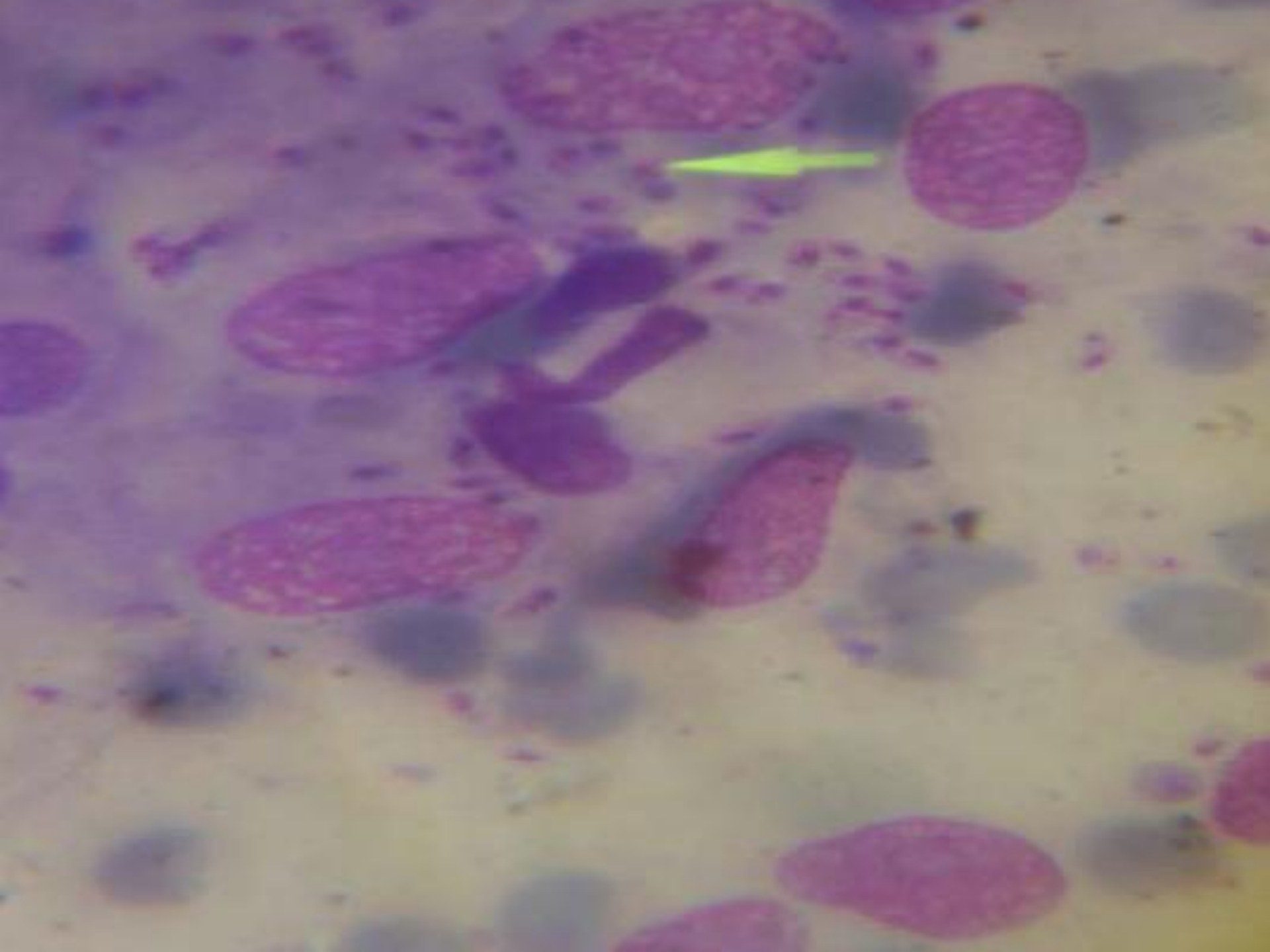
Bilharziasis of the rectum:

Section of fragments of rectal mucosa shows:

- **Many Bilharzial ova with yellow brown shells in mucosa and submucosa surrounded by fibrosis and chronic inflammatory cells consisting of lymphocytes, plasma cells and many eosinophils.**

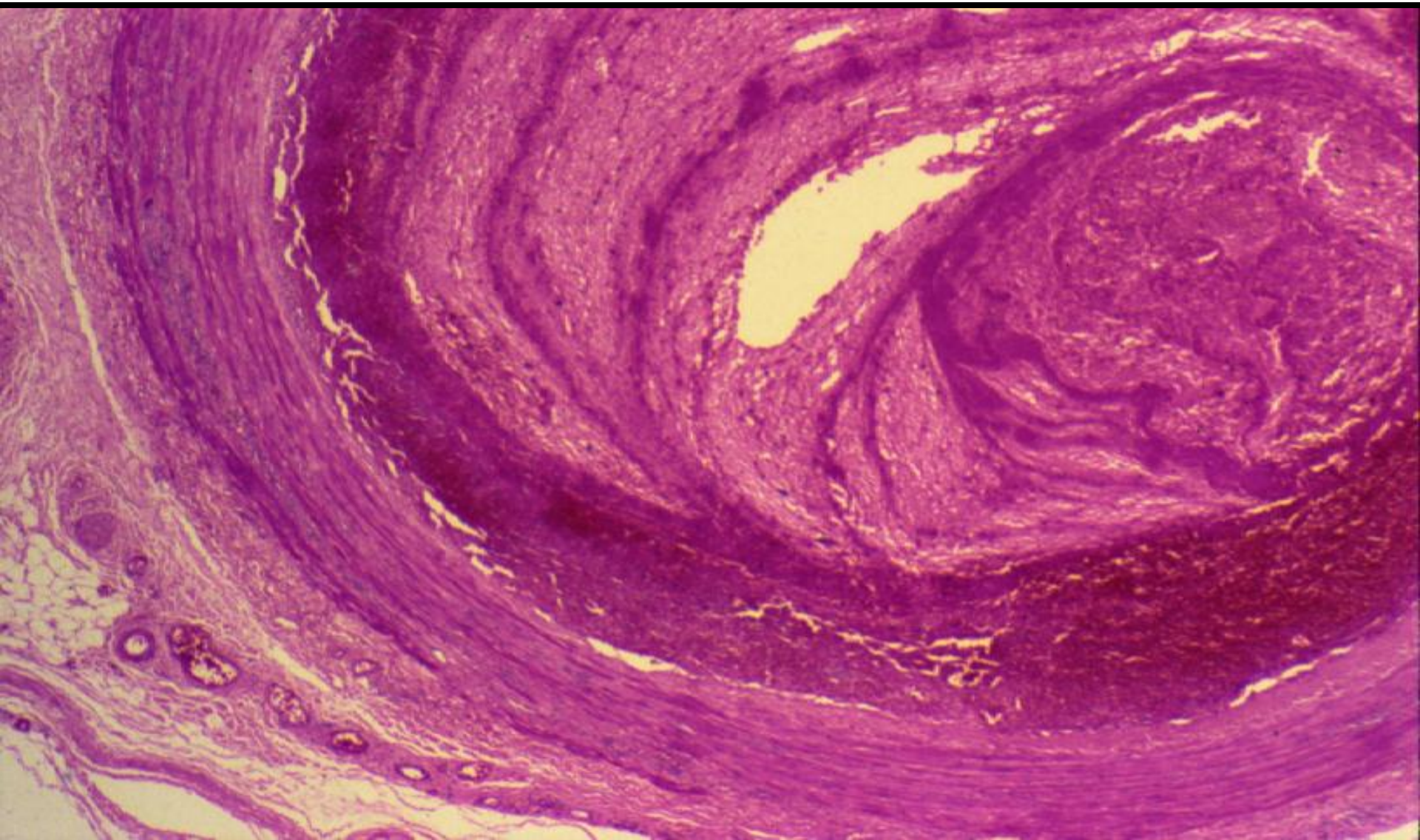
- **Few granulomas are seen around the ova.**
- **Bilharzial ova is surrounded by foreign body reaction and many eosinophils**

Cutaneous leishmaniasis



Blood vessel thrombosis

ORGANIZING THROMBUS



Organizing thrombus:

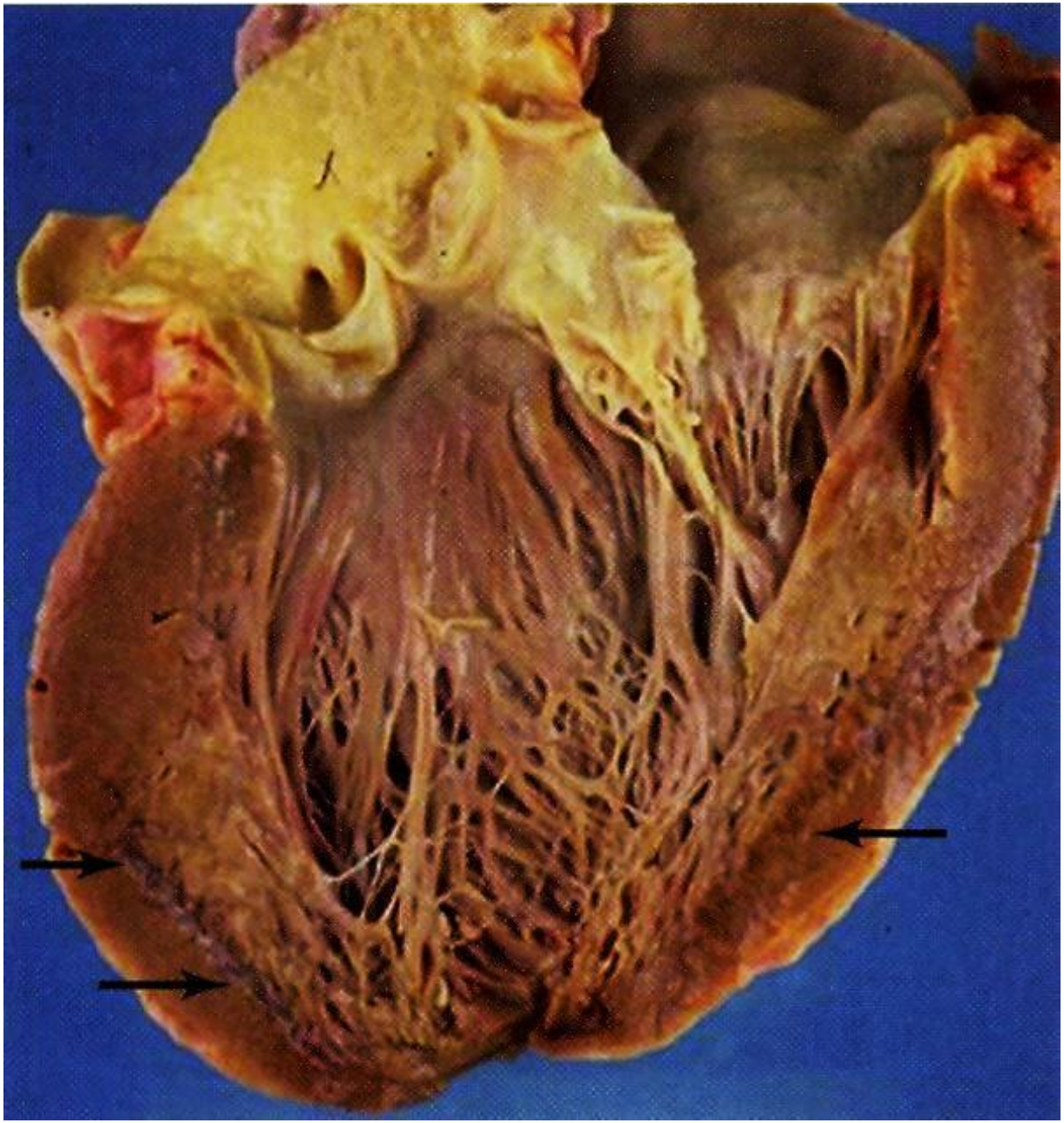
Cross section of blood vessel shows:

