

**Author(s):** Gerald Abrams, M.D., 2009

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M1 Patients and Populations:

# DISTURBANCES OF GROWTH NEOPLASIA I

Gerald D. Abrams MD

Fall 2008



# ORGANS/TISSUES SMALLER THAN NORMAL

- DEVELOPMENTAL
  - AGENESIS
  - APLASIA
  - HYPOPLASIA
  - ATRESIA
  
- ACQUIRED
  - ATROPHY

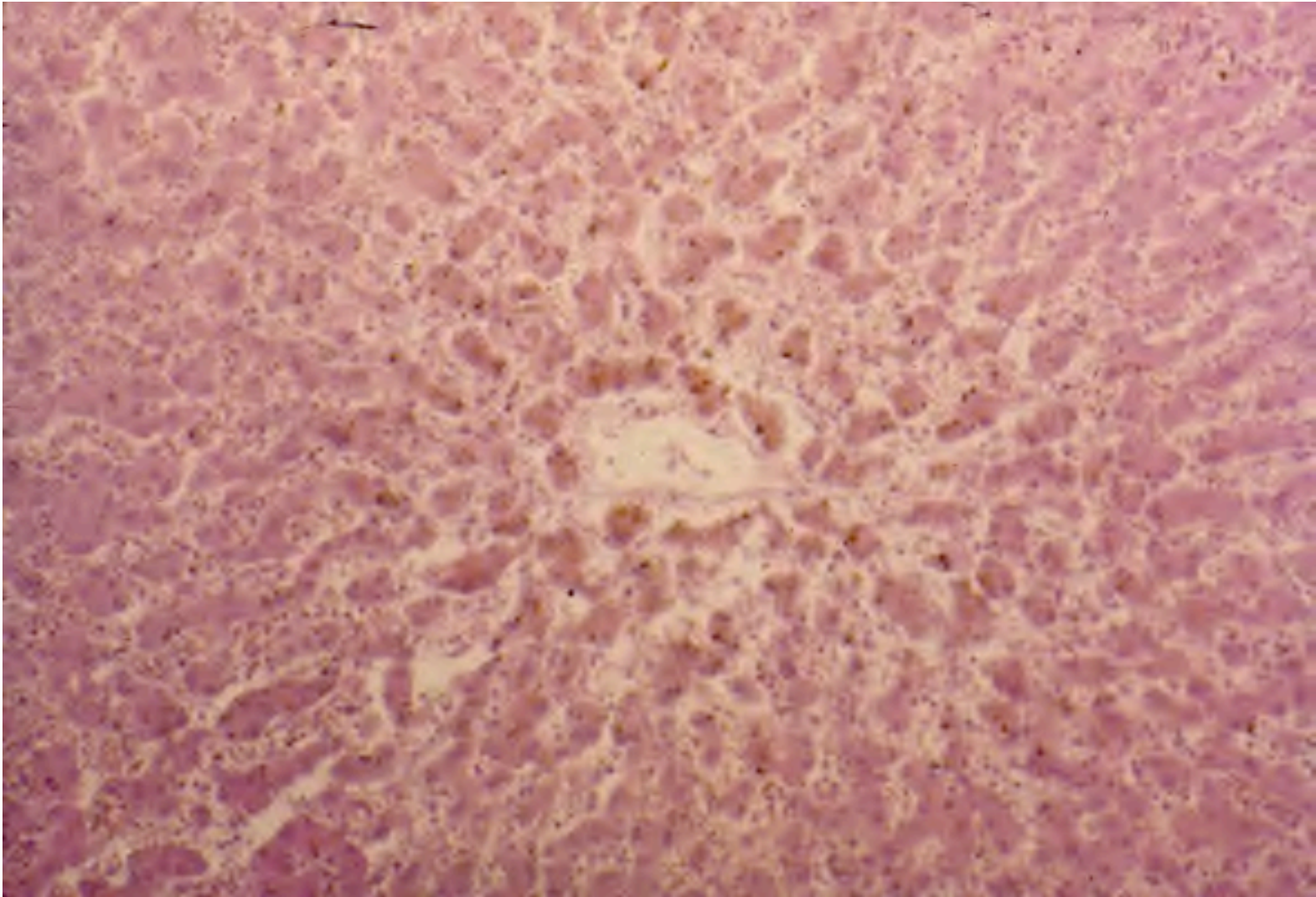
