



# Neoplasia I: Tumor Nomenclature

Kristine Krafts, M.D.

# Why do we need a lecture about neoplasia?

- To understand patients better
- To understand oral neoplasms better
- To nail the neoplasia questions on boards
- This lecture covers:
  - the nature of benign and malignant neoplasms
  - how neoplasms start and grow
- Later lectures will cover:
  - the nature of specific neoplasms
  - how these neoplasms affect the patient

# Neoplasia Outline

- Tumor nomenclature
- Tumor characteristics
- Epidemiology
- Cancer pathogenesis

# Neoplasia Outline

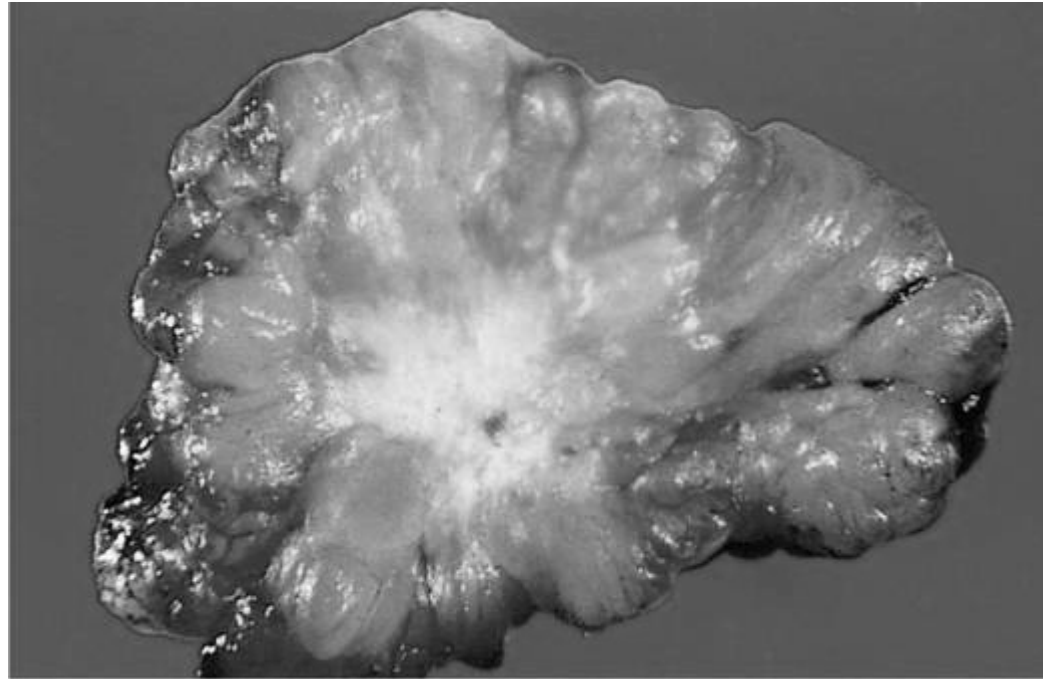
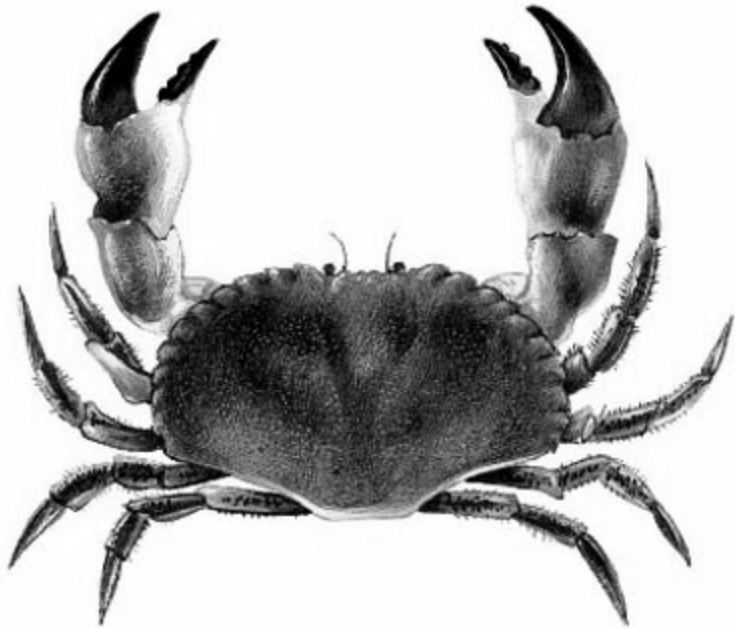
- Tumor nomenclature
  - Definitions
  - Benign tumors
  - Malignant tumors
  - Mixed tumors
  - Confusing terms

# Neoplasia Outline

- Tumor nomenclature
  - Definitions

# Definitions

- Neoplasm = mass of tissue that grows excessively, and keeps growing even if you remove the stimulus that started it off!
- Tumor = neoplasm
- Benign tumor = innocent-acting tumor
- Malignant tumor = evil-acting tumor