The lumen is occluded by thrombus with lines of zahn

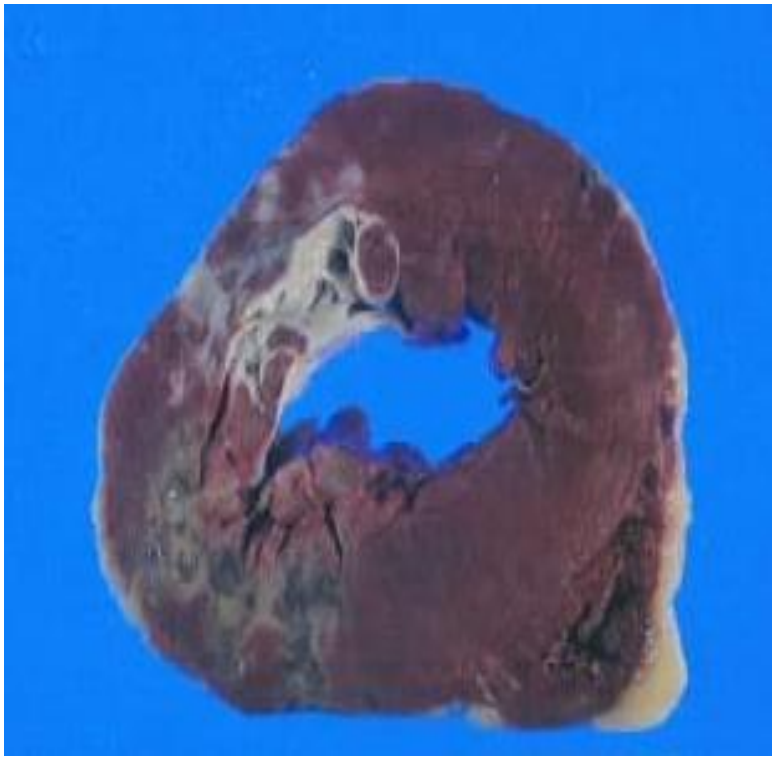
- **Organization is seen at the periphery of thrombus which also shows formation of small capillaries & fibroblasts with chronic inflammatory cells.**

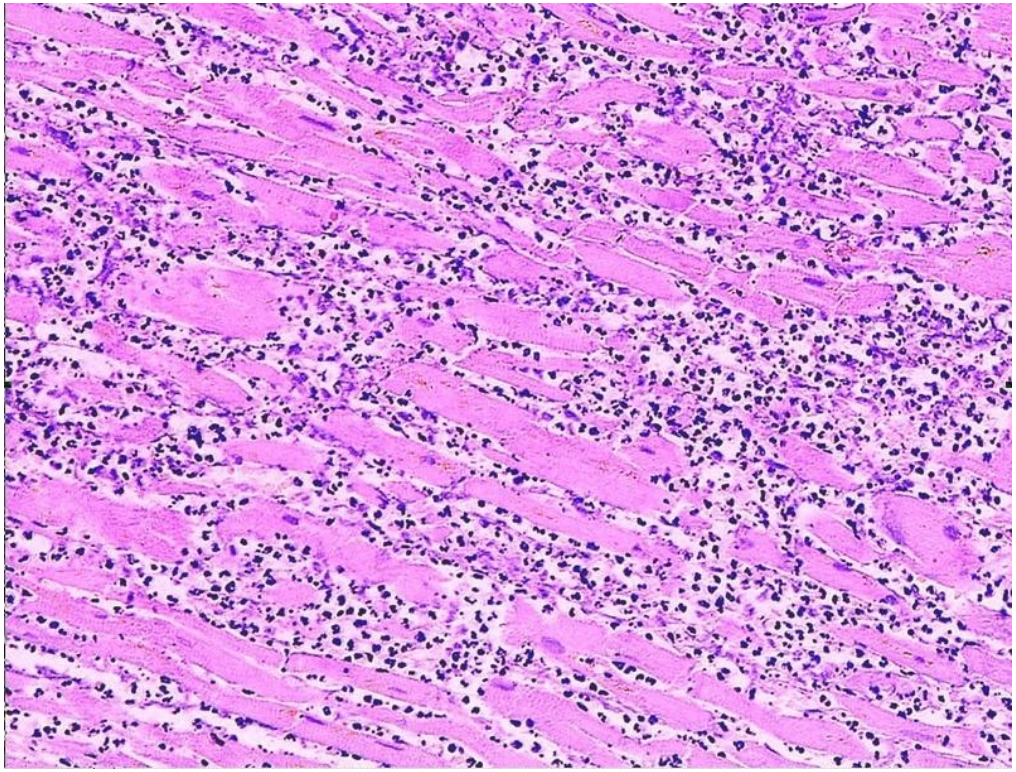
- **Recanalization is seen at one side.**

Pulmonary embolus with pulmonary infarction

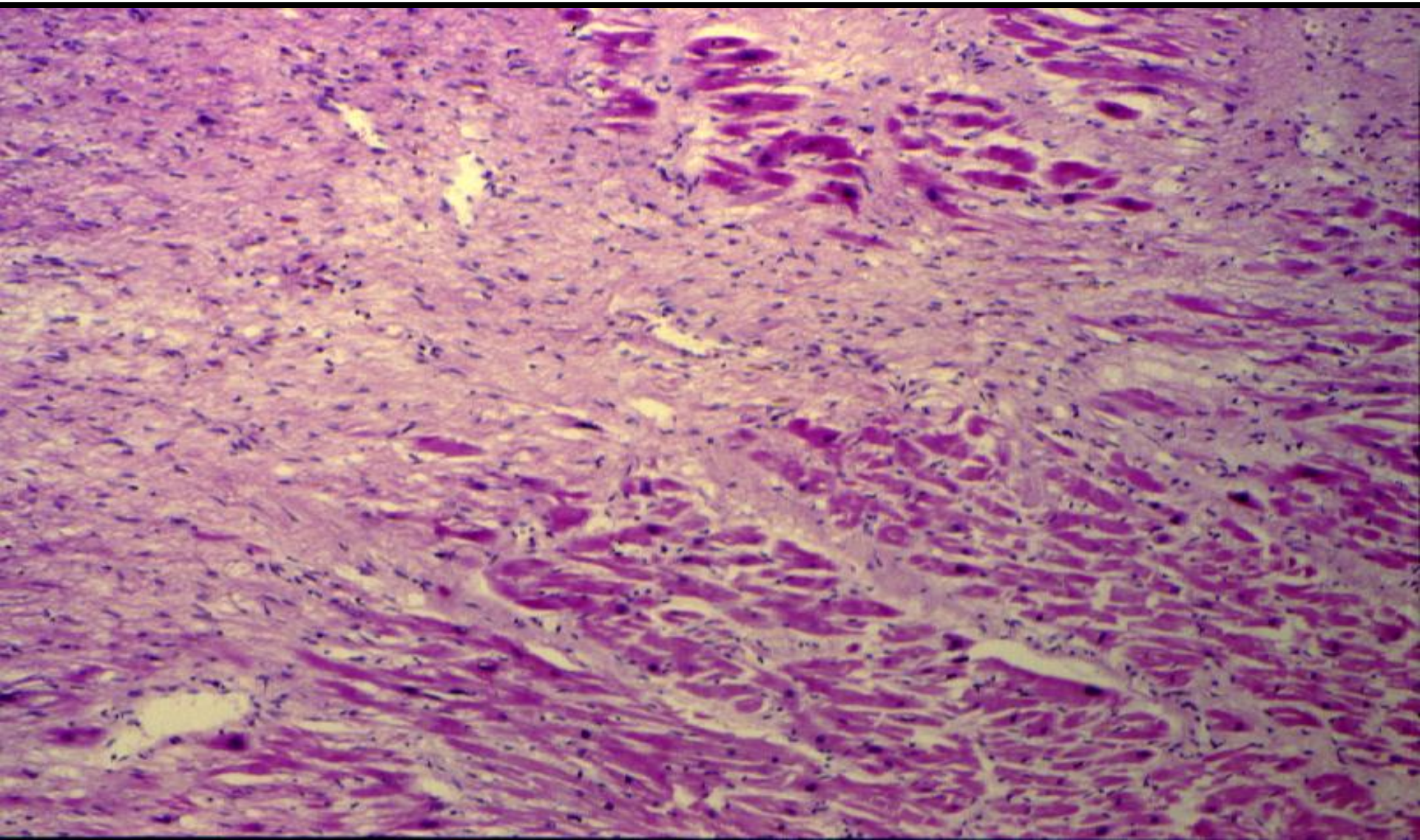


Myocardial infarction (recent stage)





MYOCARDIAL INFARCTION (LATE STAGE)



Myocardial infarction:

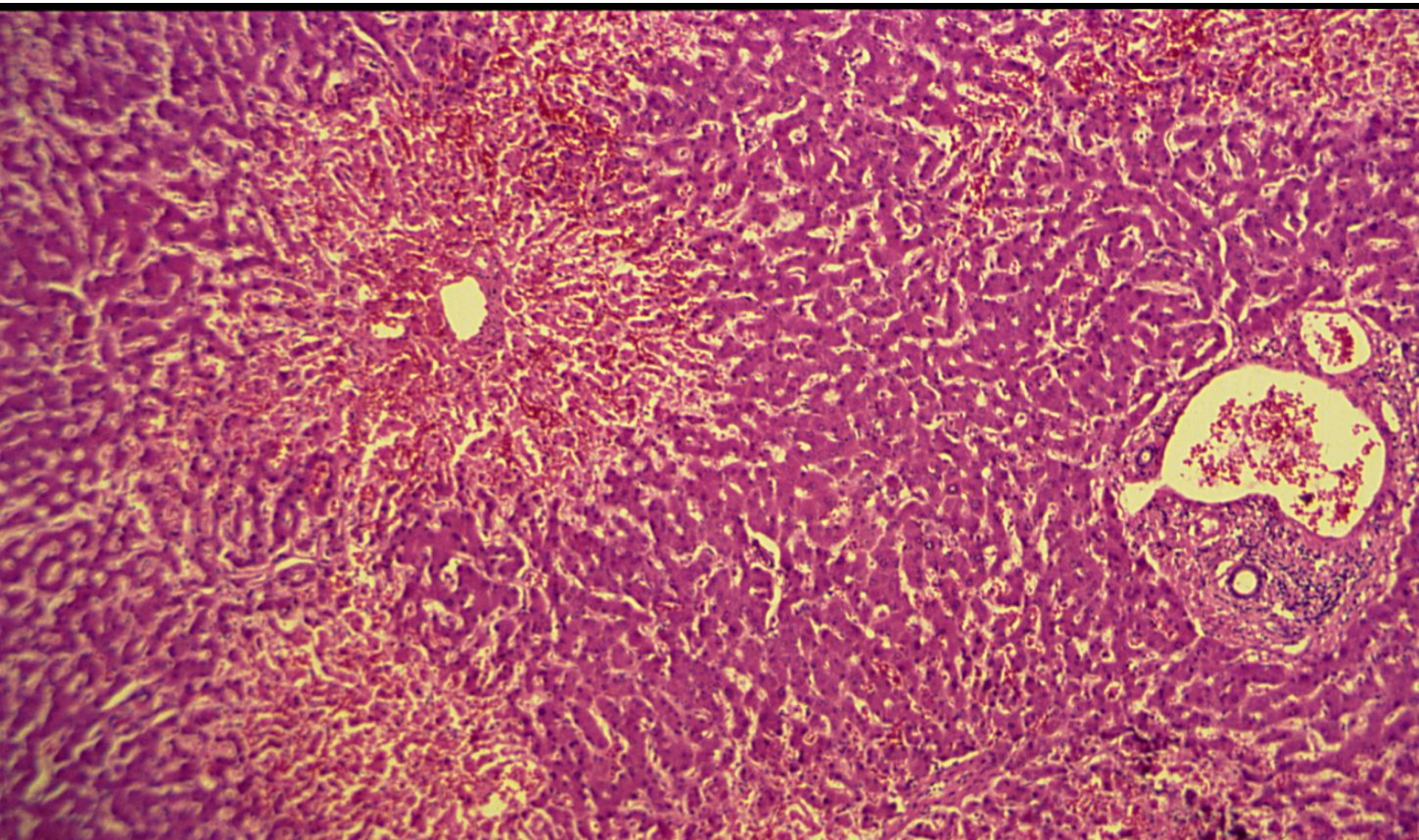
Section of myocardial shows:

- **Patchy coagulative necrosis of myocardial fibres. The dead muscle fibres are structureless and hyaline.**
- **The necrotic muscle fibres are pale with loss of nuclei and striations. Infiltration of neutrophils in recent stage is seen .**
- **Later granulation tissue formation and fibrosis.**

- Infarction of the small intestine

Chronic venous congestion of the liver (Nutmeg liver)