# UNILATERAL RENAL AGENESIS



# UNILATERAL RENAL HYPOPLASIA



# LIVER, “BROWN ATROPHY”

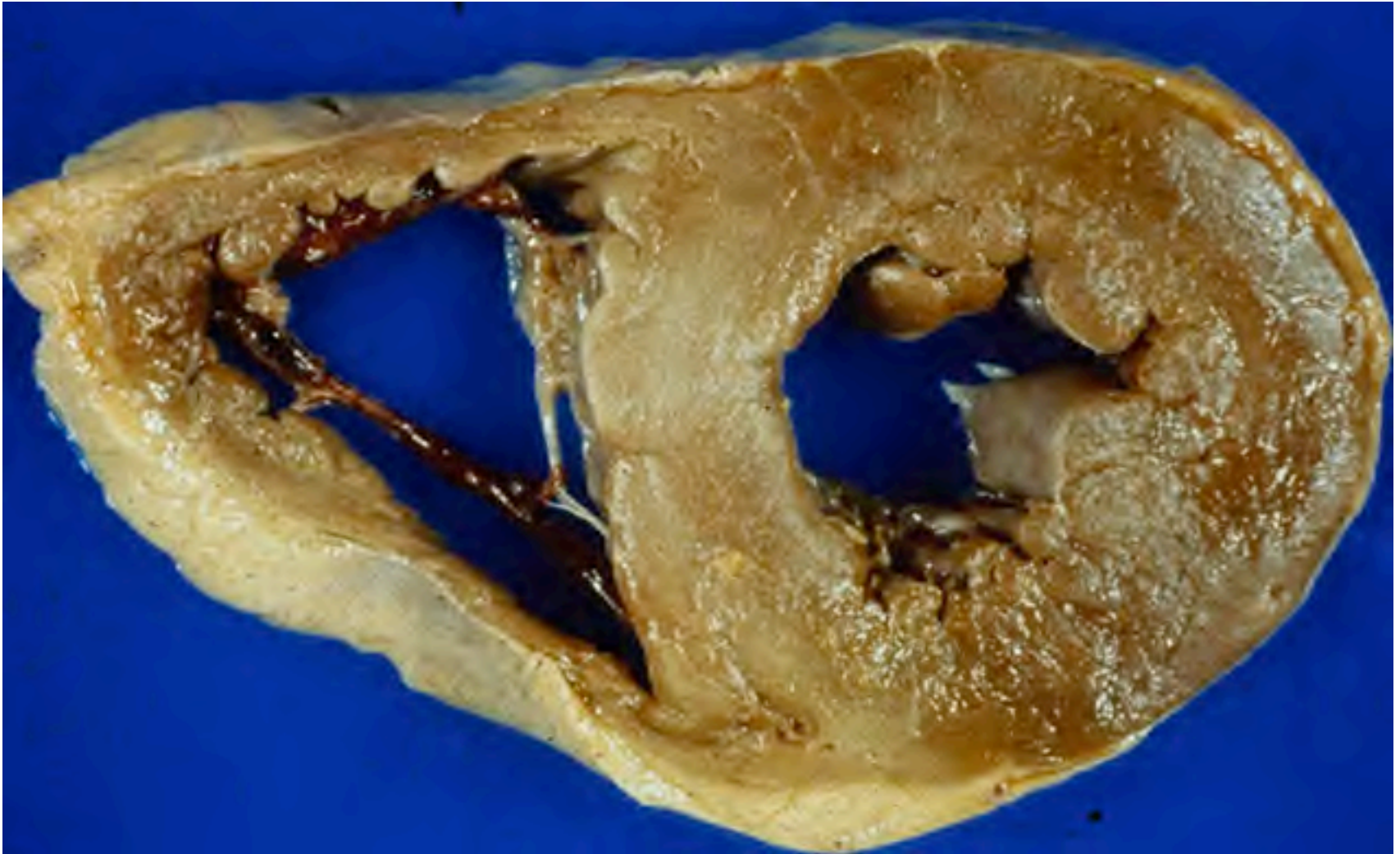


# ORGANS / TISSUES LARGER THAN NORMAL

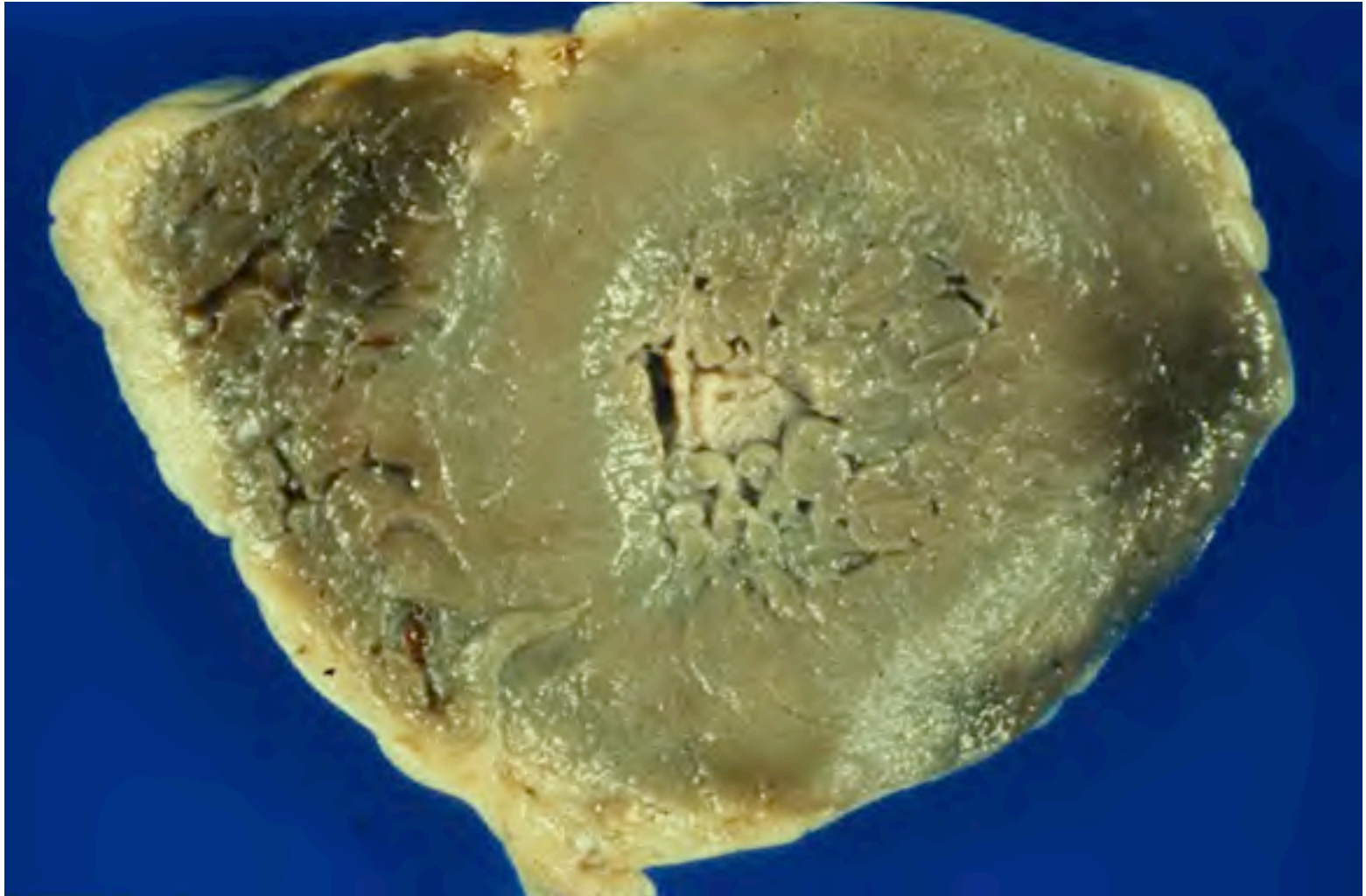
- HYPERTROPHY  
INCREASE IN CELL SIZE
- HYPERPLASIA  
INCREASE IN CELL NUMBER



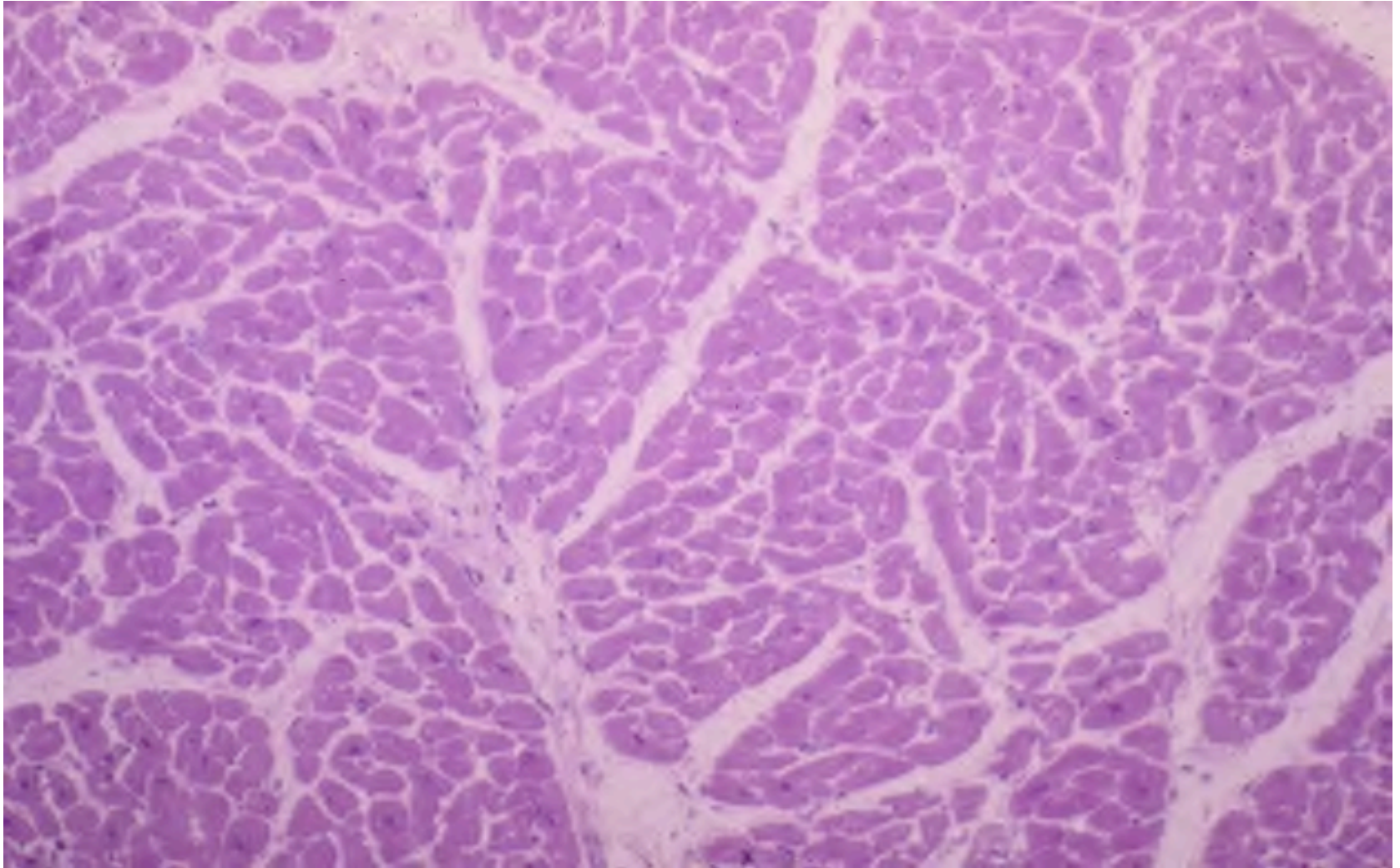
# HEART, NORMAL



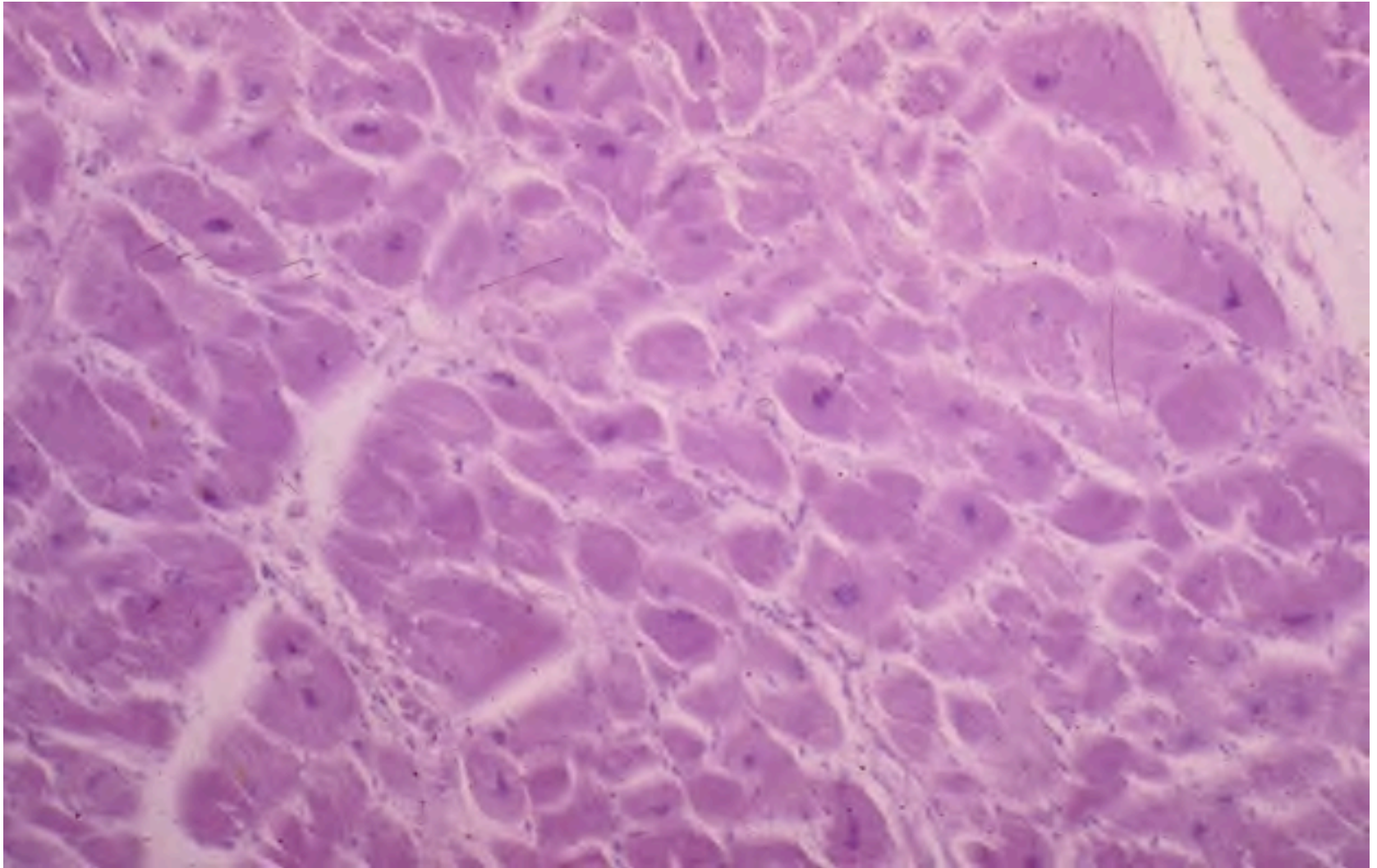