Cancer = Latin for “crab”

# Definitions

## Benign Tumors

- Small
- Slow-growing
- Non-invasive
- Well-differentiated
- Stay localized

## Malignant Tumors

- Large
- Fast-growing
- Invasive
- Poorly-differentiated
- Metastasize



# Definitions

## Benign Tumors

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# Definitions

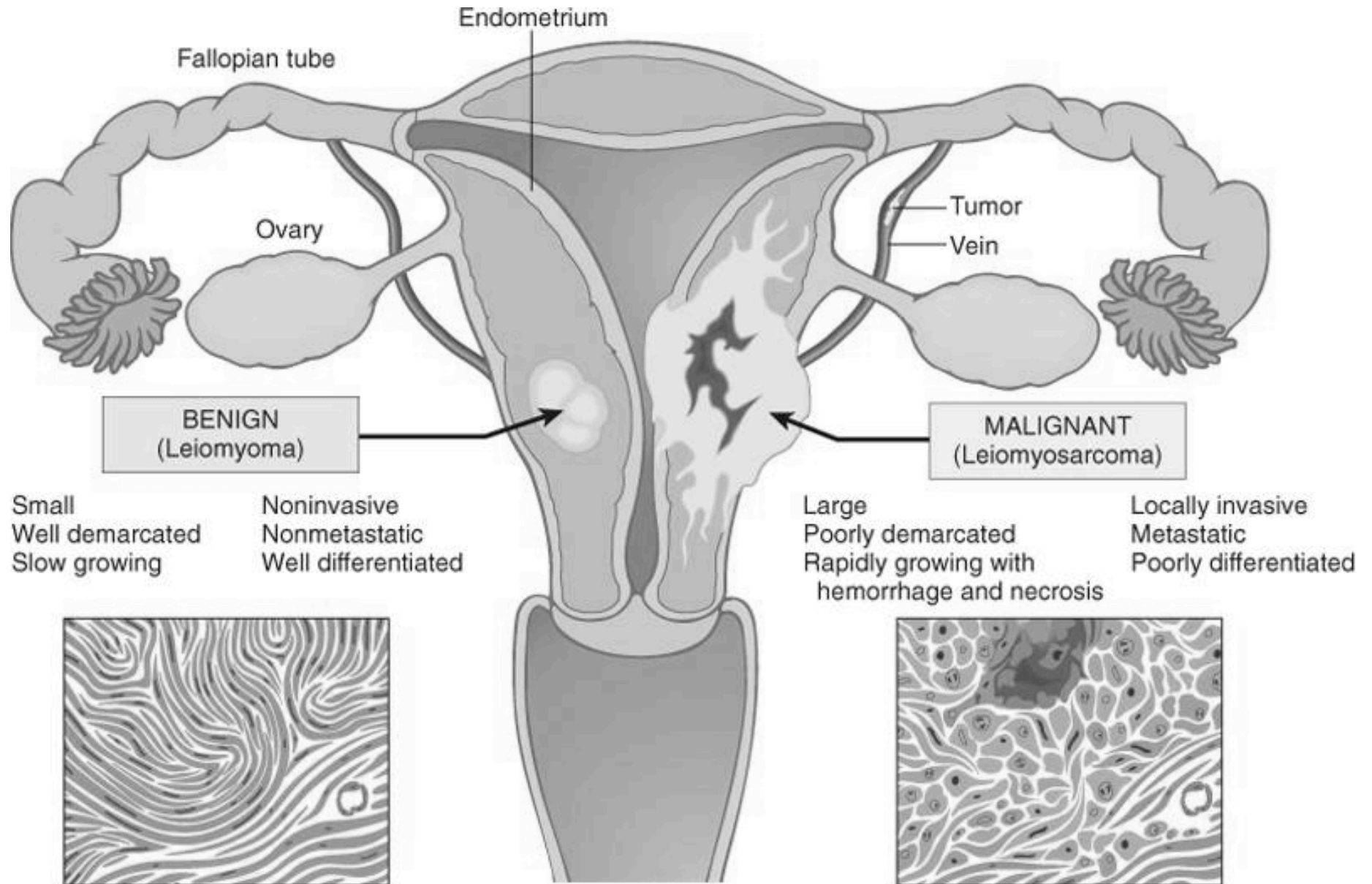
The only indisputable quality of malignancy is

**metastasis!**

Benign tumors CANNOT metastasize;  
malignant tumors CAN.

If it is metastatic, it MUST BE malignant.

# Benign vs. Malignant



# Neoplasia Outline

- Tumor nomenclature
  - Definitions
  - Benign tumors

Meet the only guy who changes his identity  
more often than his underwear.

**F**etch.  
Until last week, he  
was just another  
mild-mannered  
reporter fighting  
for truth, justice  
and a window office.

Now he's being  
threatened, shot at,  
accused and arrested.  
And that's by the  
people he's trying  
to help.