CHRONIC VENOUS CONGESTION



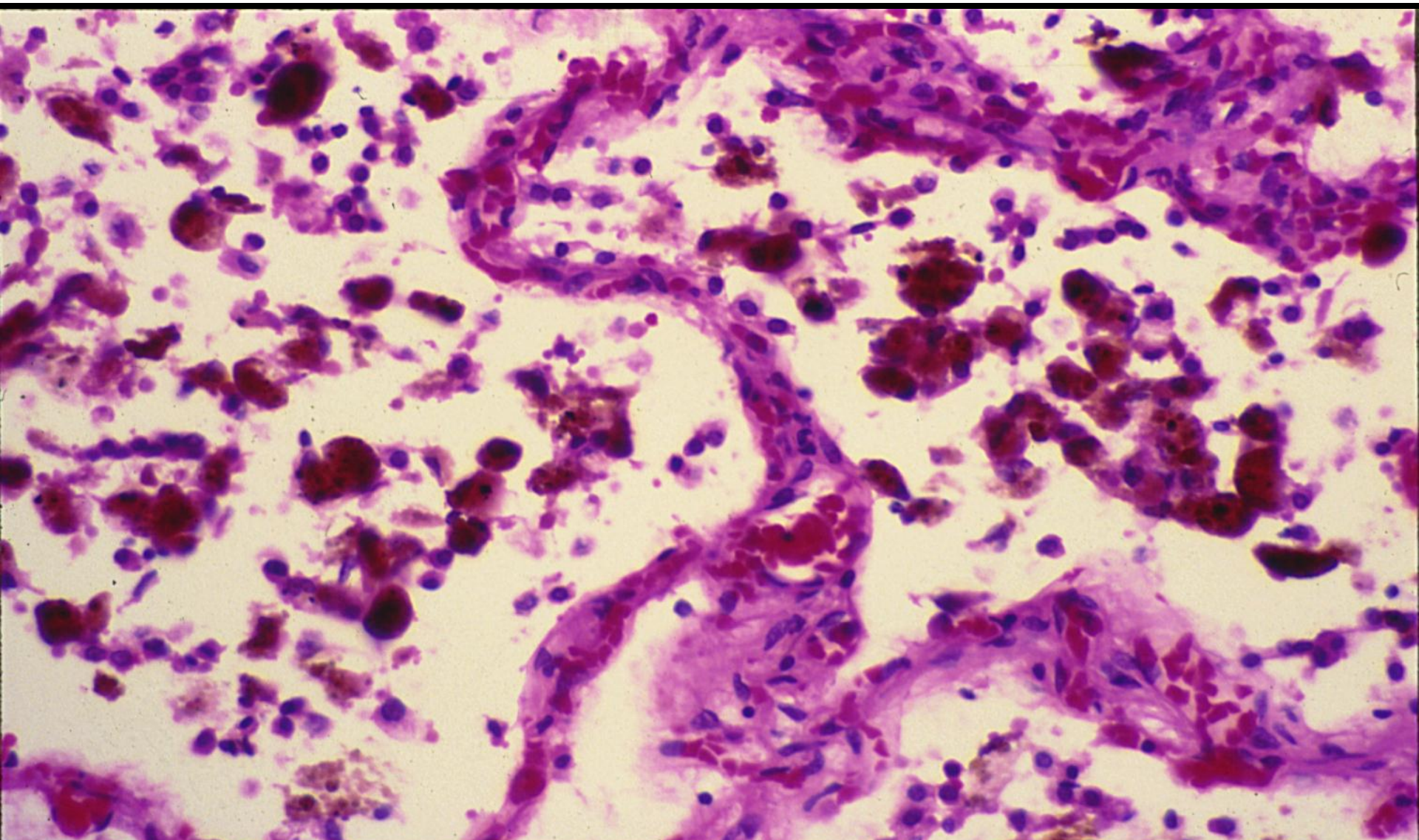
Chronic venous congestion of the liver:

Section of liver shows:

- **The central portion of liver lobules shows congestion and dilatation of central veins and blood sinusoids, with atrophy and necrosis of liver cells.**

- **Kupffer cells contain few brown haemosiderin pigment granules.**

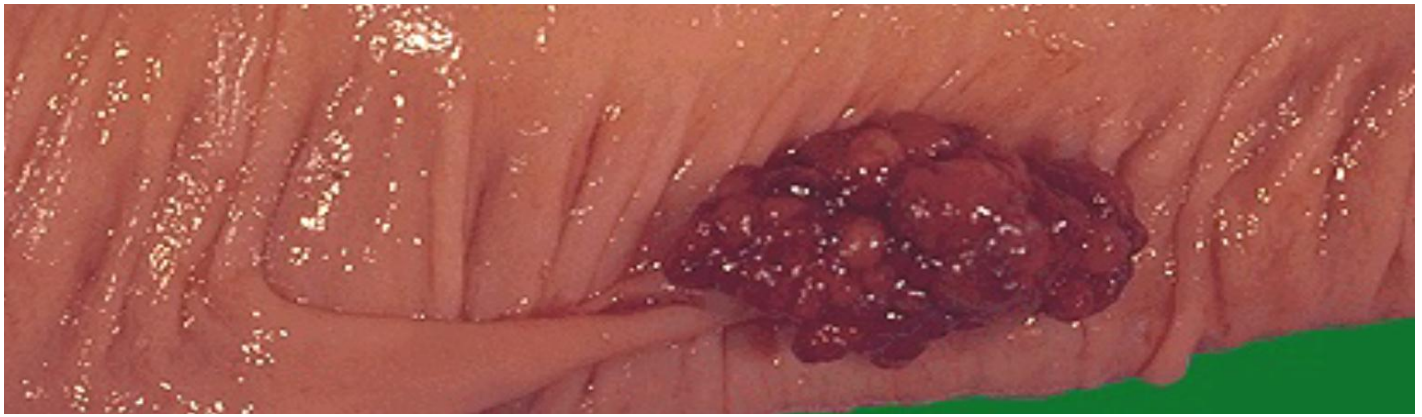
CHRONIC VENOUS CONGESTION (LUNG)



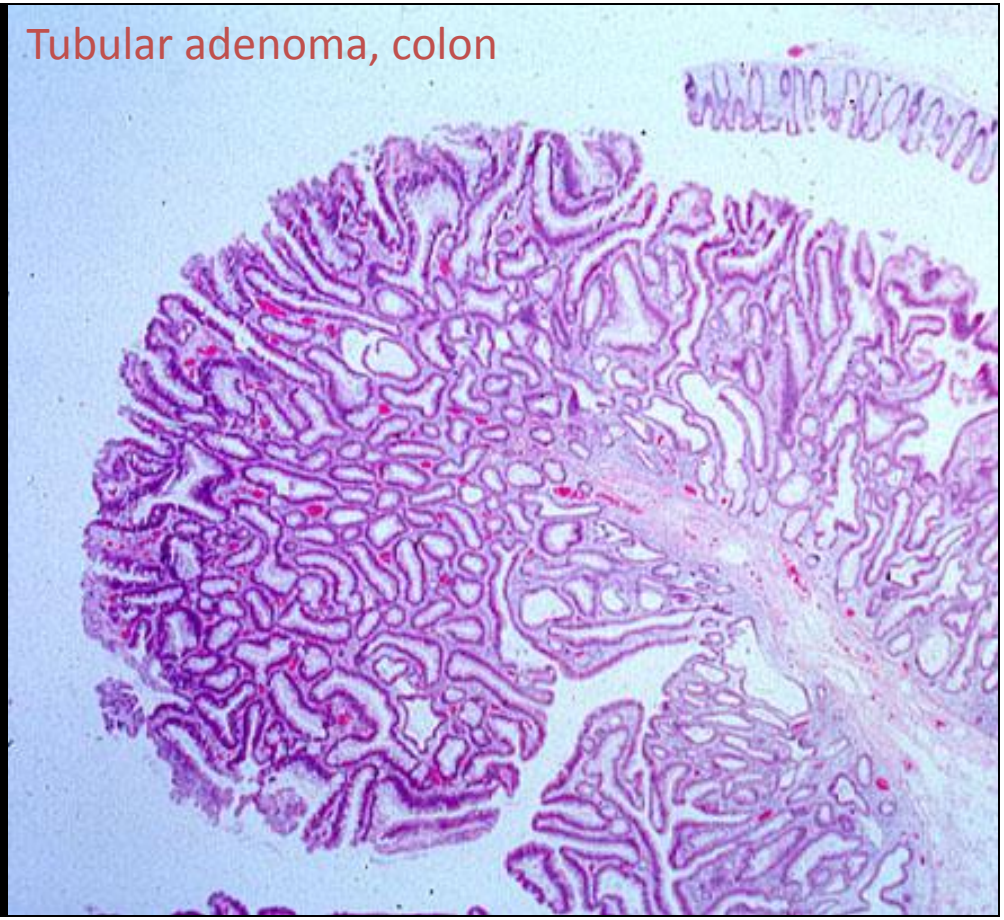
Chronic venous congestion of the lung:

Section of lung shows:

- **The alveolar walls are thickened by dilated and engorged capillaries.**
- **The alveoli contain edema fluid, red blood cells and large alveolar macrophages (heart failure cells), which are filled with haemosiderin pigment derived from red cells breakdown.**
- **In the late stage some fibrous tissue may also be seen.**