# HEART, HYPERTROPHY



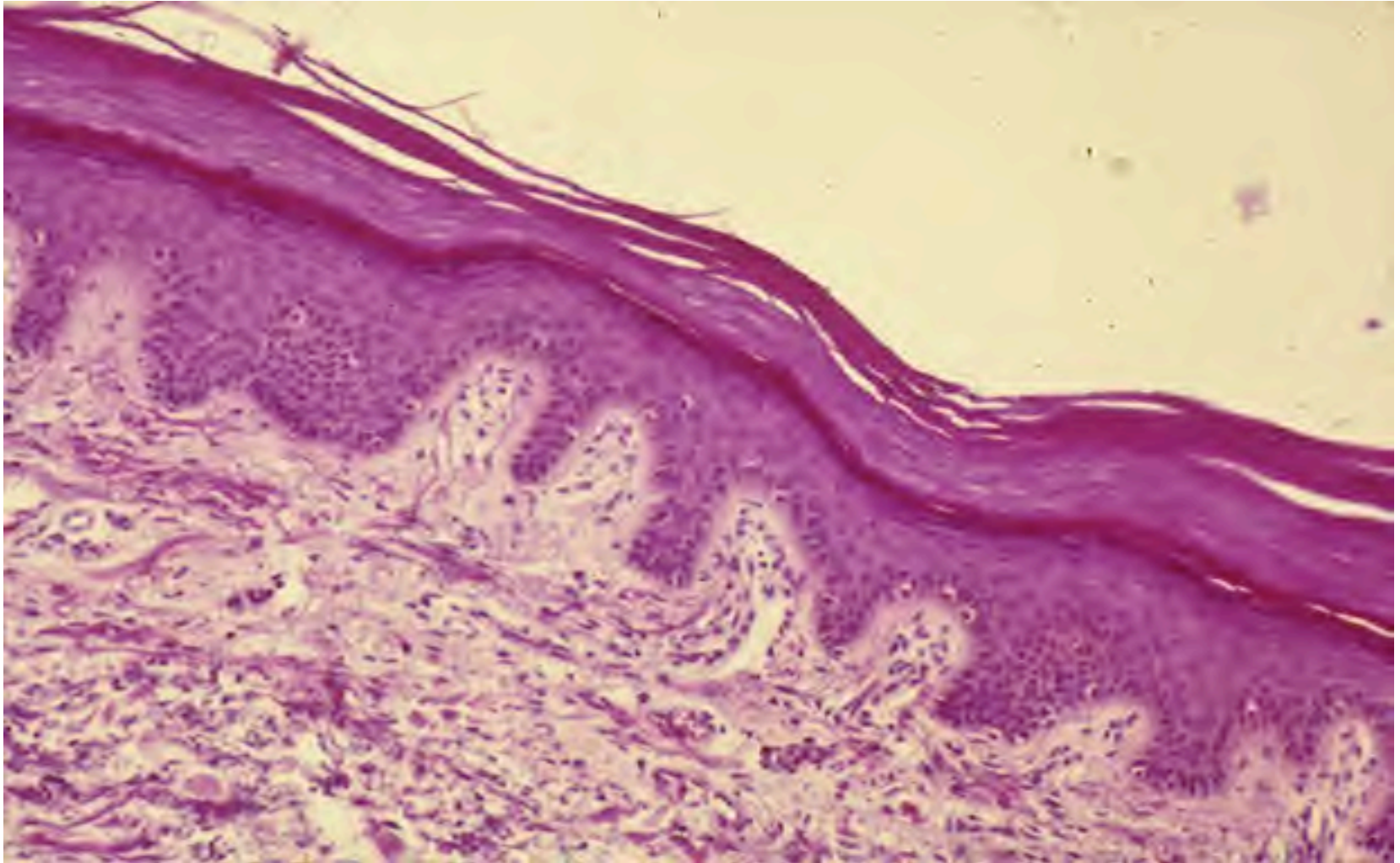
# MYOCARDIUM, NORMAL



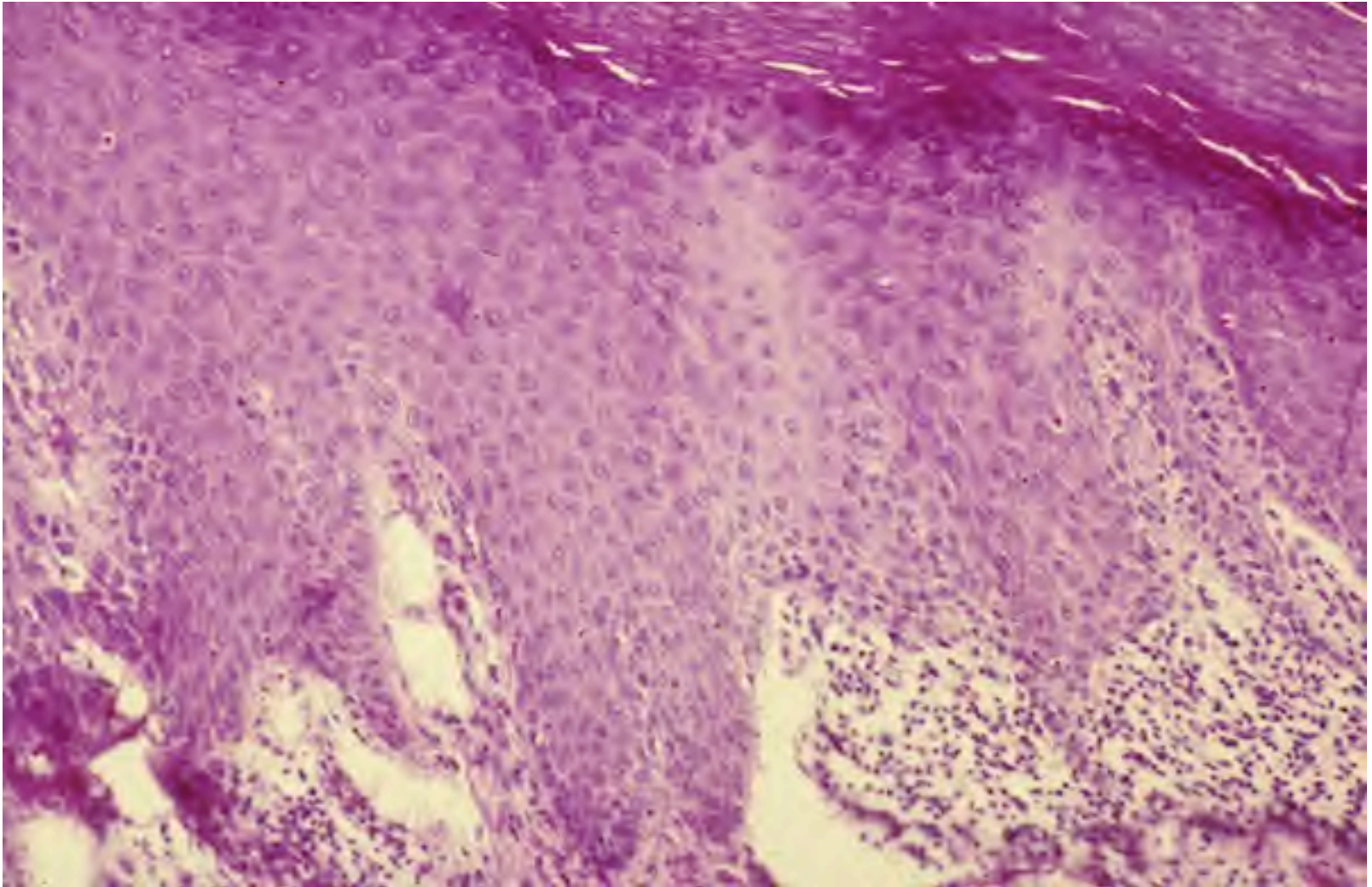
# MYOCARDIUM, HYPERTROPHY



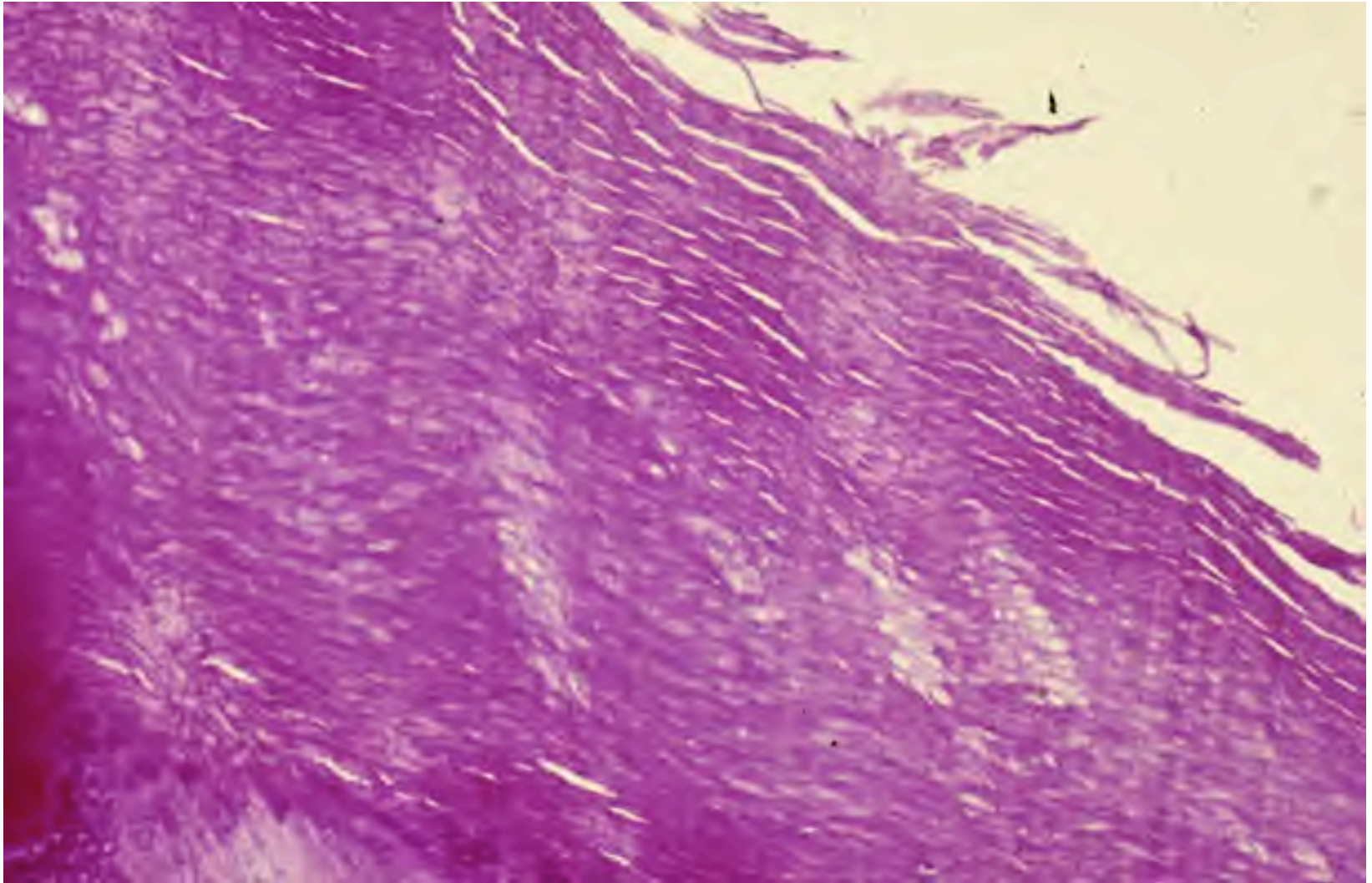
# SKIN, NORMAL



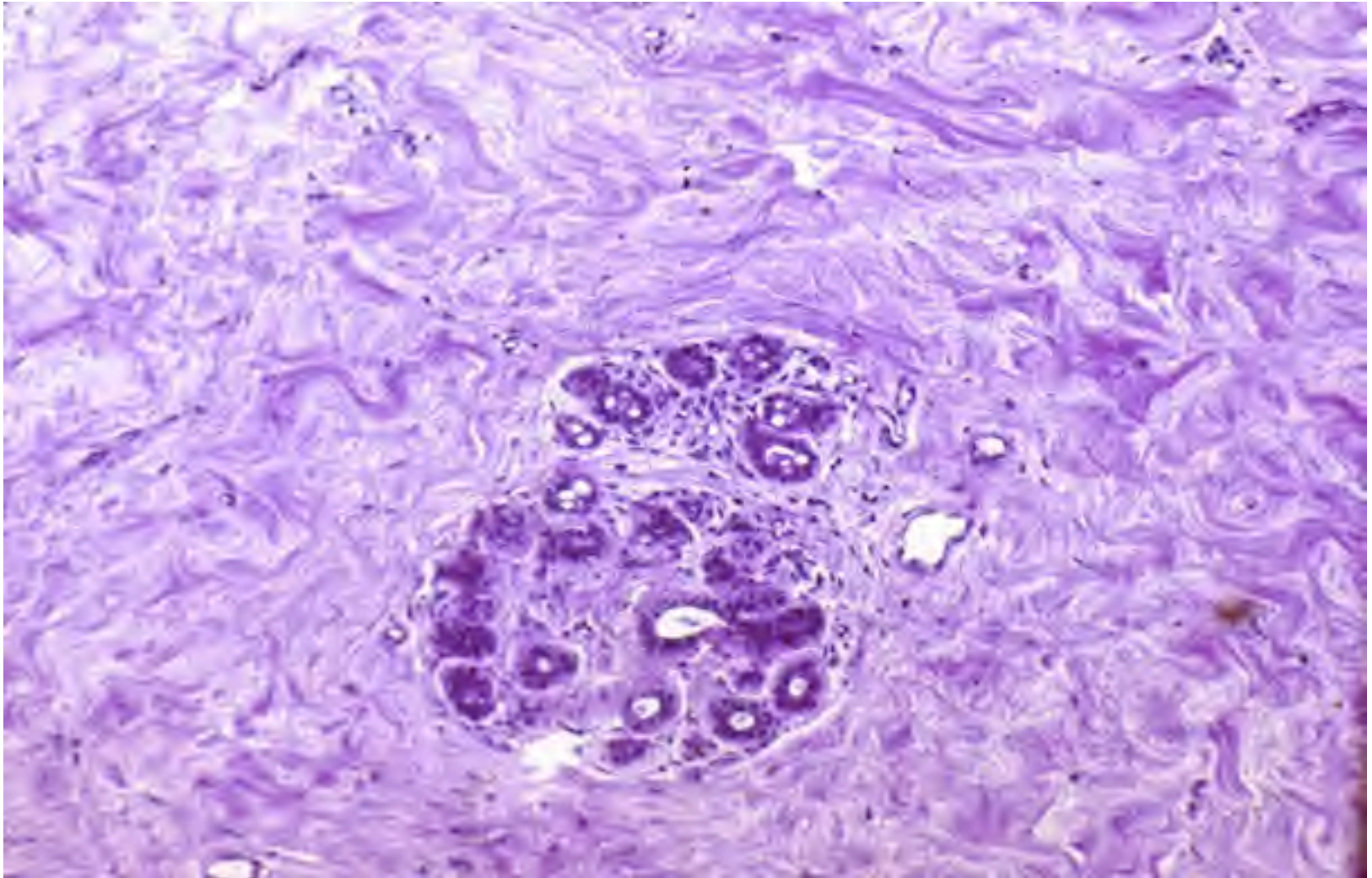
# SKIN, HYPERPLASIA



# SKIN, HYPERKERATOSIS

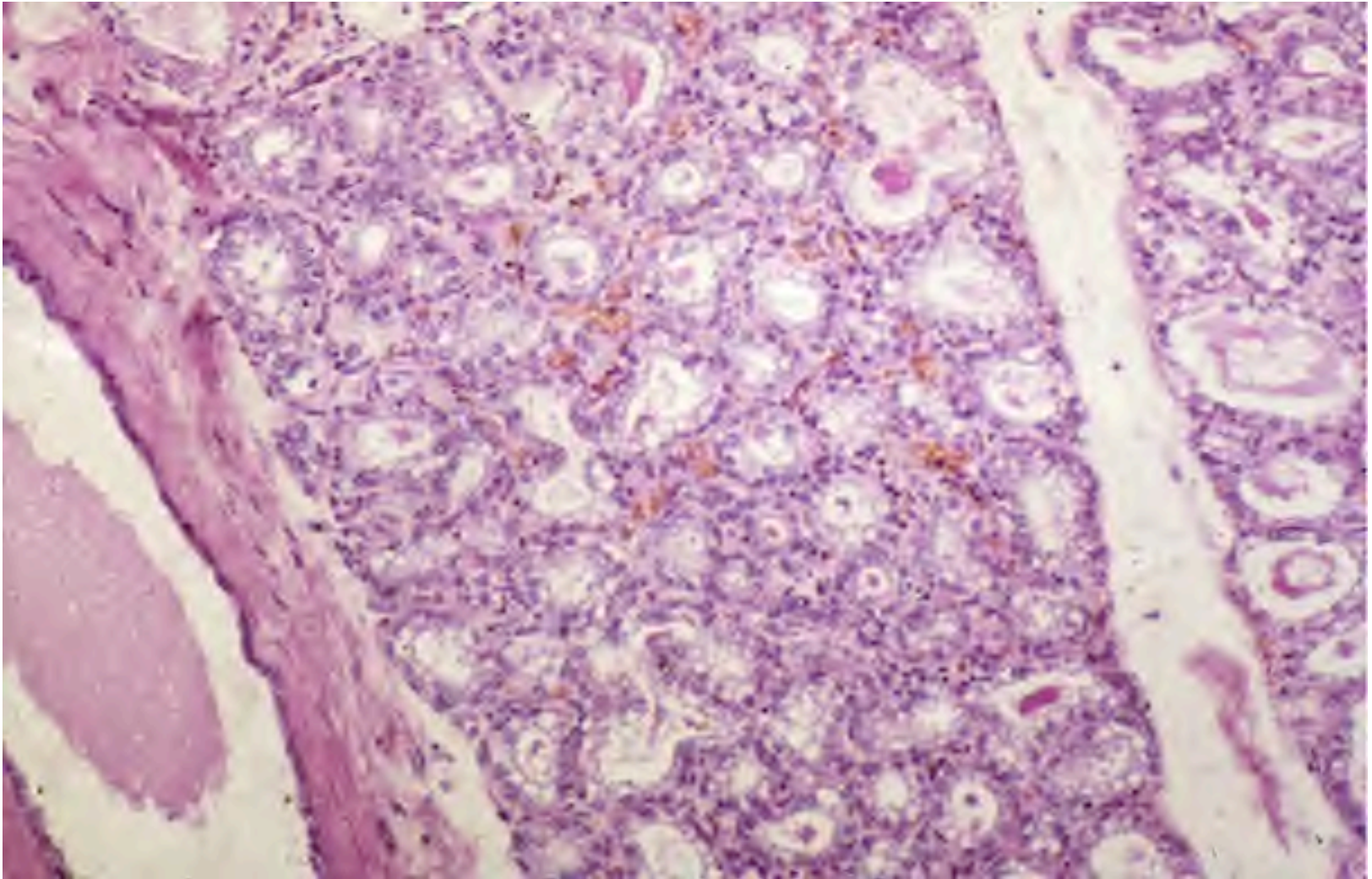


# MAMMARY GLAND

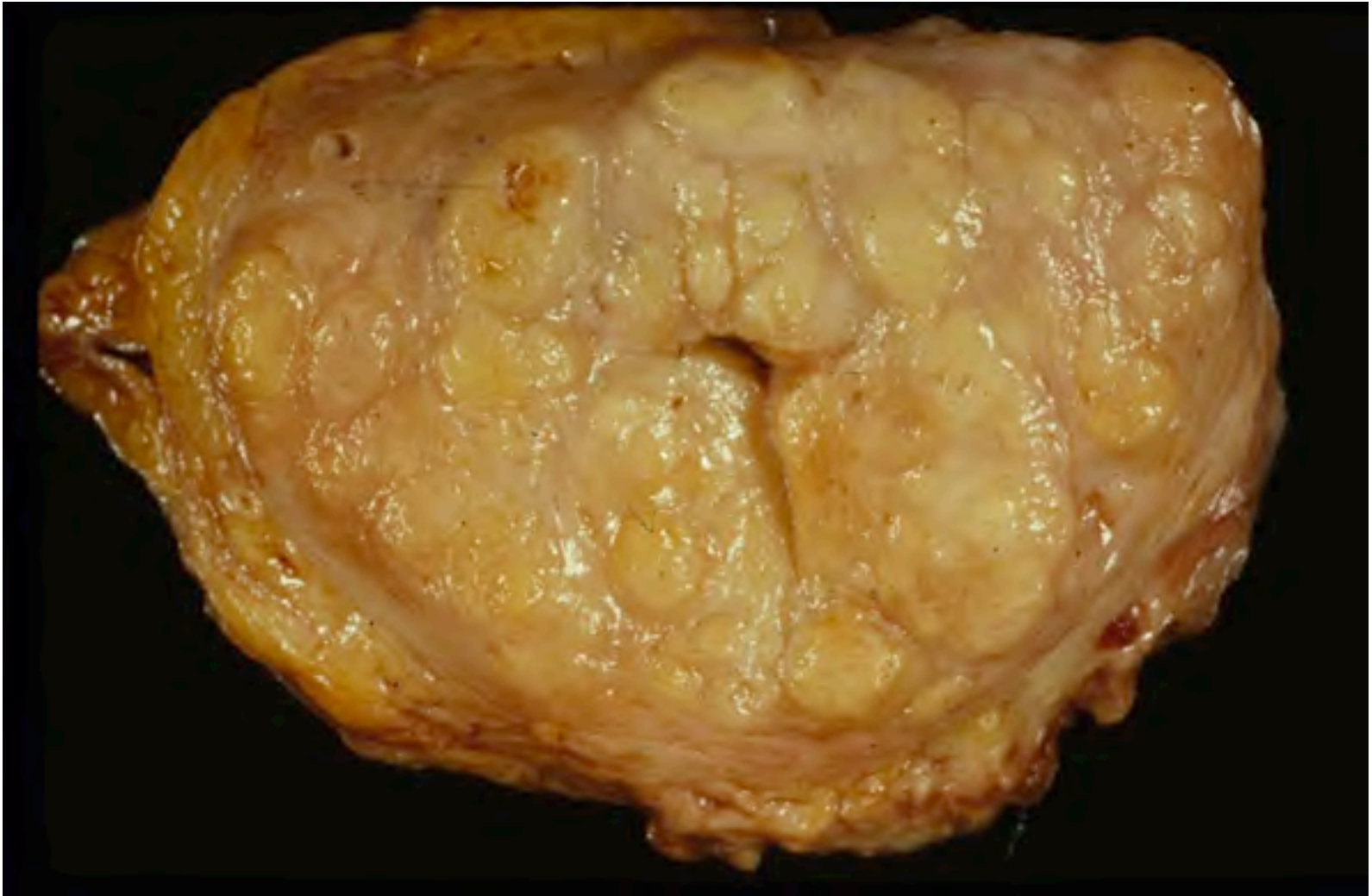




# MAMMARY GLAND, LACTATING



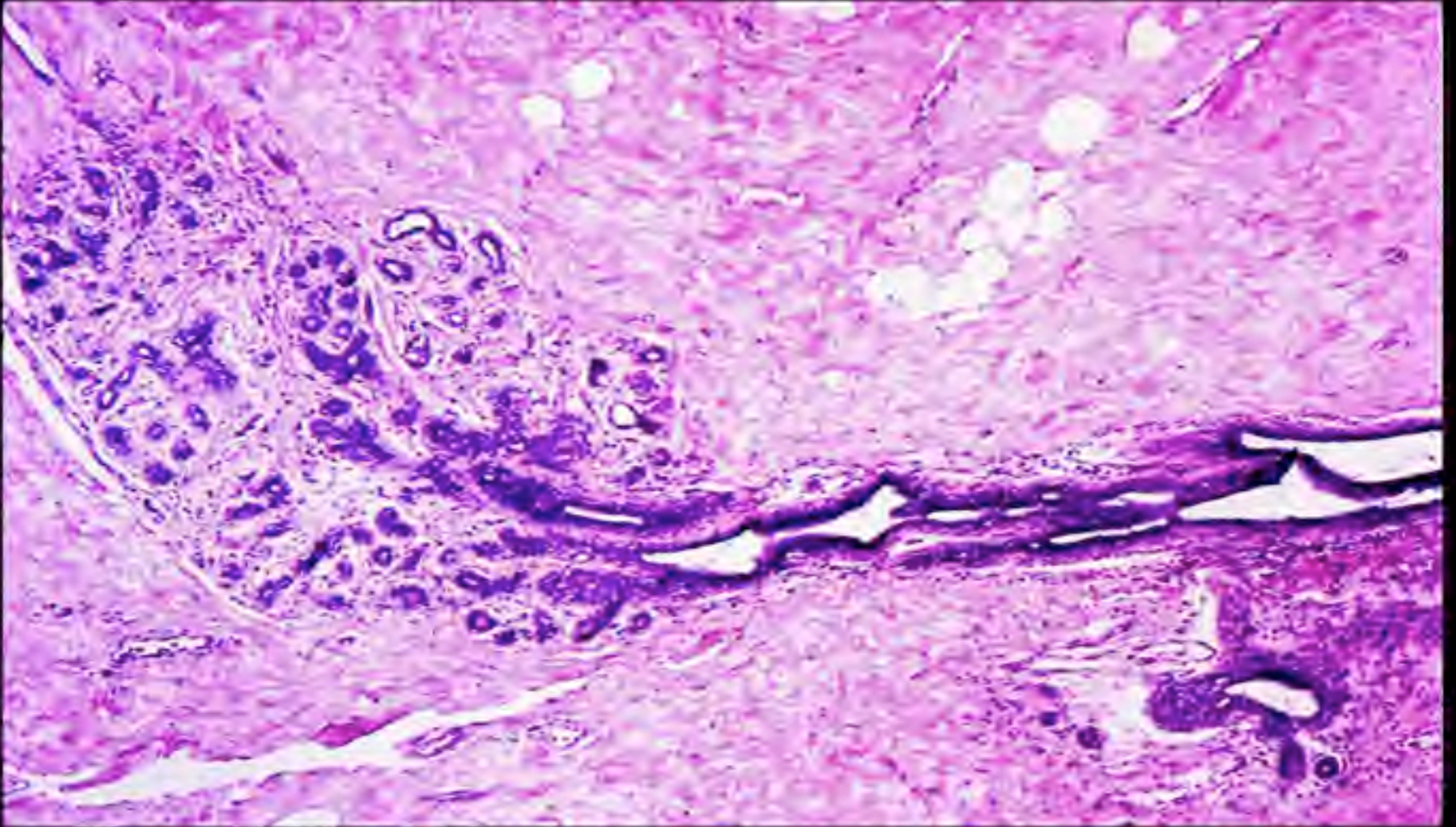
# PROSTATE, HYPERPLASIA



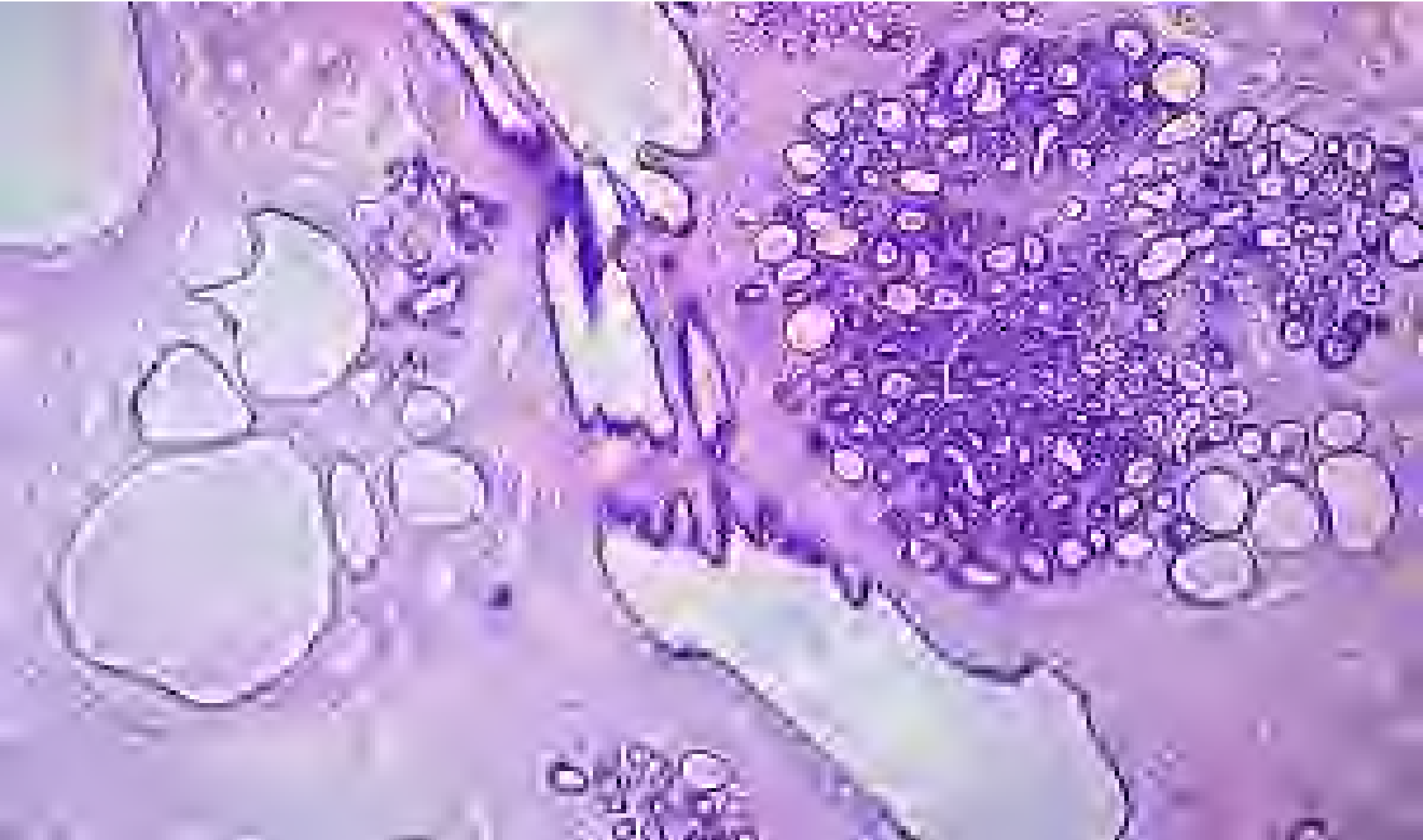
# BREAST- FIBROCYSTIC CHANGE



# NORMAL BREAST



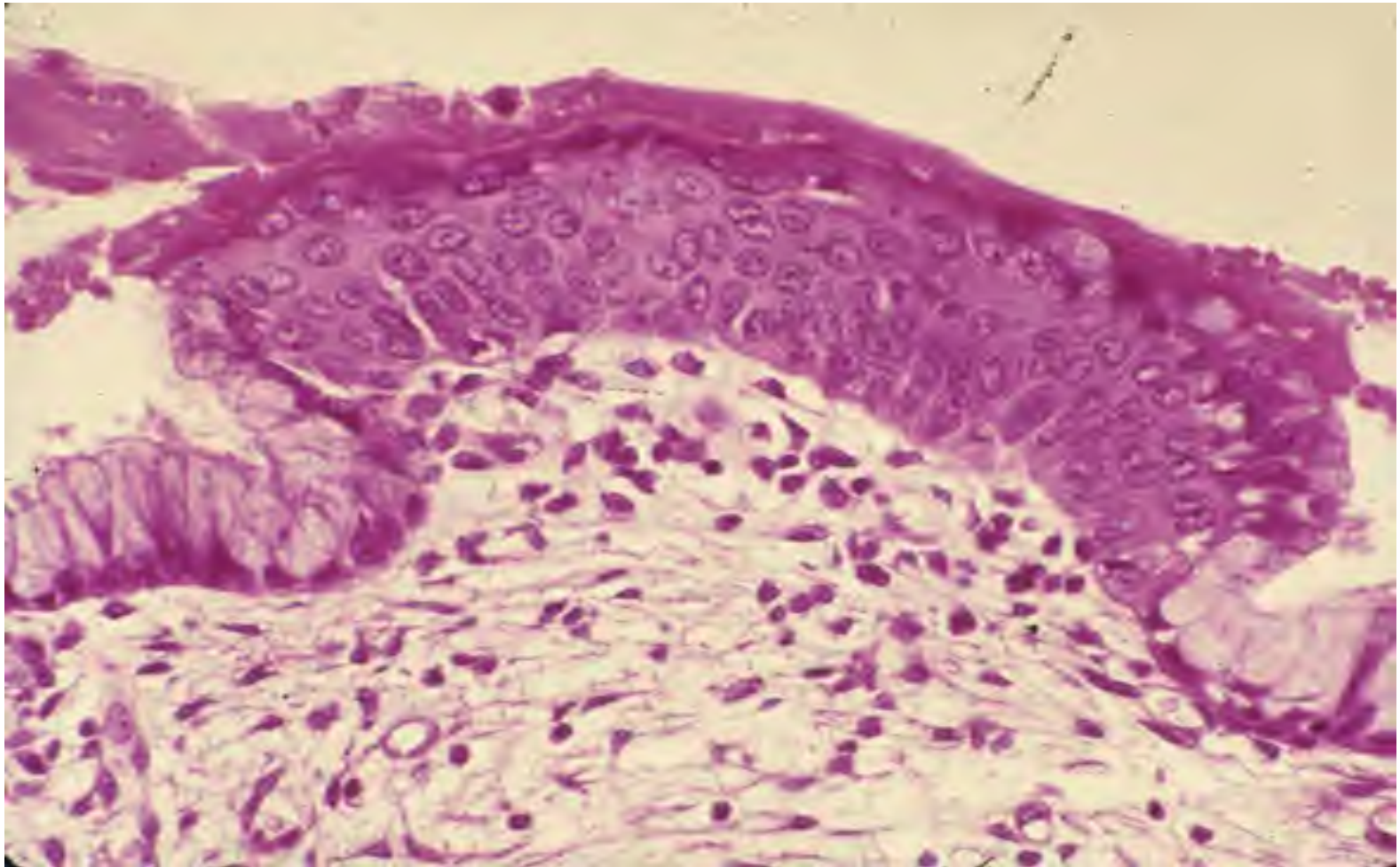
# BREAST FIBROCYSTIC CHANGE



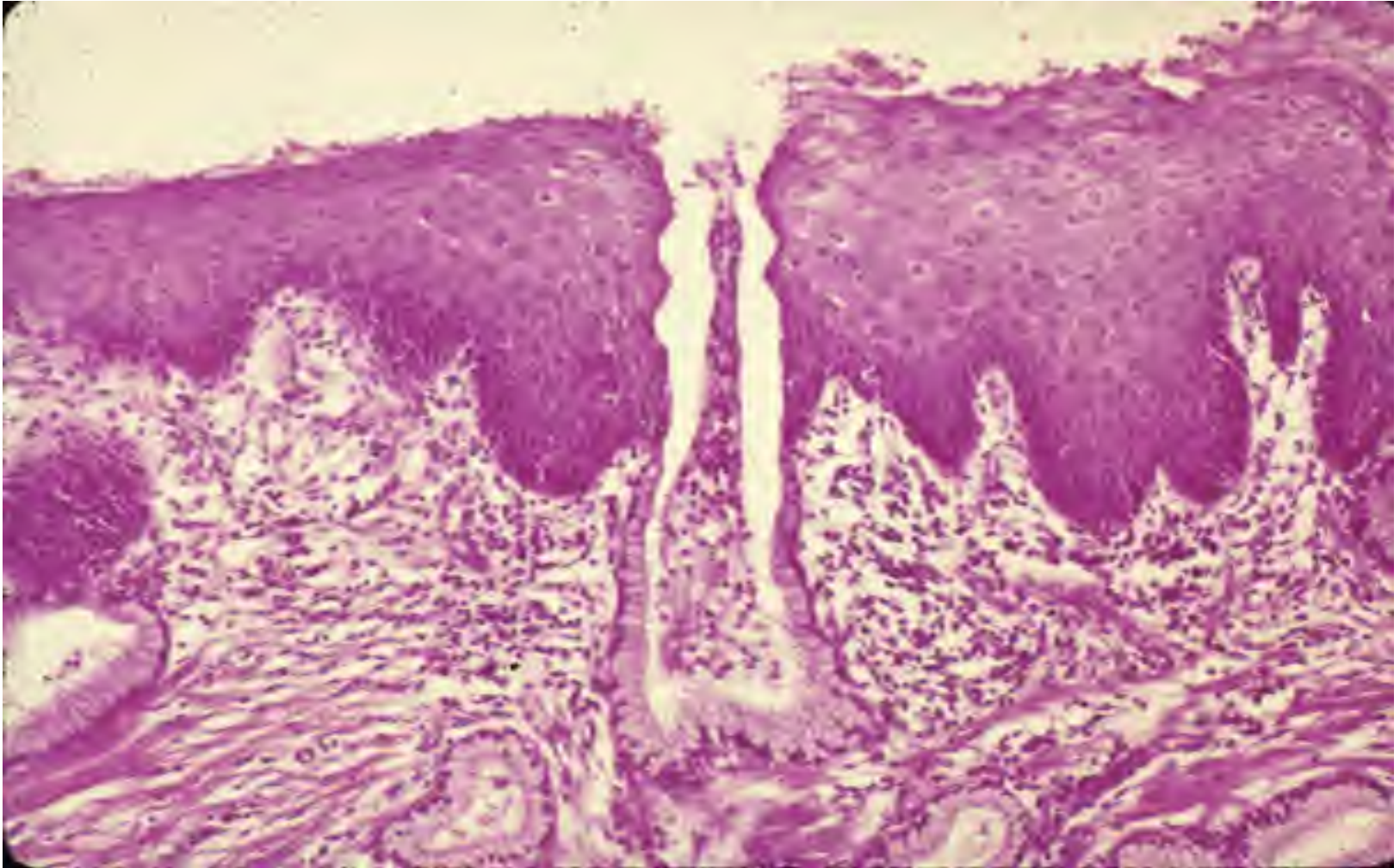
# ABNORMAL PATTERNS OF CELL GROWTH / DIFFERENTIATION