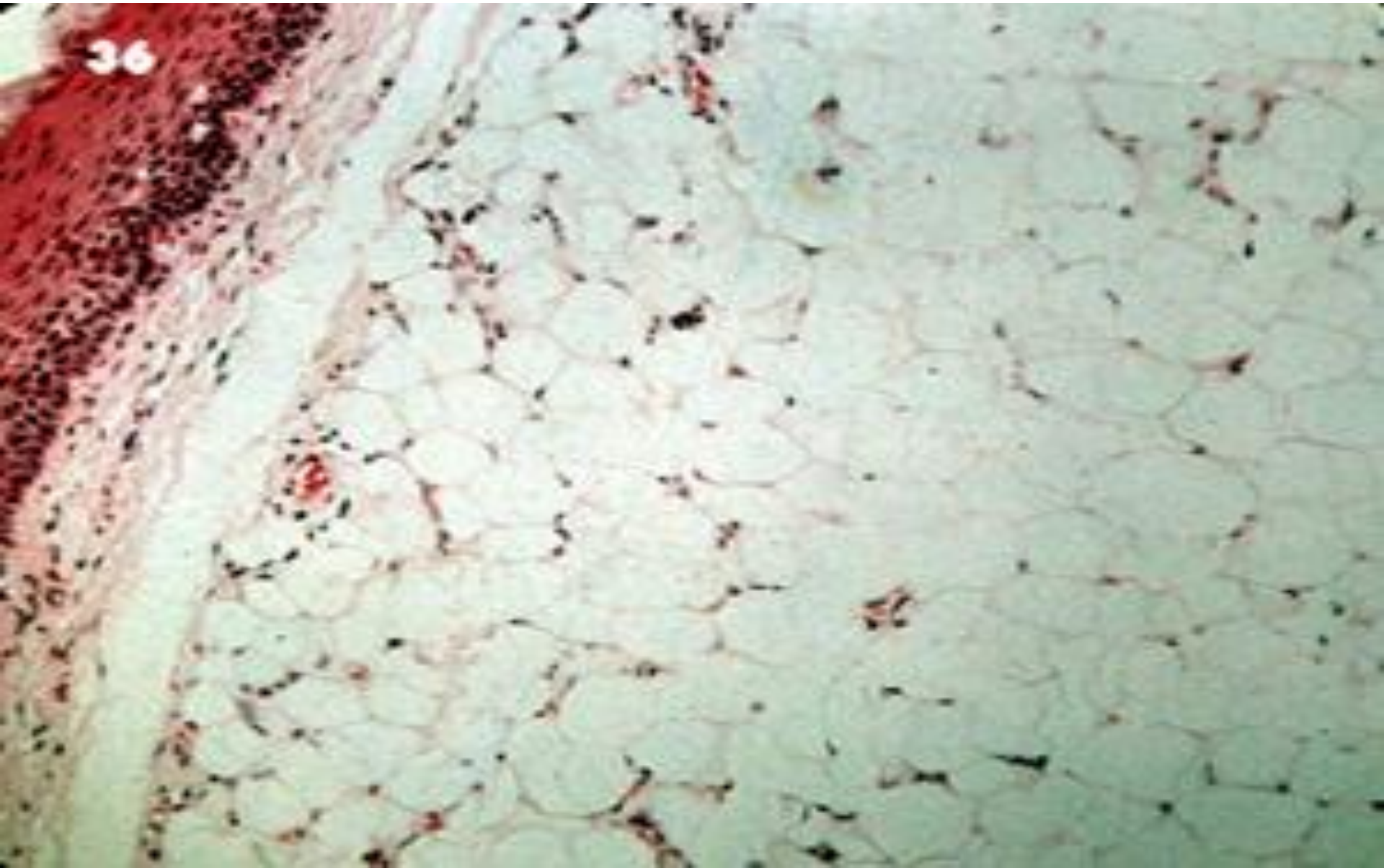


Organ: Colon Dx: adenoma


Tubular adenoma, colon

- Lipoma of small intestine

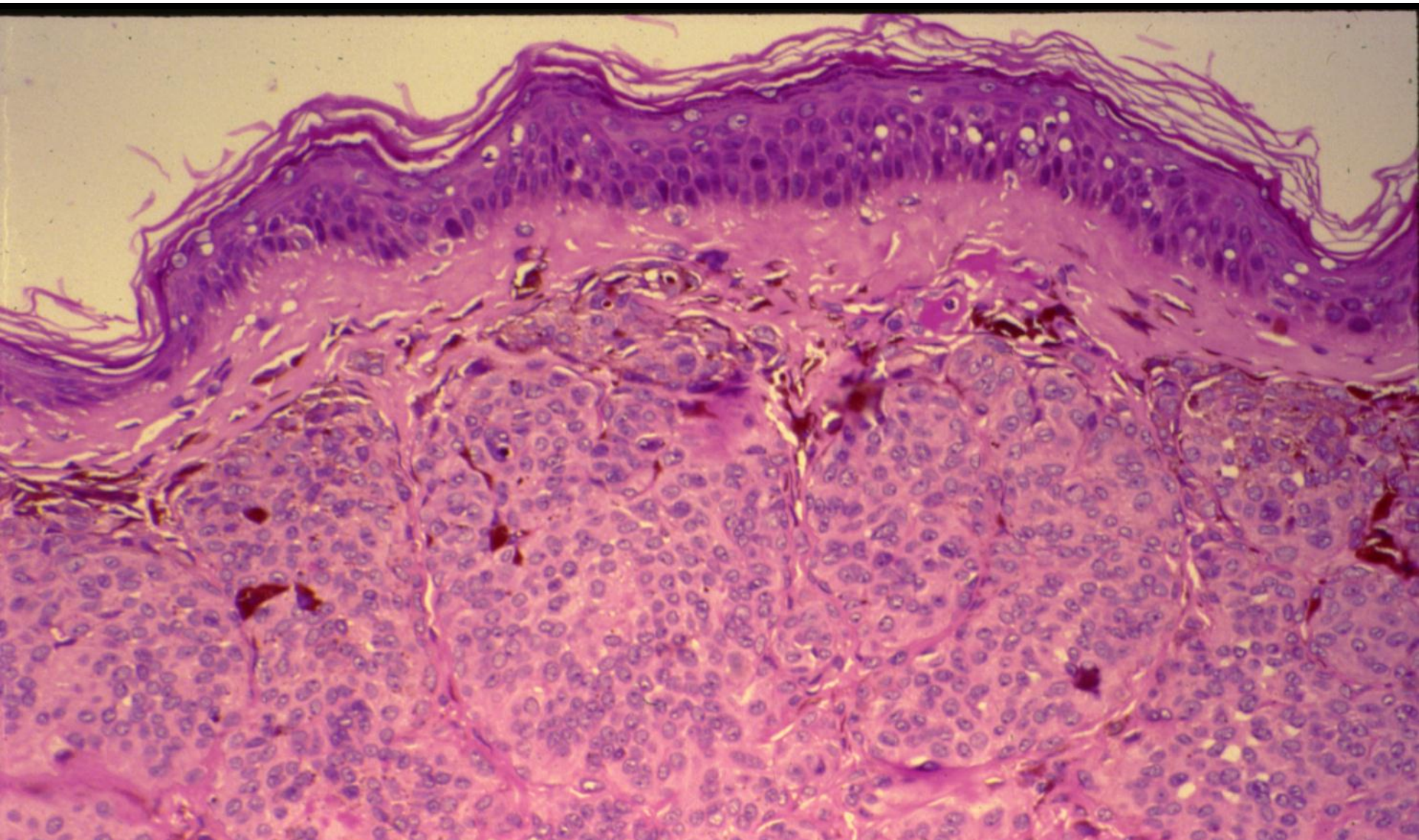
Subcutaneous lipoma



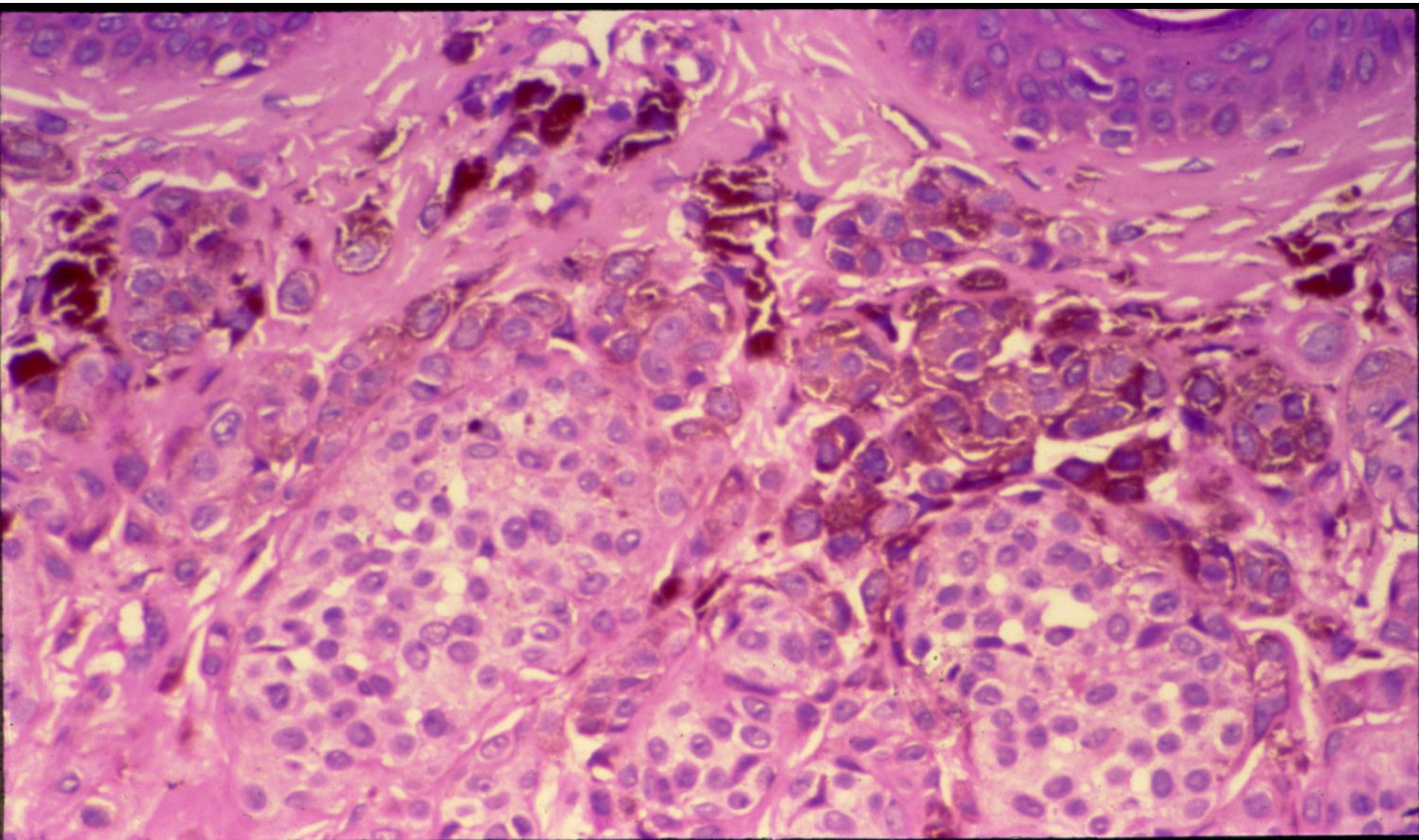
Lipoma of the skin

-Bengin tumor of well differentiated adipocytes

NEVUS (SKIN)



NEVUS (SKIN)

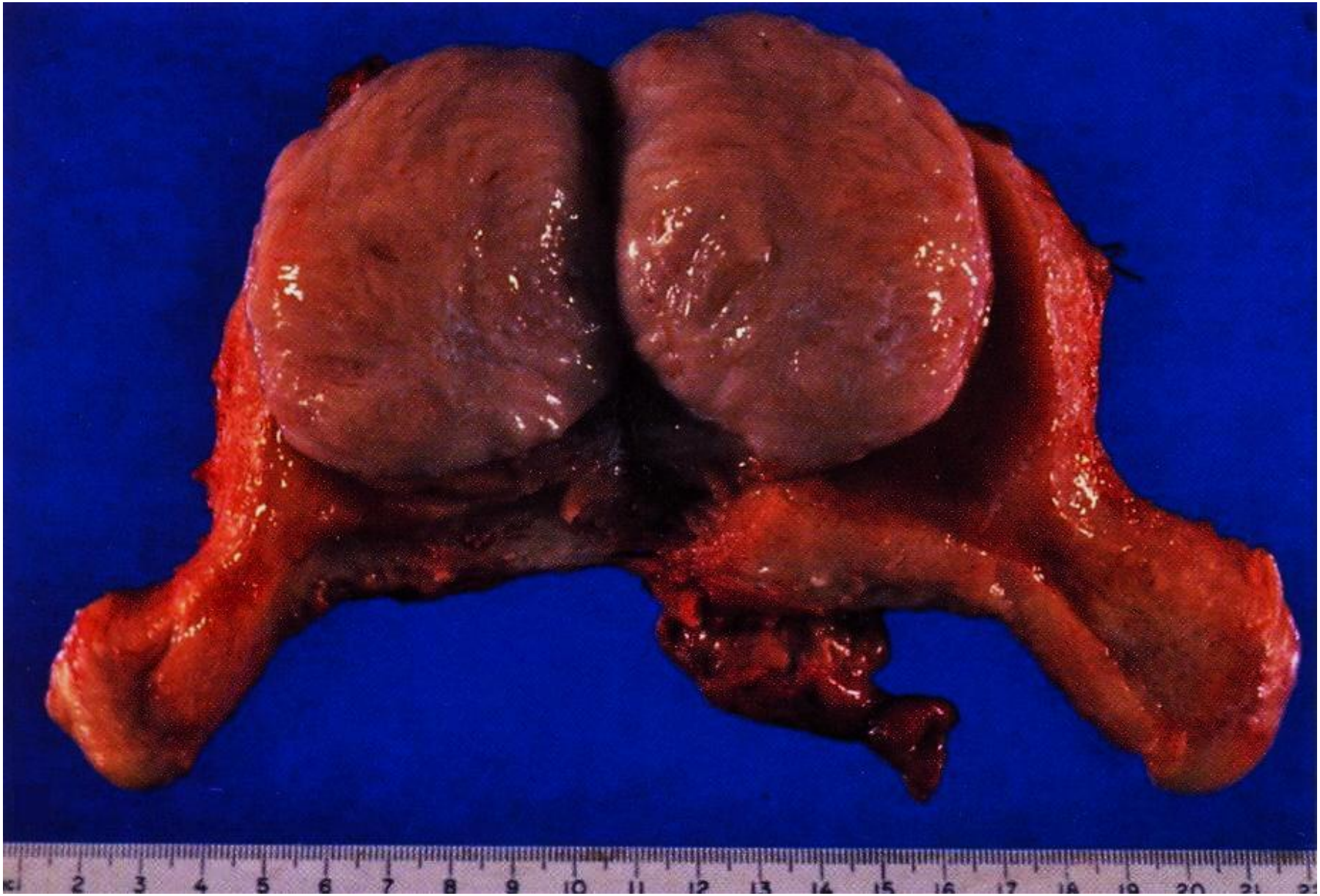


Nevus:

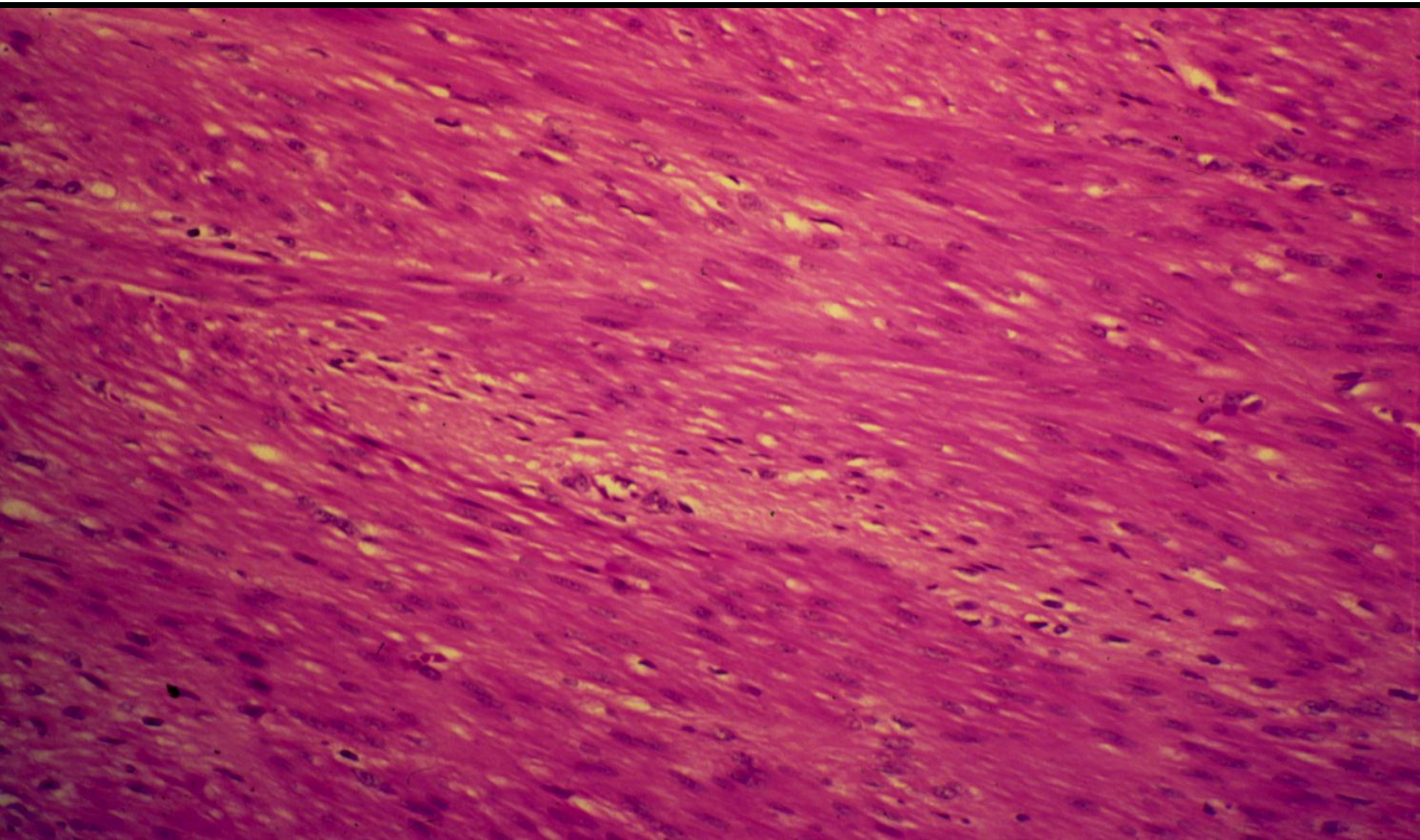
Intradermal Nevus of the skin

Section of Skin shows:

- **Nests and clusters of small round or spindle shaped nevus cells with few melanophages in the upper dermis.**
- **The cells contain varying amount of brown melanin pigment.**
- **No junctional activity.**



LEIOMYOMA (UTERINE)



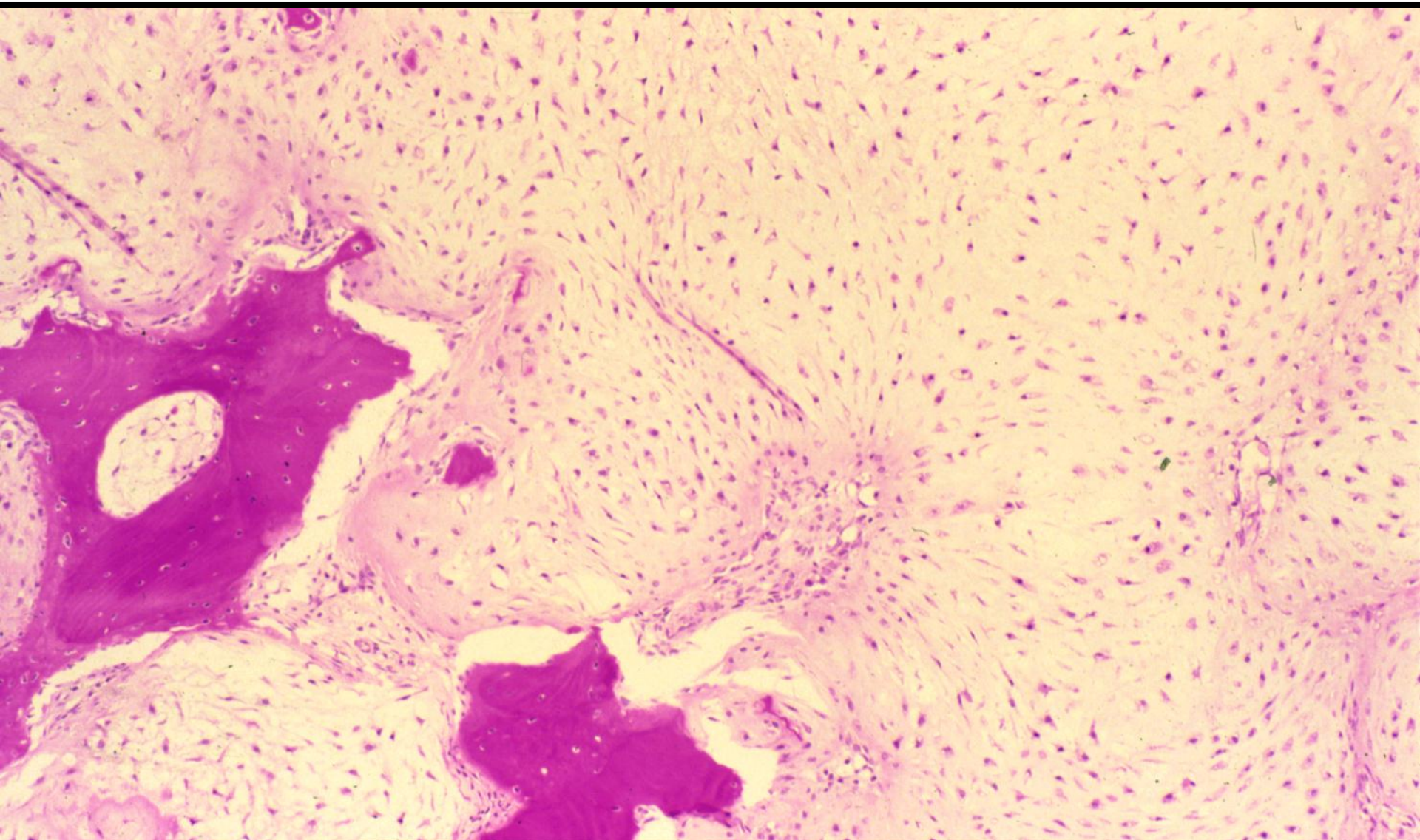
Leiomyoma:

Section of tumour shows:

- **A well demarcated tumour mass in the muscle coat of uterus without a definite capsule.**
- **Tumour consists of interlacing bundles of smooth muscle and fibrous tissue.**
- **The muscle cells are spindle shaped with elongated nuclei and eosinophilic cytoplasm.**

Enchondroma of the fibula

CHONDROMA OF BONE

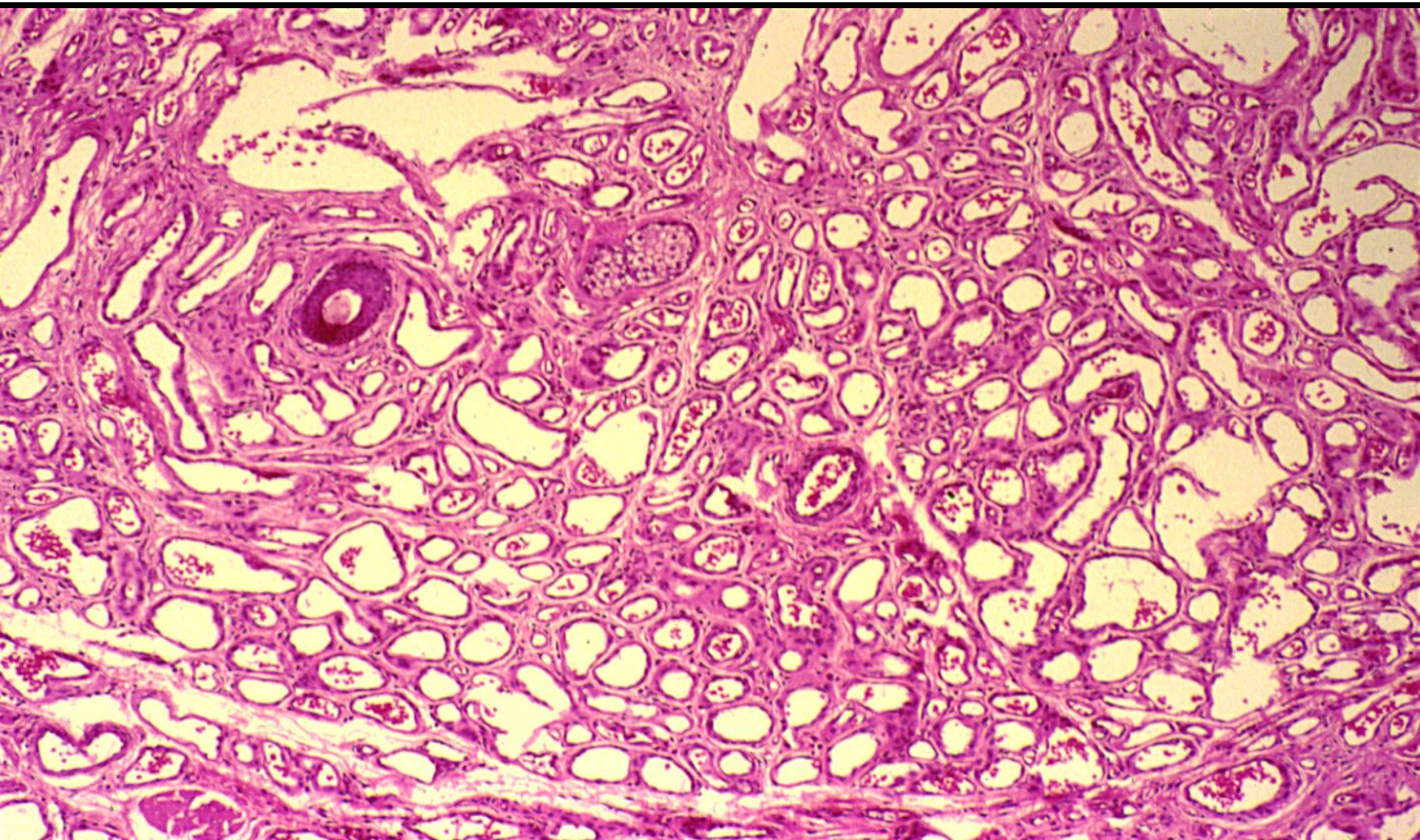


Chondroma:

Section of tumour shows:

- **Lobules of mature cartilage separated by thin trabeculae of fibrous tissue with blood vessels.**
- **Lobules consists of mature cartilage cells irregularly distributed through pale blue homogenous matrix and are contained within the lacunar spaces singly, in pairs or in tetrads.**
- **Few bony trabeculae are included in the tumour.**

HAEMANGIOMA



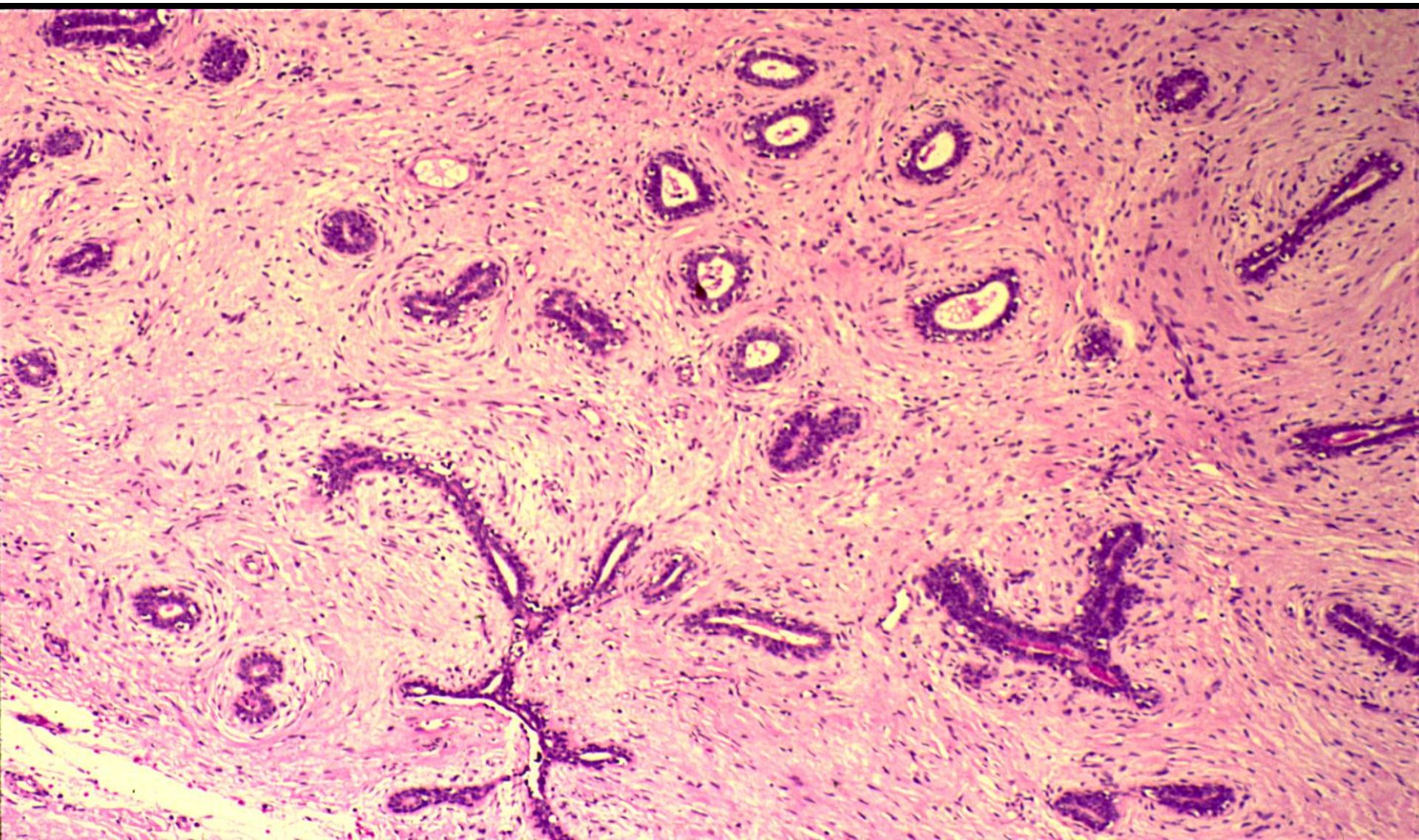
Haemangioma:

Section of skin shows:

- **A tumour mass in the dermis which consists of large number of vascular spaces of varying shapes and sizes separated by connective tissue stroma.**
- **Vascular spaces are lined by the flattened endothelial cells and some contain blood.**
- **Delicate connective tissue stroma separated the capillary vascular spaces.**

- Fibroadenoma of the breast

FIBROADENOMA OF THE BREAST



Fibroadenoma of the Breast:

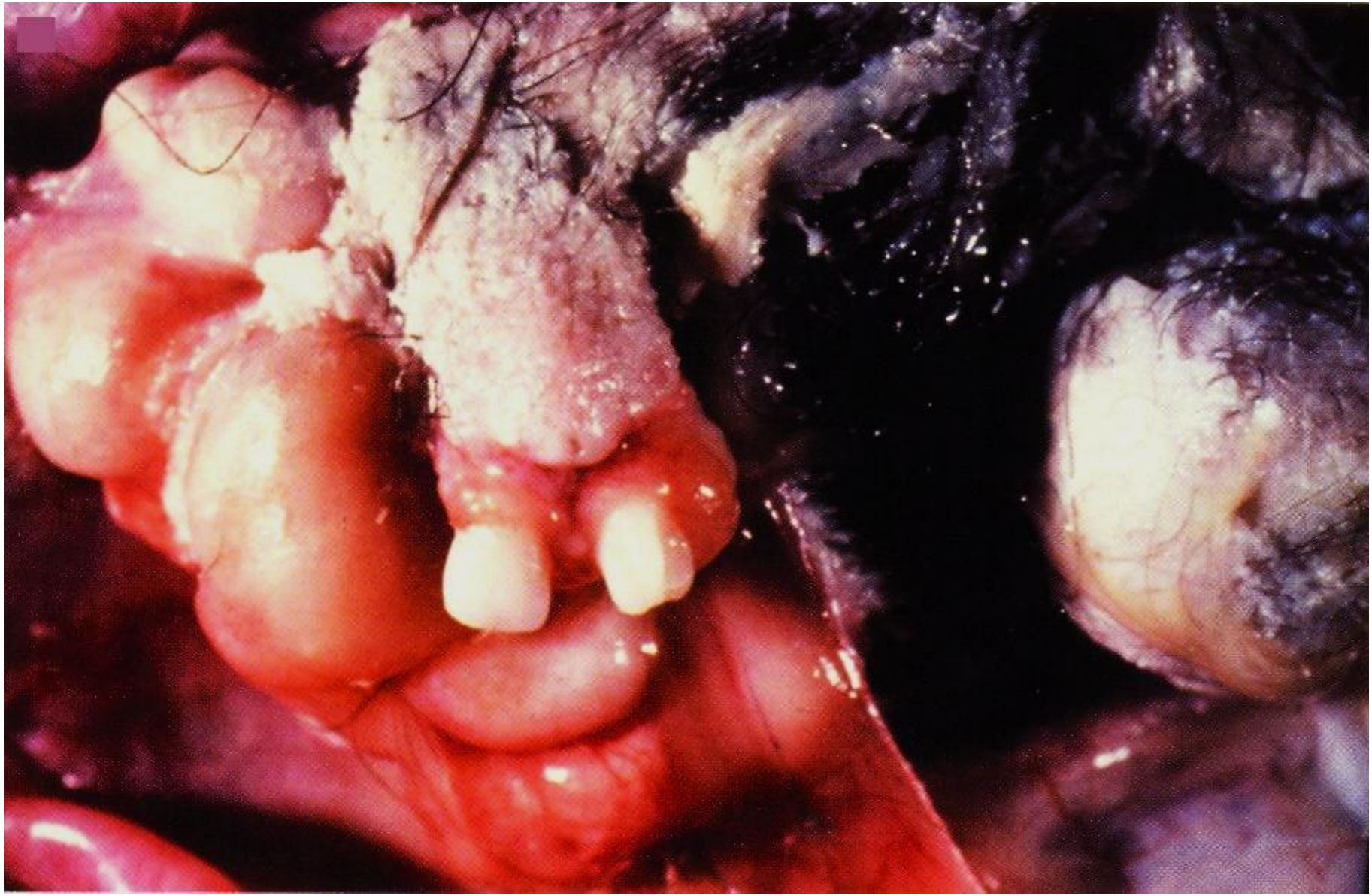
Section shows breast tumour:

A tumour shows proliferation of both glandular tissue and fibrous tissue.

Proliferation of both intracanalicular grandular and fibrous tissue with pericanalicular pattern

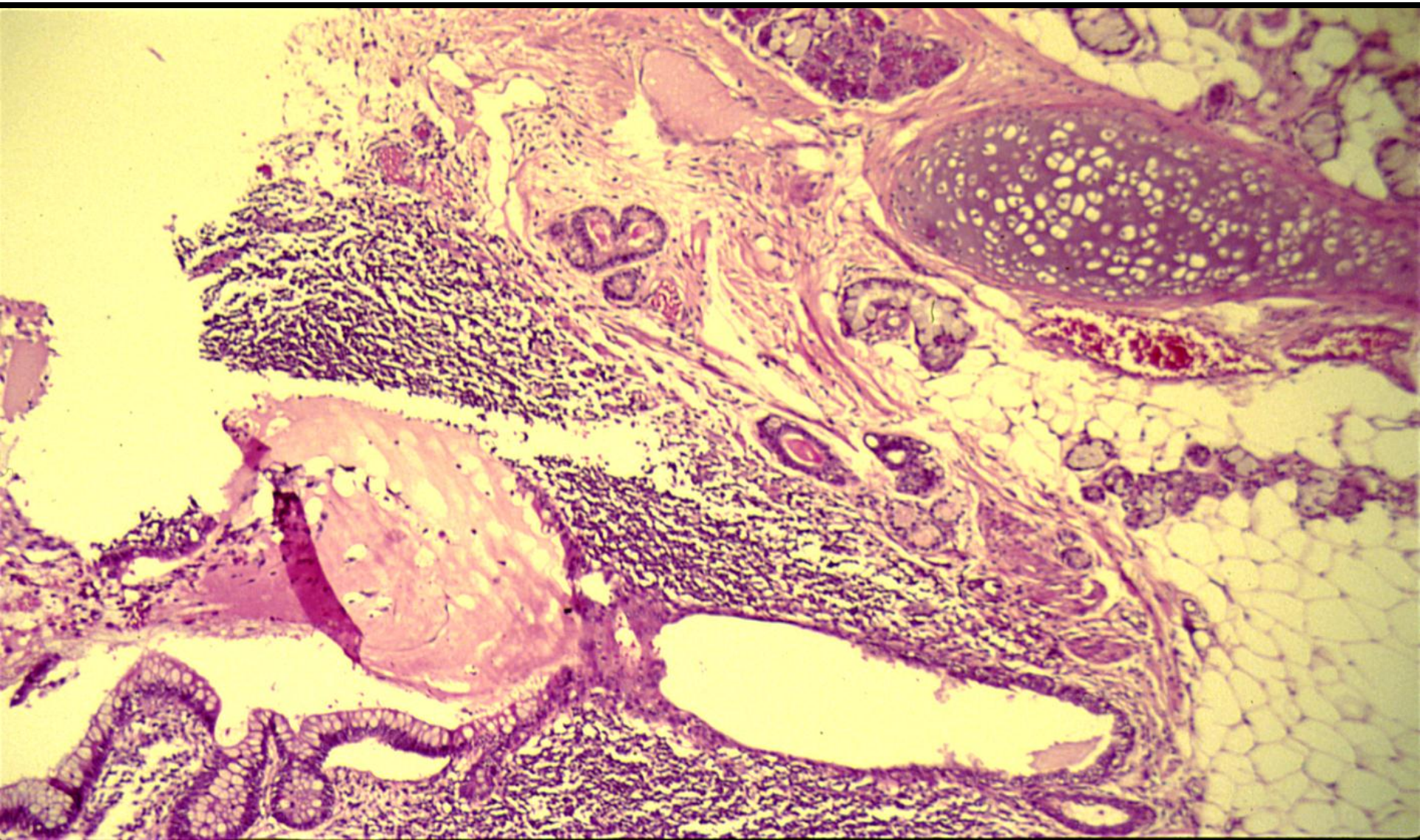
(a) Proliferation fibrous tissue is invaginating the ducts causing elongation, compression and distortion of the ducts which have slit-like lumen (intracanalicular).

(b) At places fibrous tissue is arranged around the ducts (pericanalicular) and does not invaginate.



DERMOID CYST OF THE OVARY

(BENIGN CYSTIC TERATOMA OF THE OVARY)



Dermoid cyst of the ovary:
section of the cyst wall shows:

- **Stratified Squamous epithelium with underlying appendages (sweat glands, sebaceous glands, hair follicles) columnar ciliated epithelium, mucous and serous glands and structures from other germ layers such as bone and cartilage, lymphoid tissue, smooth muscle and large area of brain tissue containing neurons and glial cells.**