- METAPLASIA
- DYSPLASIA

# ENDOCERVIX, SQUAMOUS METAPLASIA

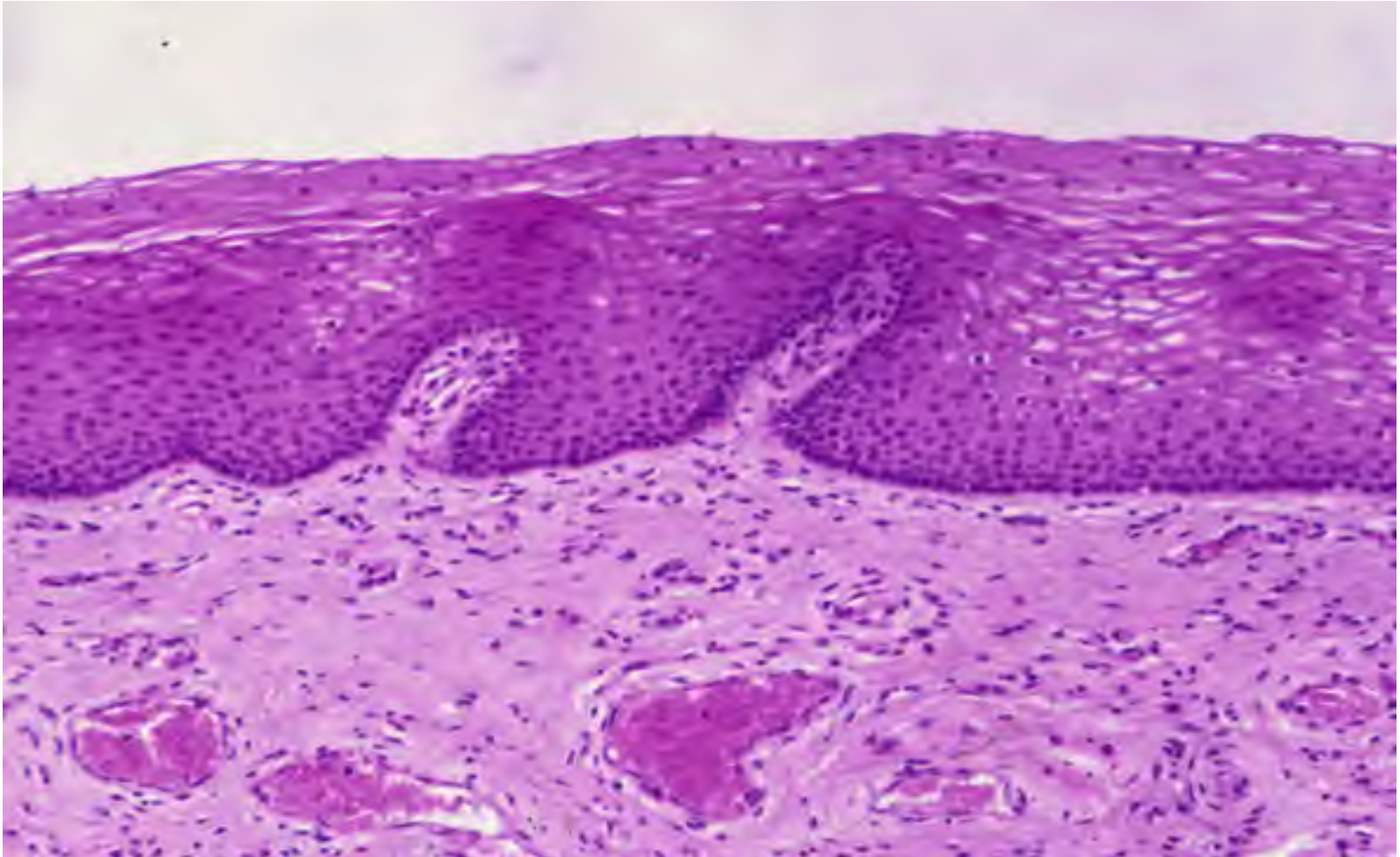


# ENDOCERVIX, SQUAMOUS METAPLASIA

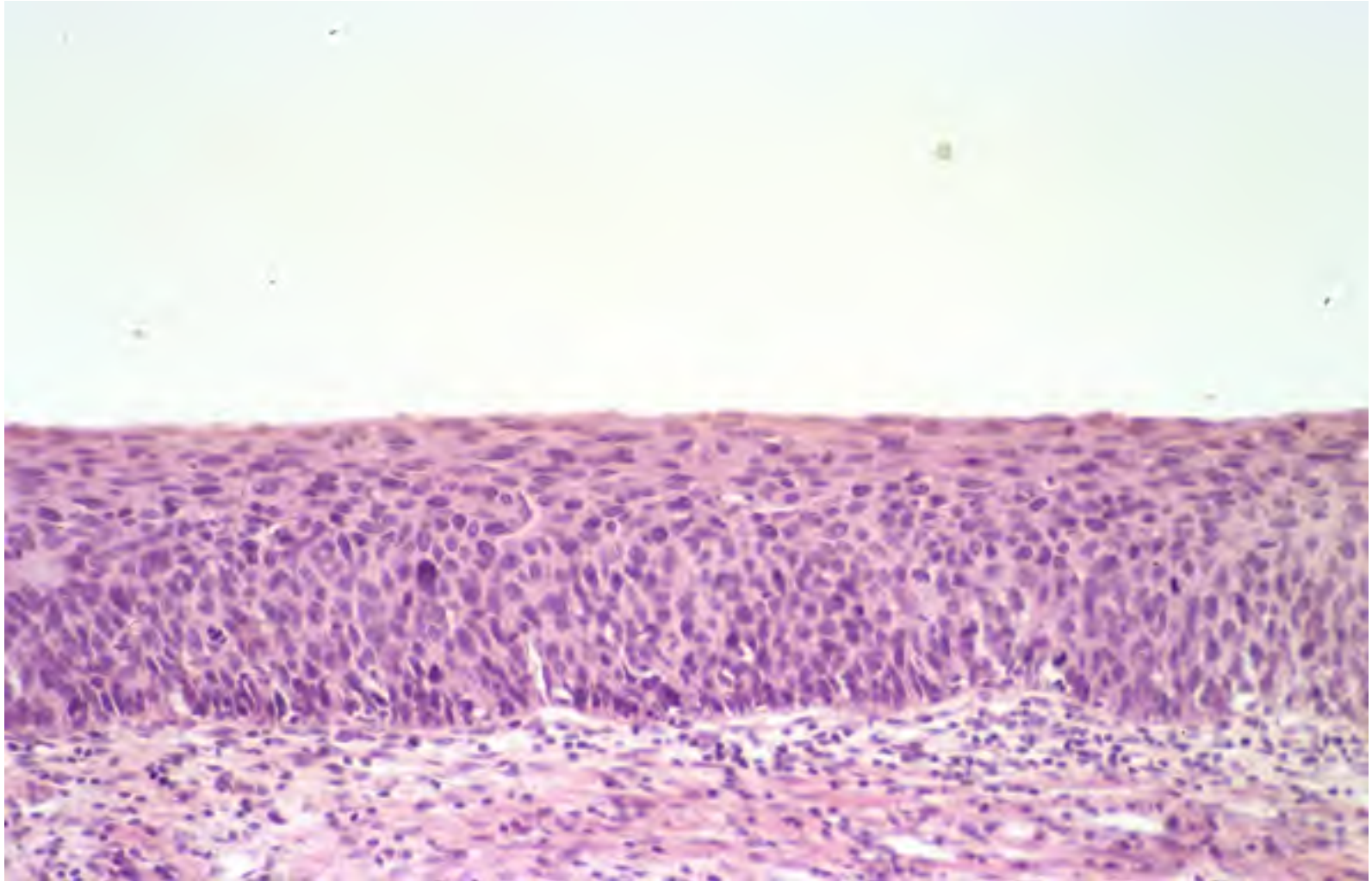




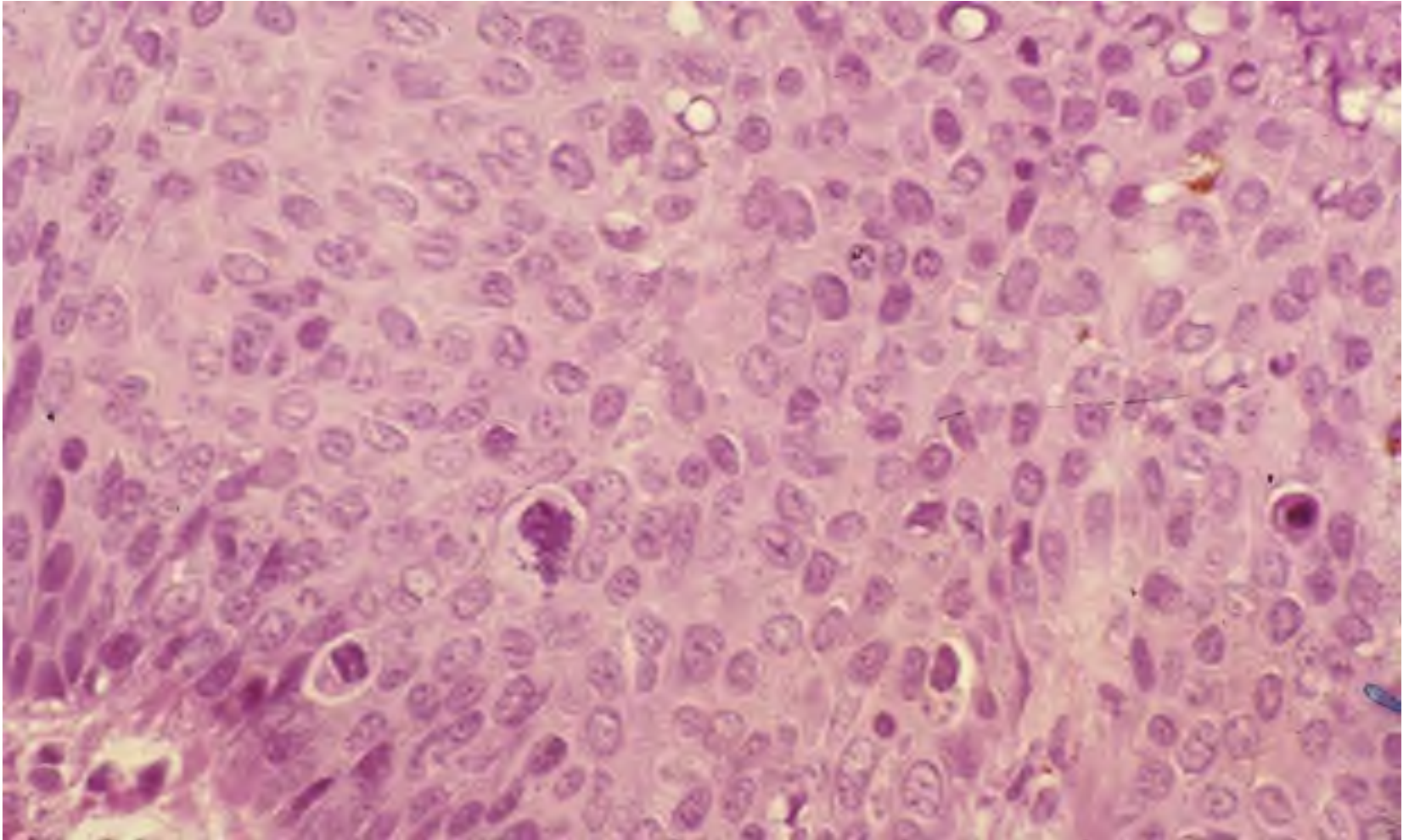
# SQUAMOUS EPITHELIUM, NORMAL



# SQUAMOUS EPITHELIUM, MODERATE DYSPLASIA



# SQUAMOUS EPITHELIUM, SEVERE DYSPLASIA



# NEOPLASM / “TUMOR”

- MASS (“NEW GROWTH”) –  
PROLIFERATING CELLS
- AUTONOMOUS
- NON-EQUILIBRIUM, UNCOORDINATED  
GROWTH
- PERSISTENT / IRREVERSIBLE

# NEOPLASTIC TRANSFORMATION

- SERIES OF GENETIC EVENTS
- CLONAL CHARACTERISTICS



Benign Tumor: growth by expansion

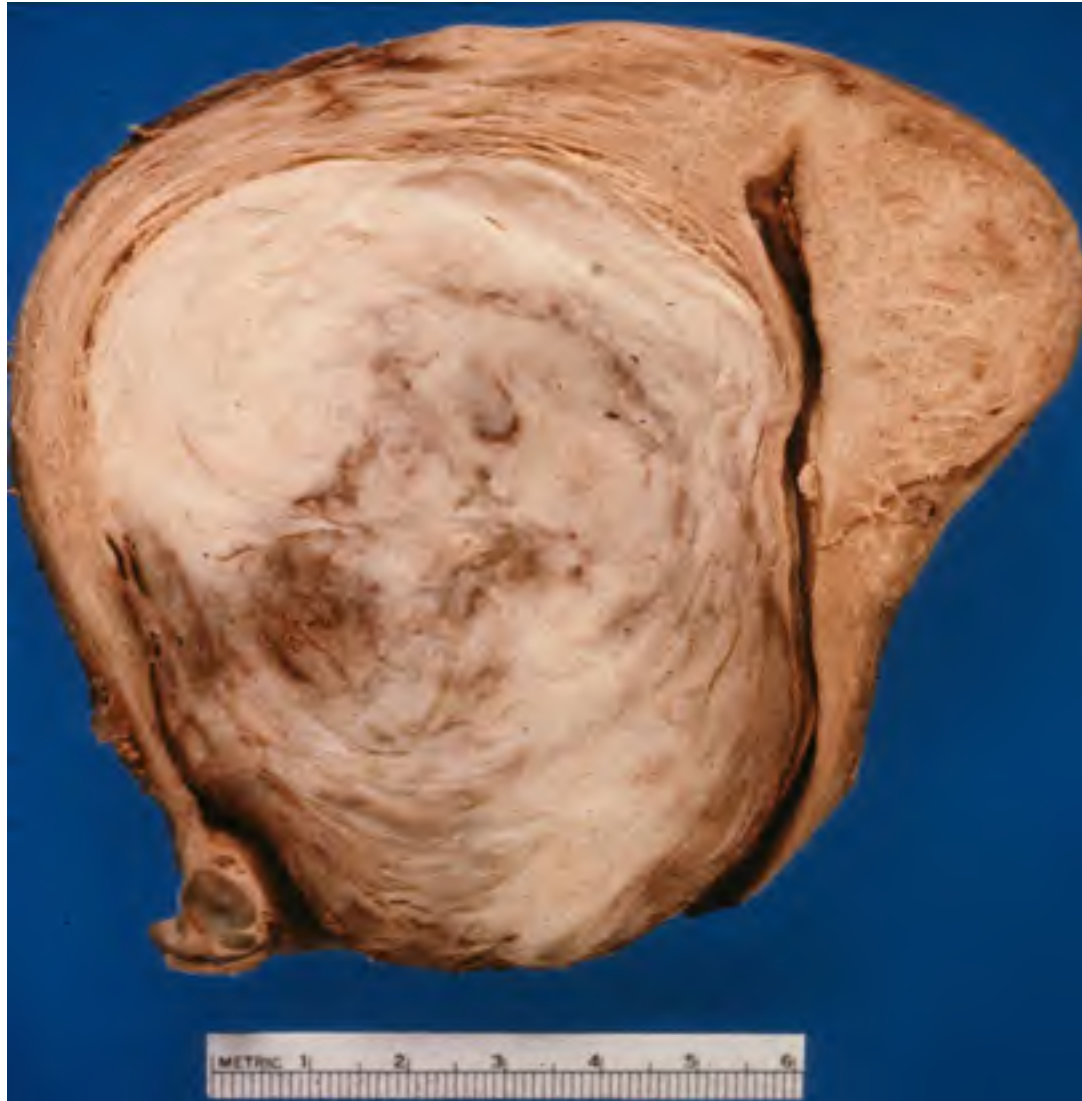


Malignant Tumor: growth by invasion

# BENIGN AND MALIGNANT GROWTH

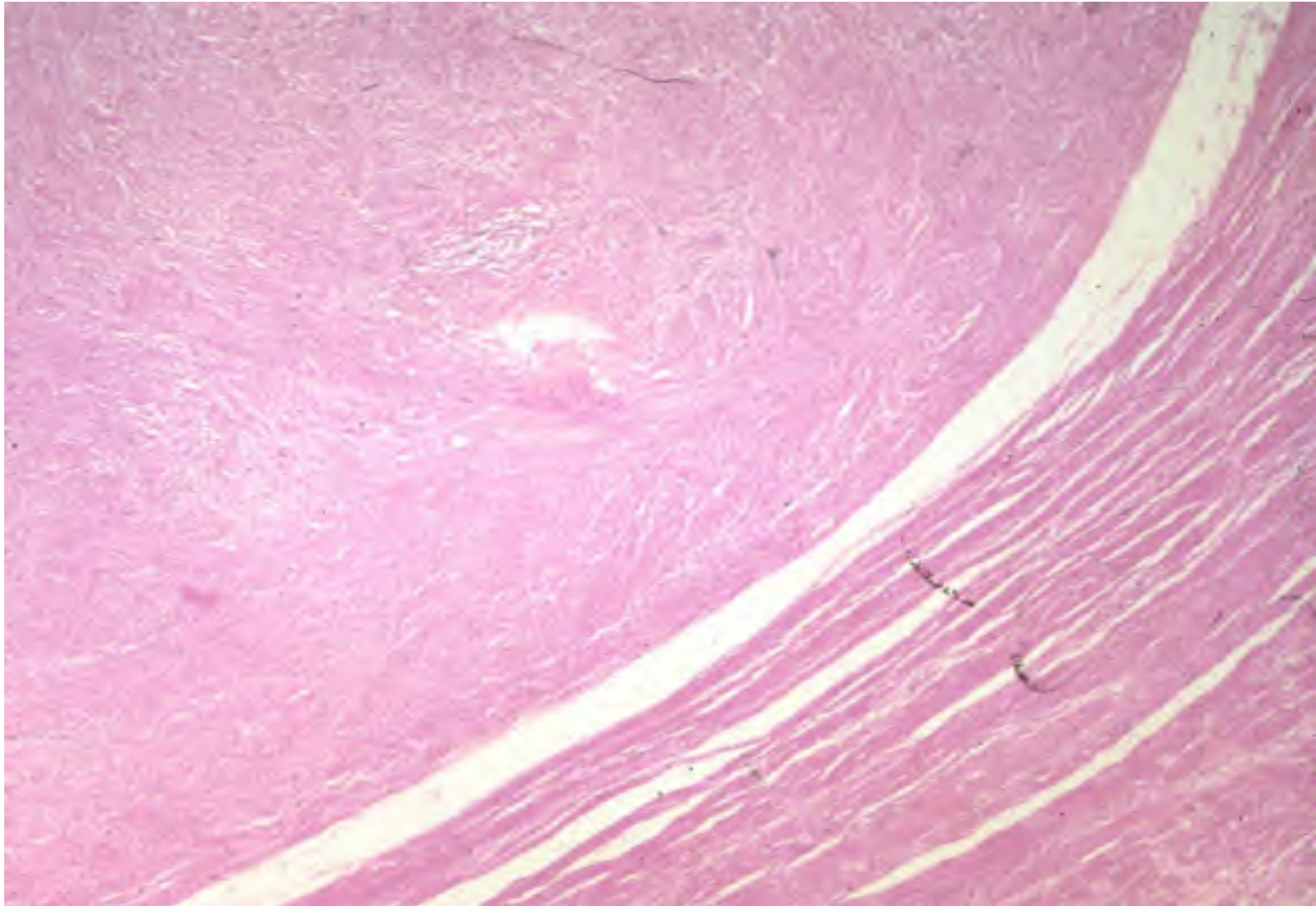
- BENIGN
  - COHESIVE /EXPANSILE
  - CIRCUMSCRIBED / LOCALIZED
- MALIGNANT
  - POORLY CIRCUMSCRIBED /
  - INVASIVE....METASTASIZING