Cyst wall shows structures from three germ layers

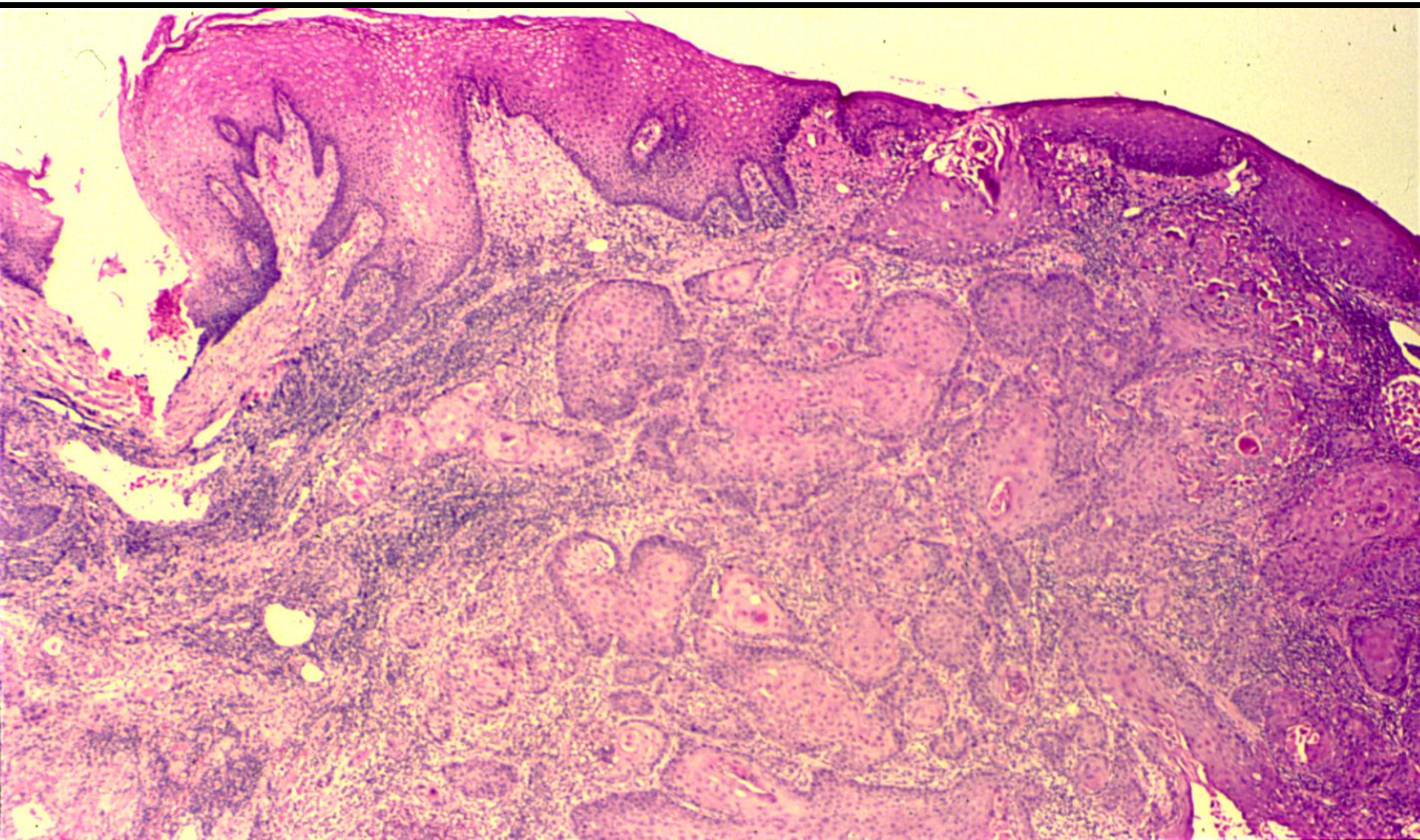
e.g.1-squamous epithelium

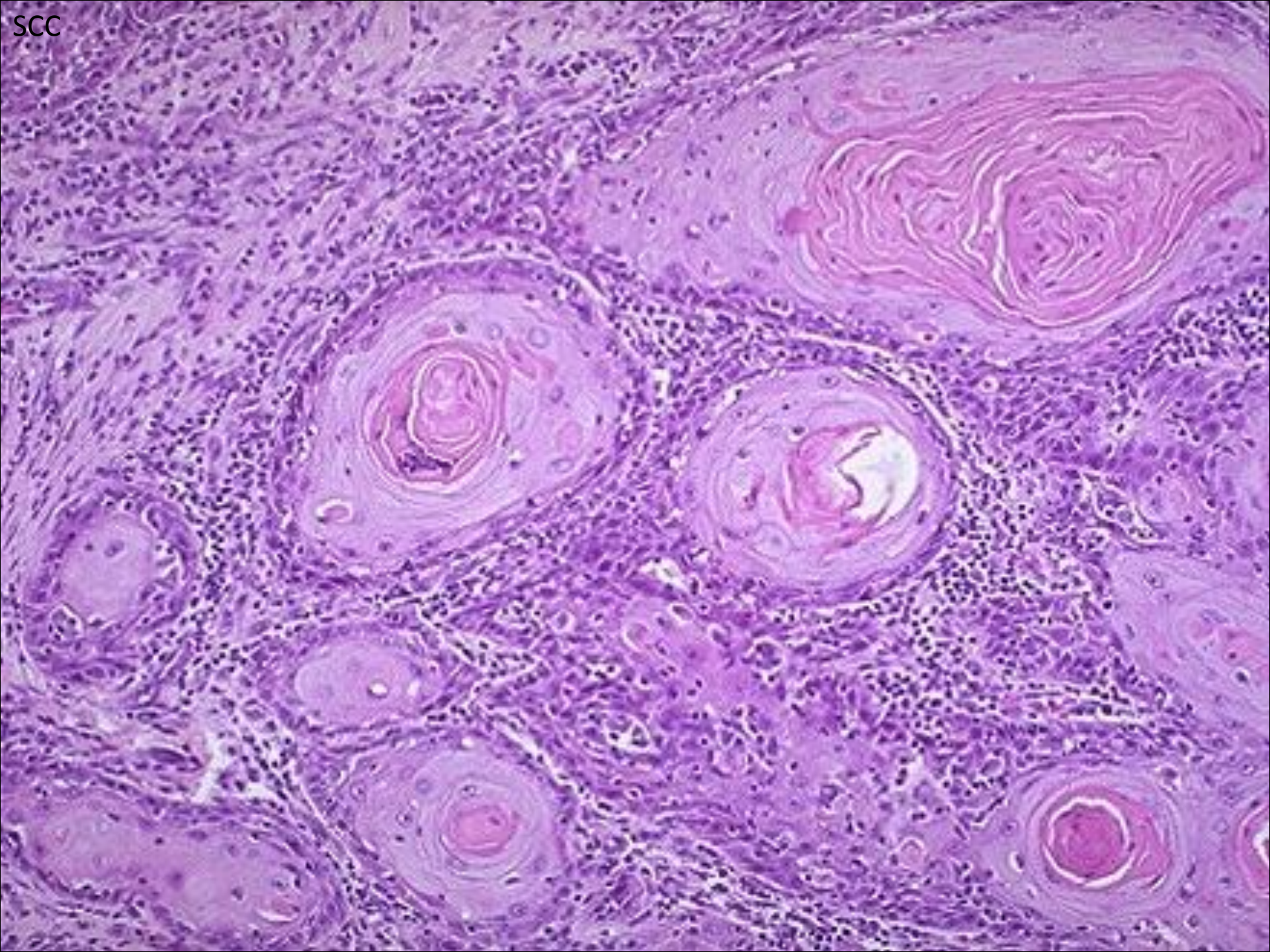
2-Lymphoid tissue

3-Cartilage

Squamous cell carcinoma of the skin

SQUAMOUS CELL CARCINOMA (SKIN)




SCC

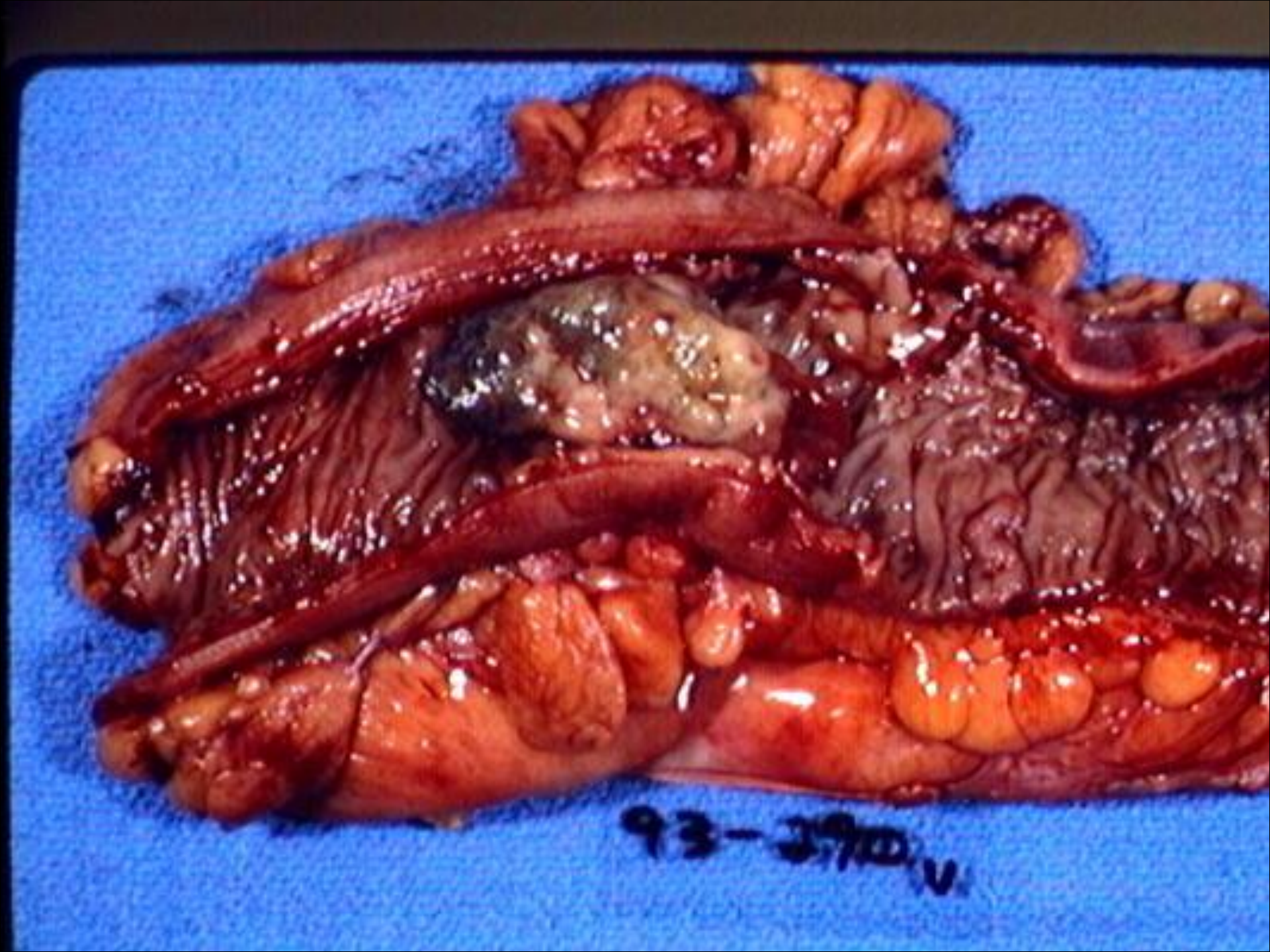
Squamous cell carcinoma of the skin : Section of the skin shows an ulcer covered by inflammatory exudate .

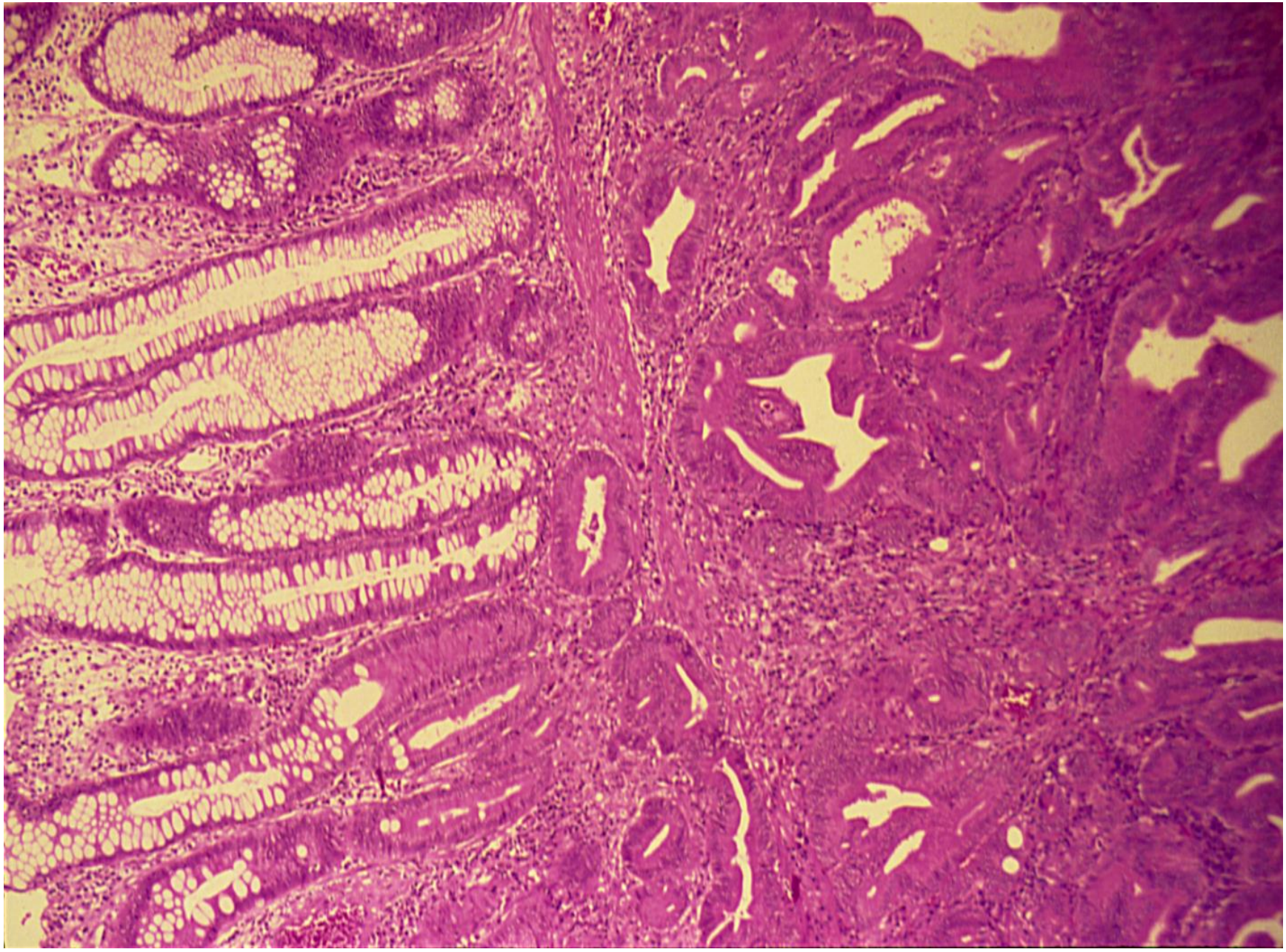
- The dermis is infiltrated by masses of well differentiated neoplastic sqamous cells which are separated by fibrous tissue stroma with chronic inflammatory cells . Tumour cells show pleomorphism,hyperchromatism and many mitotic figures . Pinkish laminated keratin pearls (epithelial cell nests) are present in the center of some cell masses .
- **The dermis is infiltrated by masses of well differentiated neoplastic sqamous cells show polieomorfism,hyperchromatism with keratin pearls**