# UTERUS, LEIOMYOMA

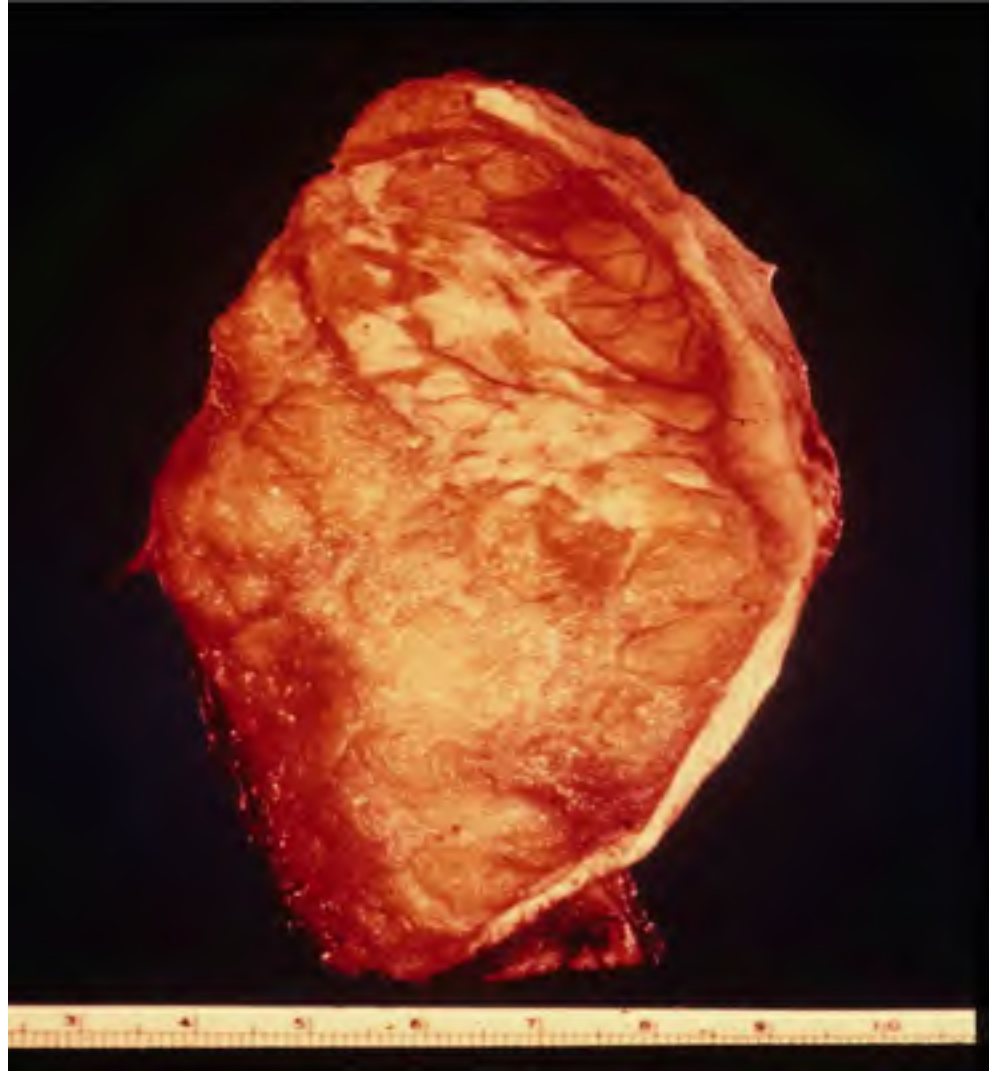




# UTERUS, LEIOMYOMA



# BREAST CANCER



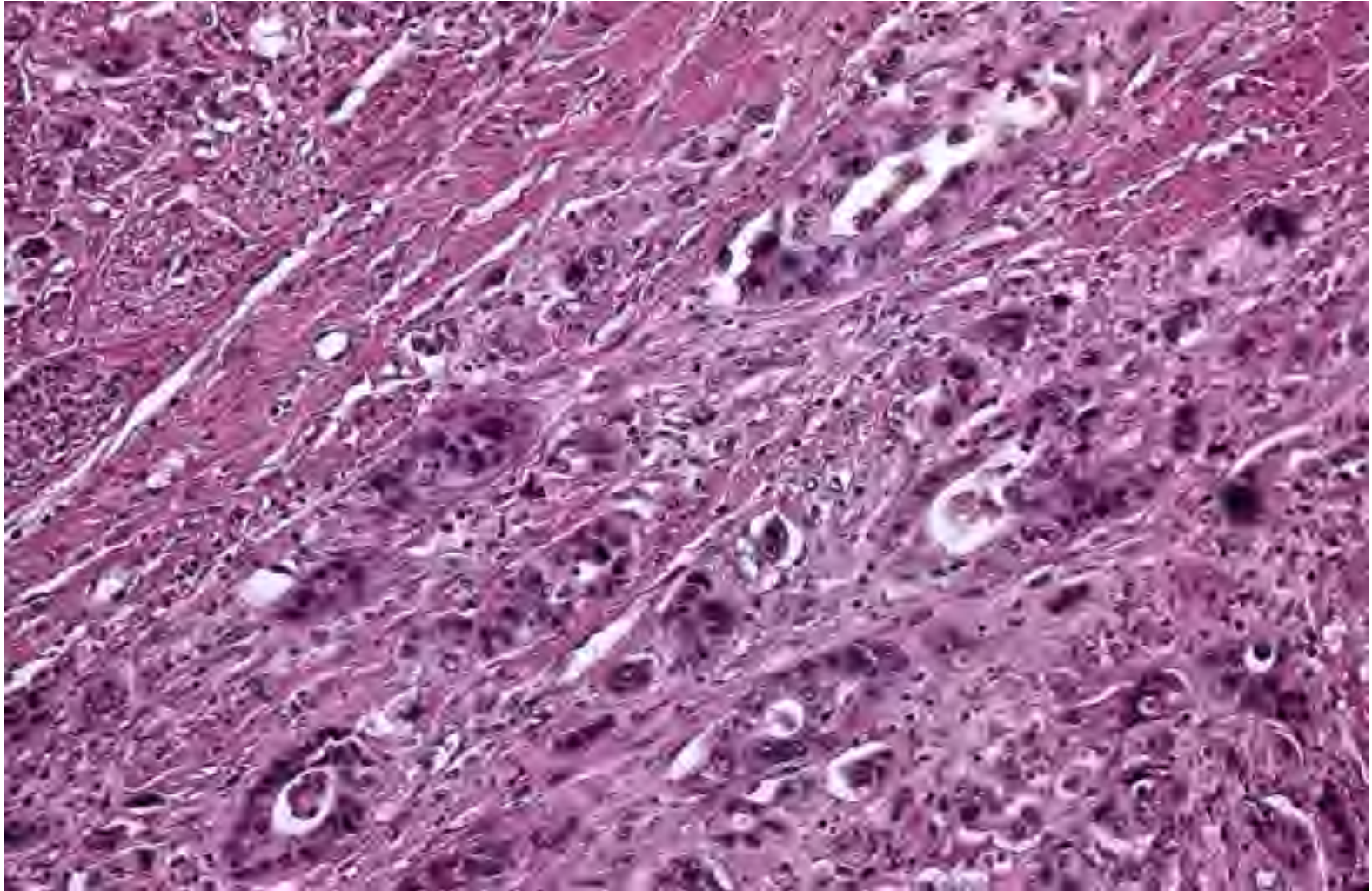
# COLON CANCER



# COLON CANCER



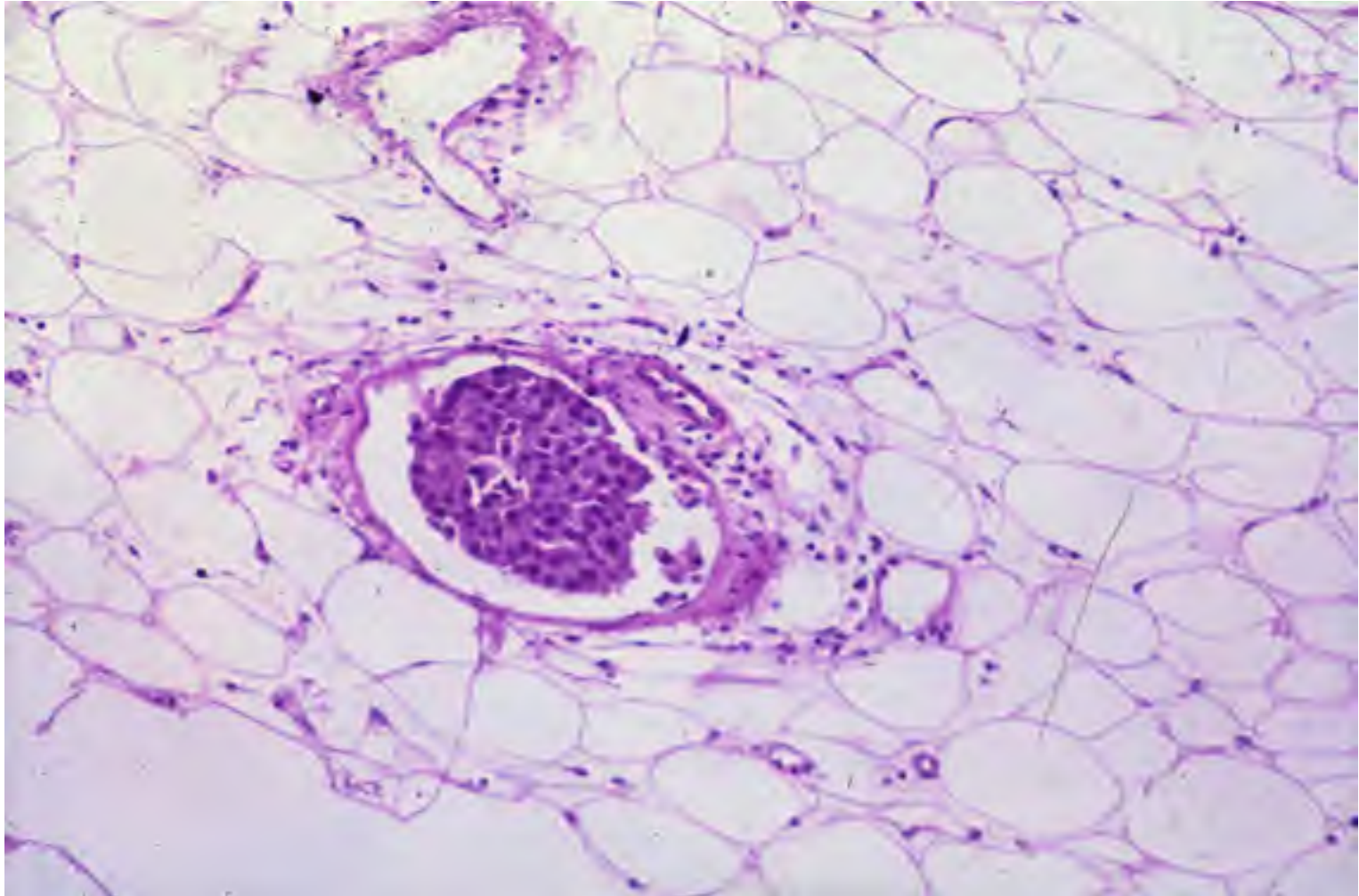
# CANCER INVADING COLONIC WALL



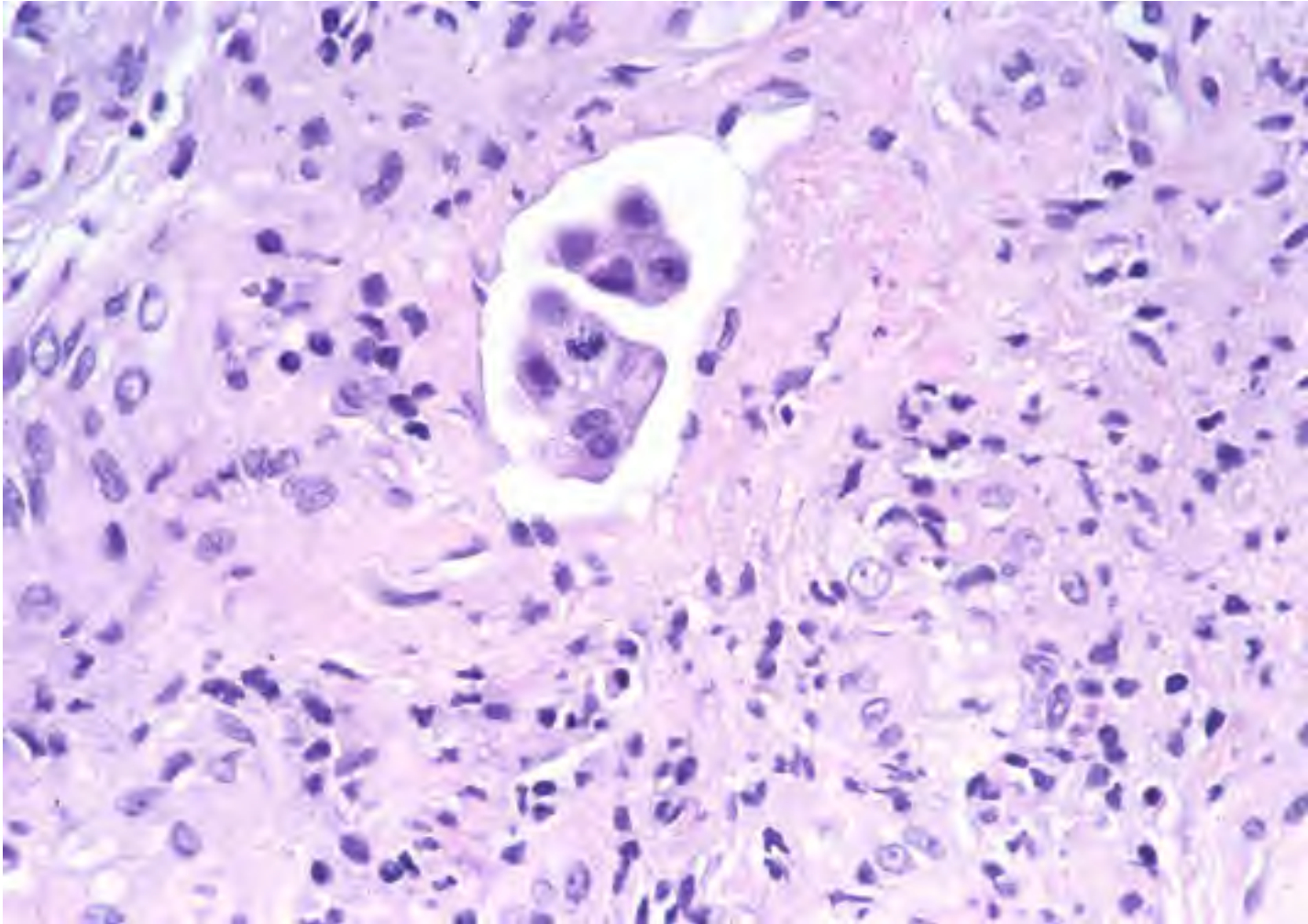
# METASTASIS

- A COMPLEX CASCADE OF EVENTS
- VIA BLOOD
- VIA LYMPH
- DIRECT

# CANCER CELLS WITHIN BLOOD VESSEL



# CANCER CELLS WITHIN LYMPHATIC

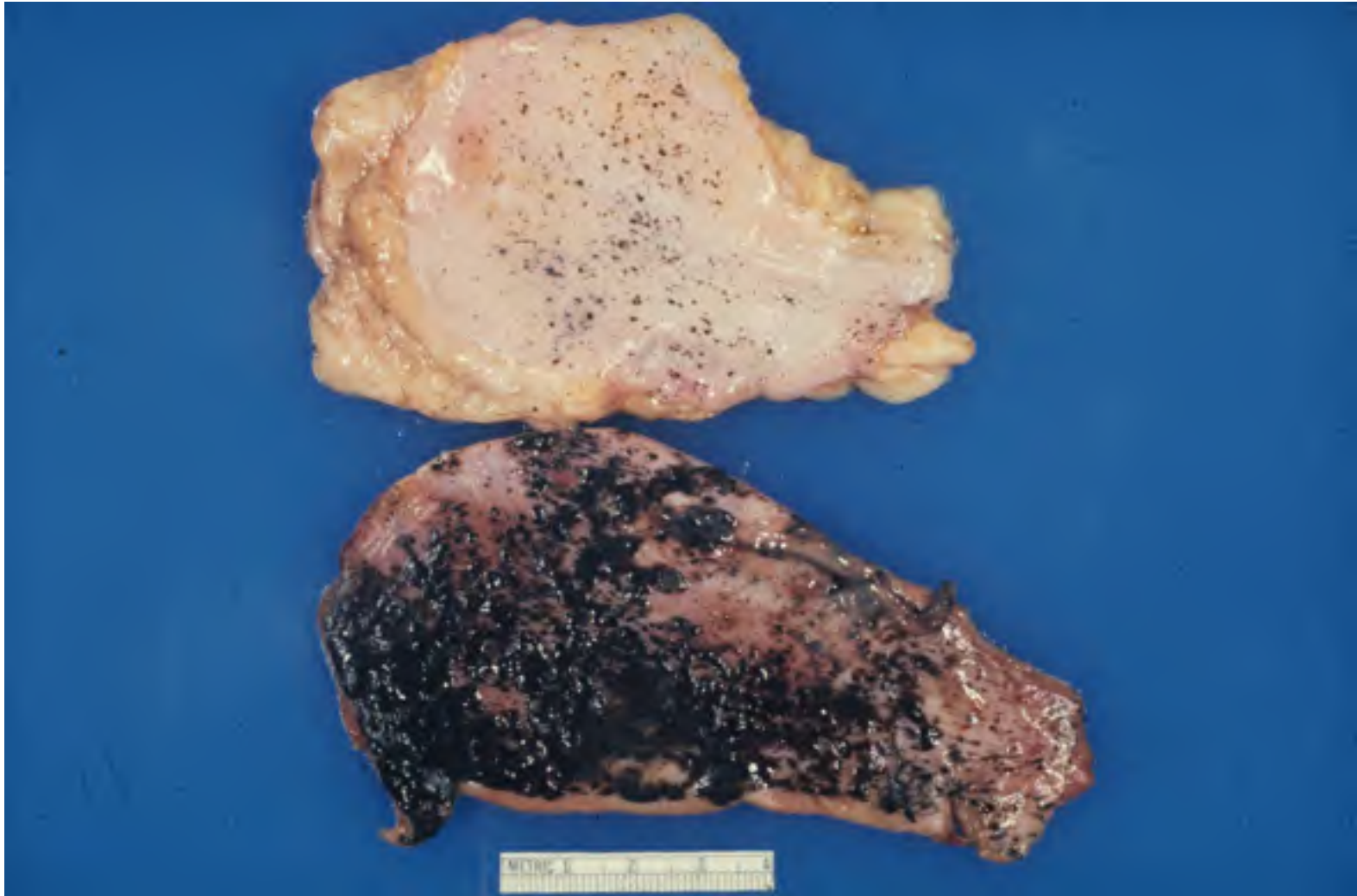




# PERITONEUM, CARCINOMATOSIS



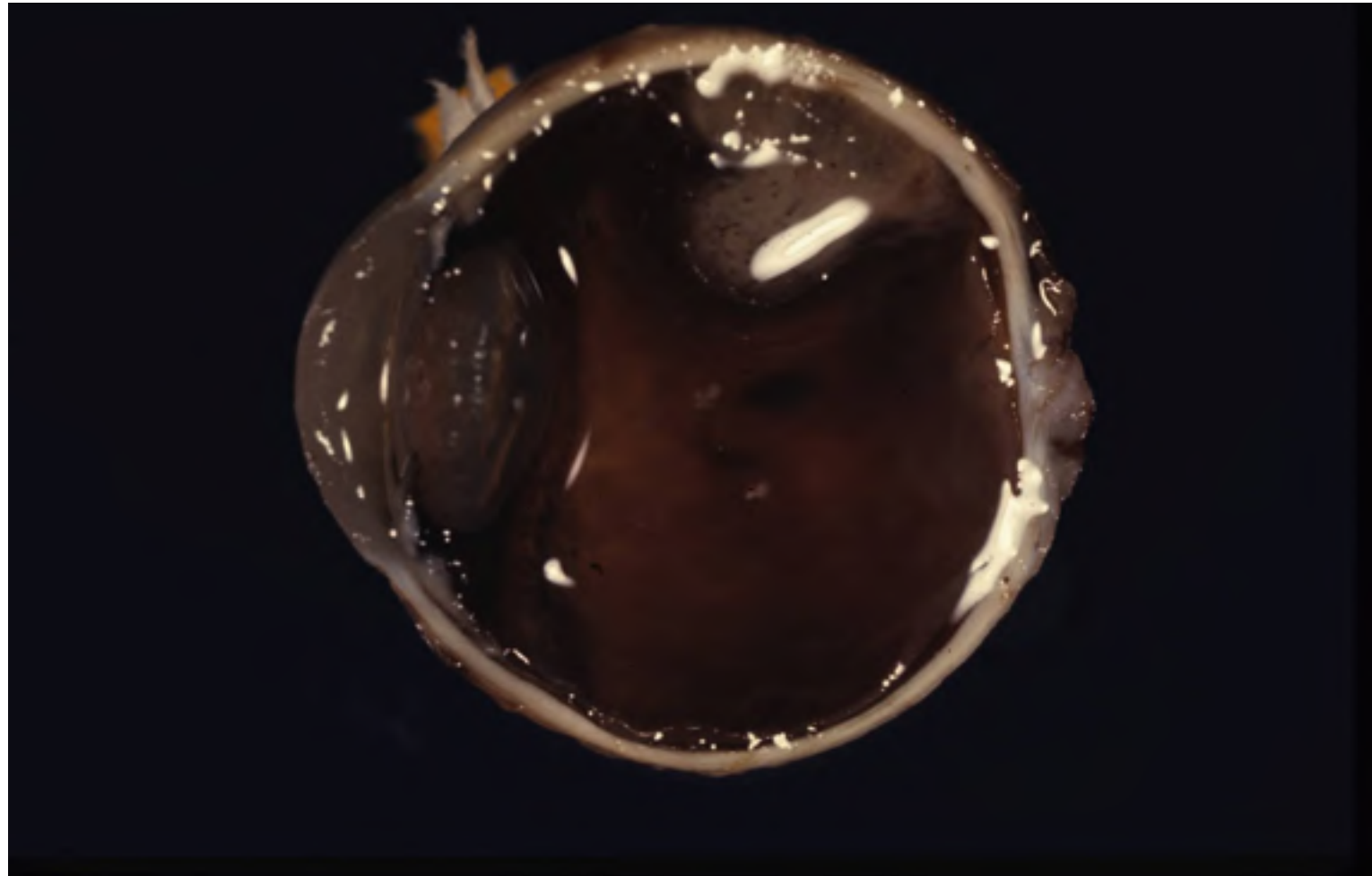
# PERITONEAL METASTASES



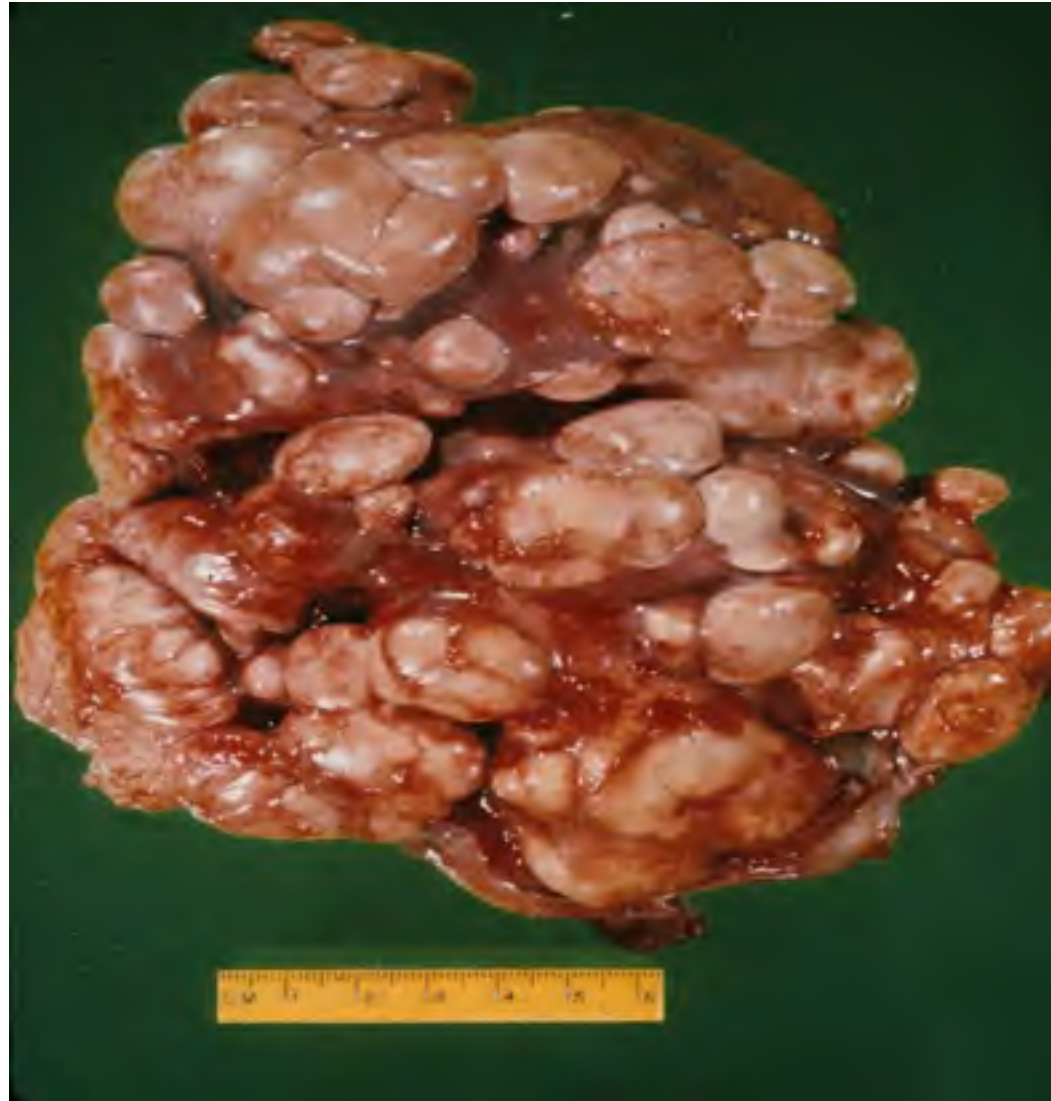
# LIVER, METASTASES



# EYE, PRIMARY MALIGNANT MELANOMA



# LUNG, METASTASES



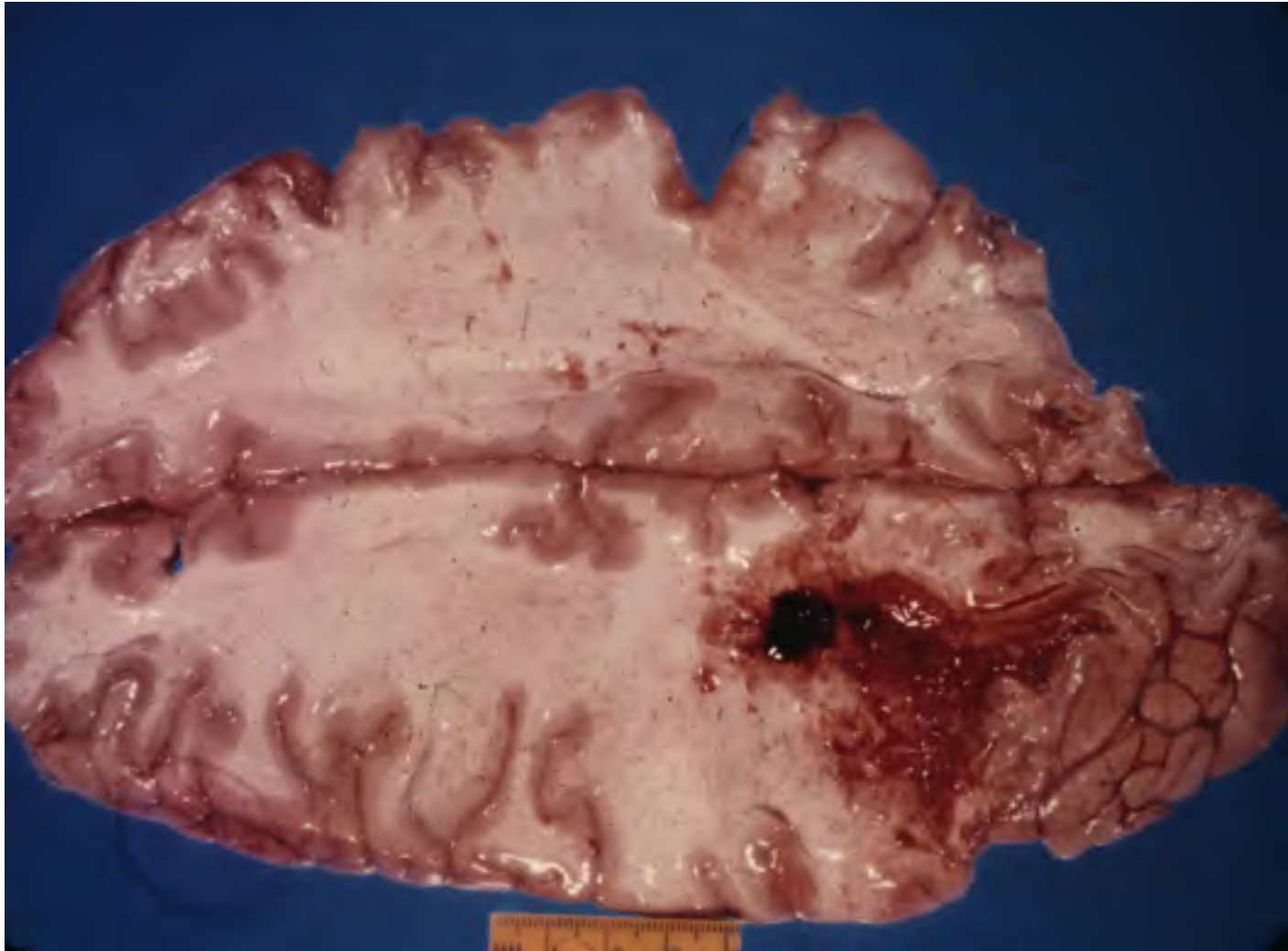
# VERTEBRAE, METASTASES



# VERTEBRA, METASTASIS

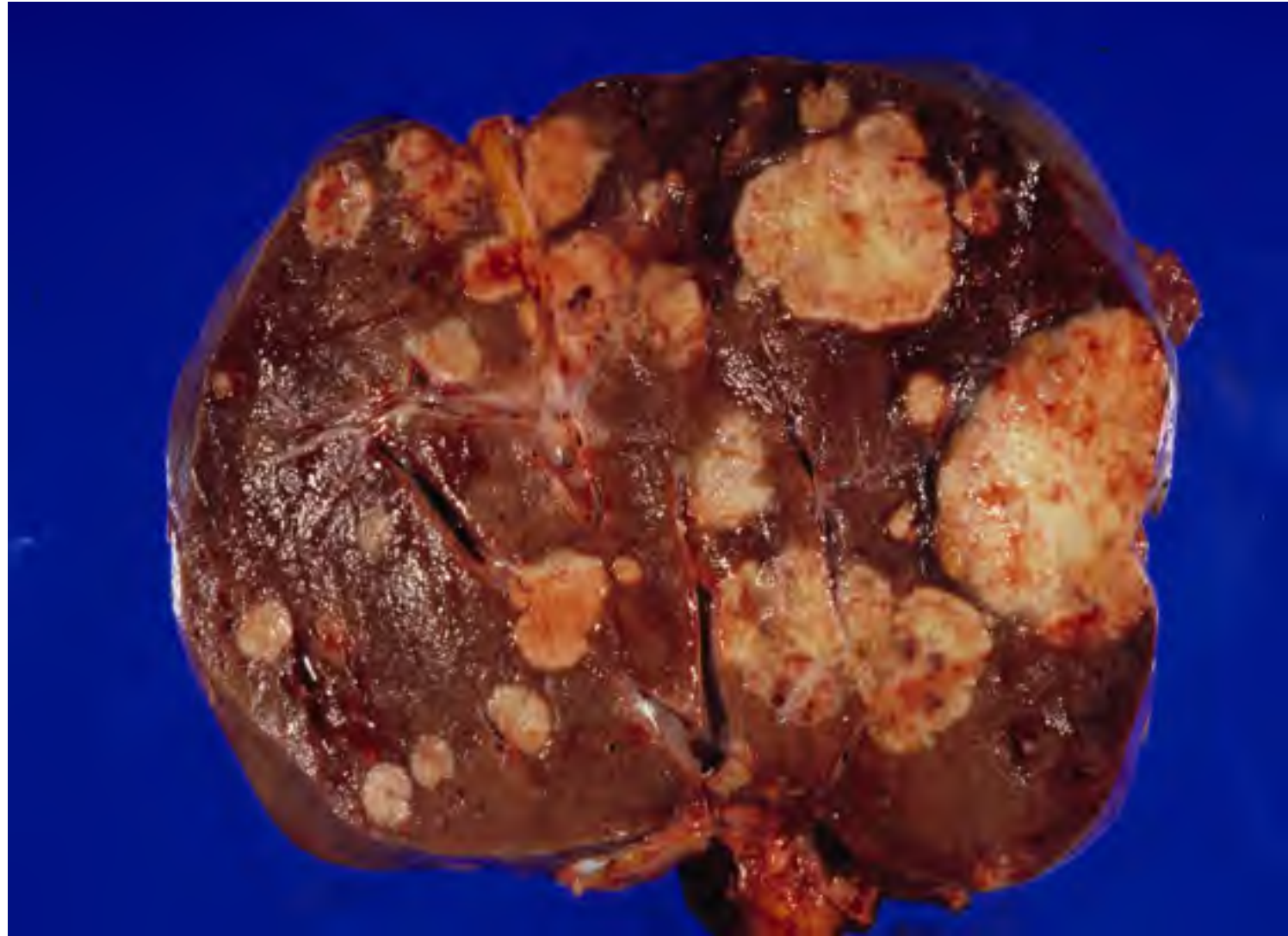


# BRAIN, METASTASIS





# LIVER, METASTASES



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