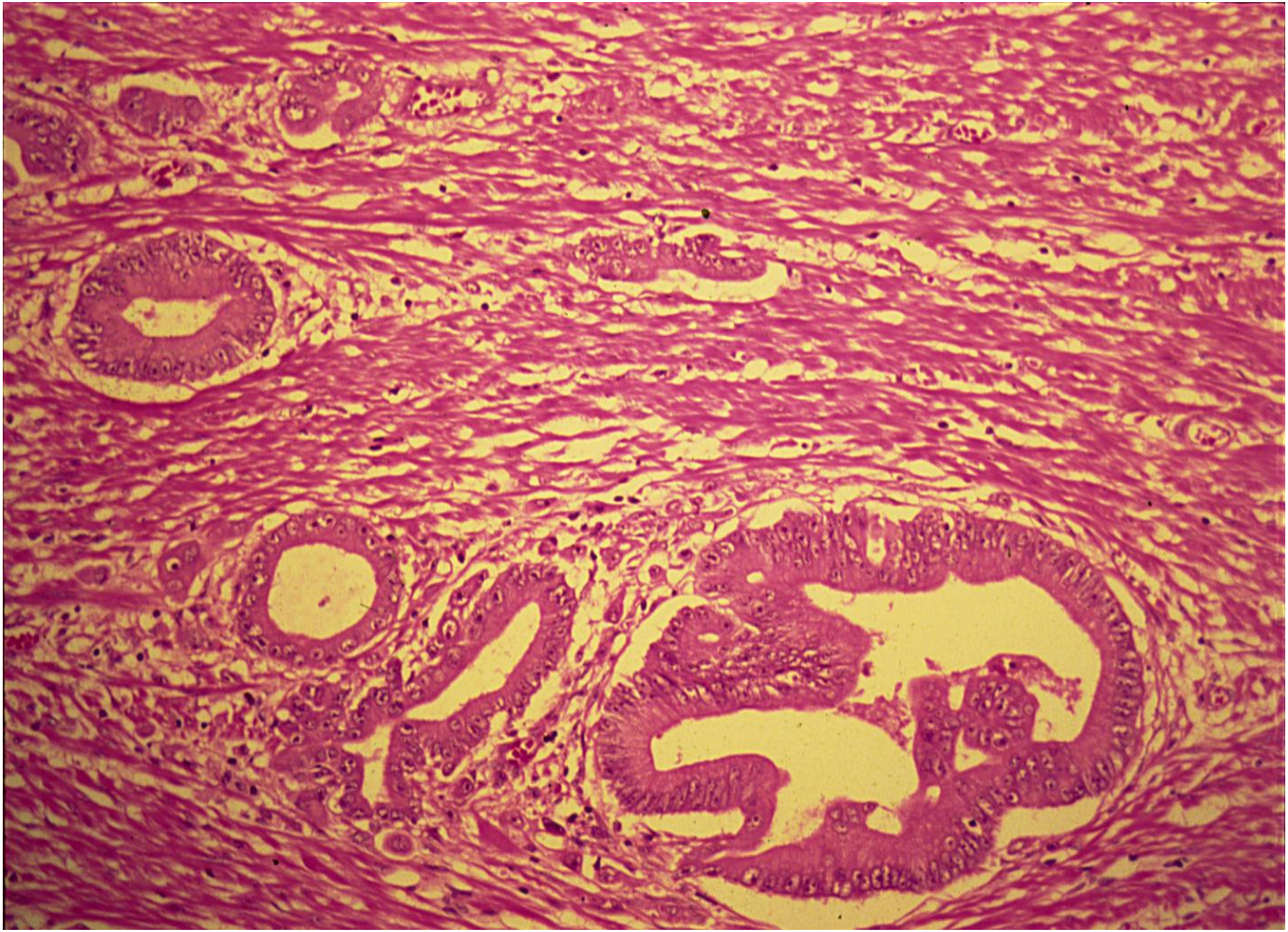
Breast carcinoma

- Esophageal carcinoma

Organ: Colon Dx: adenocarcinoma


93-3710





Adenocarcinoma of the large intestine:

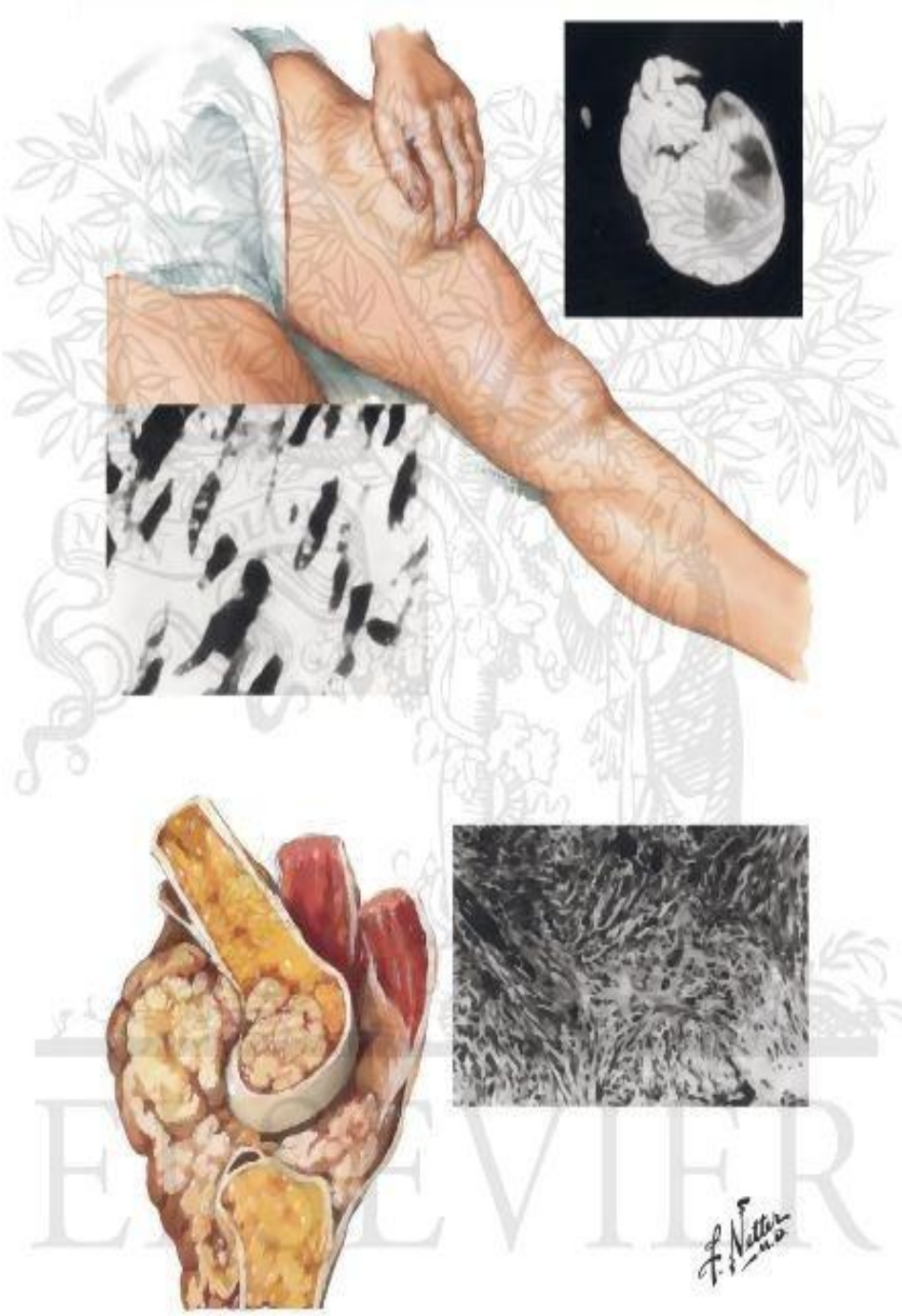
Section of large intestine shows:

A tumour mass at one end, and a normal mucosa on the other side:

- **Tumour consists of crowded irregular malignant acini separated by thin fibrovascular stroma invading muscle coat**

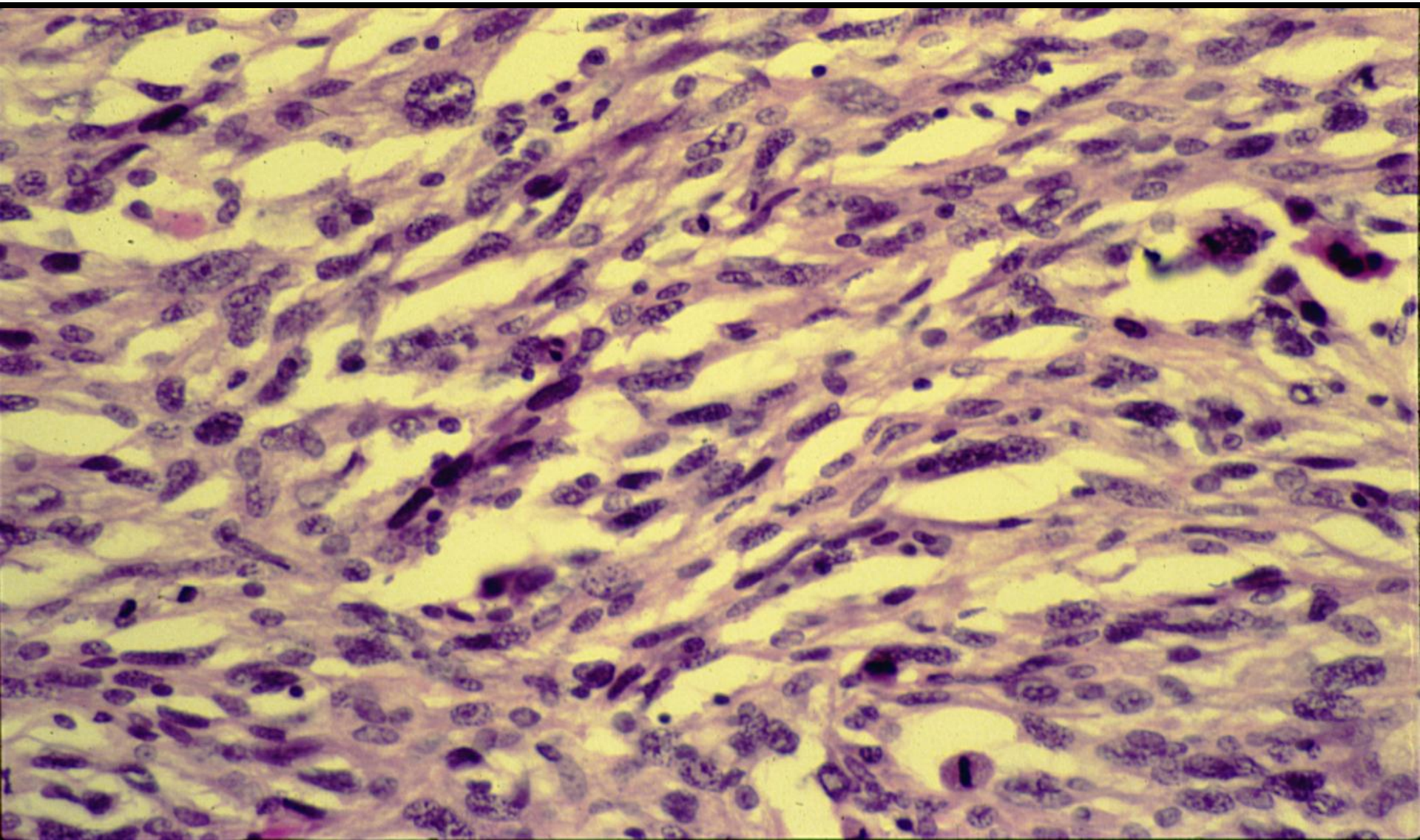
- **The acini are lined by one or several layers of neoplastic cells with papillary projection showing pleomorphism, hyperchromatism and few mitoses.**

- **Muscle coat is invaded by neoplastc glands.**



- Soft tissue , fibrosarcoma

FIBROSARCOMA (SOFT TISSUE)



Fibrosarcoma:

Section of the tumour shows:

- **The tumour consists of interlacing bundles of pleomorphic spindle shaped cells with areas of haemorrhage and necrosis.**

- **The cells show marked variation in size and shape, nuclear hyperchromatism with tumour giant cells formation and many mitoses.**