But there's still one  
thing even more  
dangerous than  
his work.

His love life.



CHEVY CHASE  
**Fletch**

MICHAEL RITCHEY  
DOUGLAS GREISMAN  
JOE DON BAKER - DANA WHEELER - NICHOLSON - RICHARD LIBERTINI - KAREEM ABDUL - JABBAR  
TIM MATHESON  
ANDREW BERGMAN  
GREGORY MCDONALD  
HAROLD FALTERMEYER  
BORIS LEVEN  
FRED SCHULER  
ALAN GREISMAN  
PETER DOUGLAS  
MICHAEL RITCHEY  
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[Read the ABC's Book] [Soundtrack available on MCA Records & Cassette] [CC] [UNIVERSAL] A UNIVERSAL PICTURE

85043  
FLETCH



Dr. Rosenpenis



“  
carcinoma...some kind  
of noma.”

Dr. Rosenpenis

# Benign Tumors

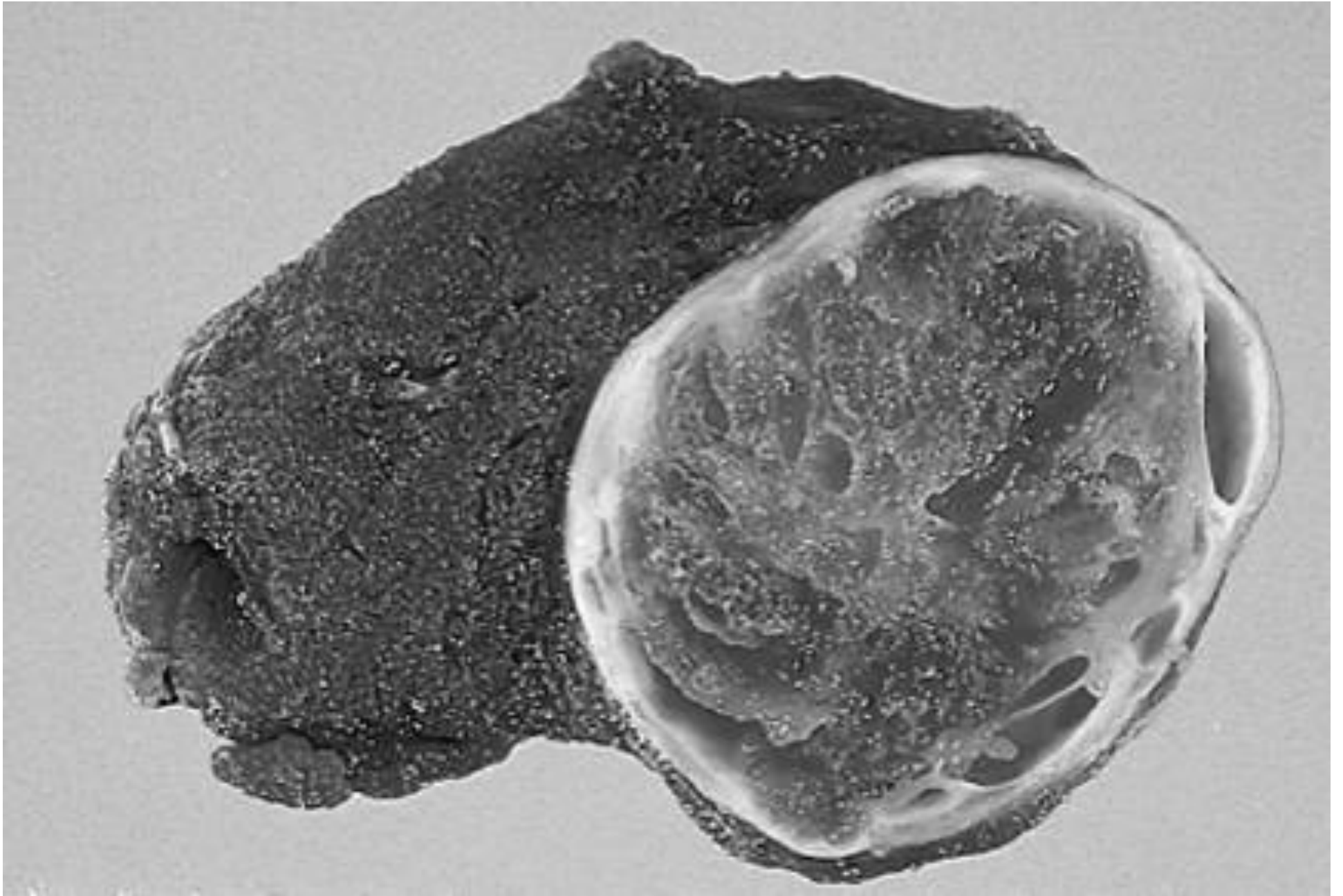
Usually designated by adding “-oma” to cell type

- adenoma: benign tumor of glandular cells
- leiomyoma: benign tumor of smooth muscle cells
- chondroma: benign tumor of chondrocytes

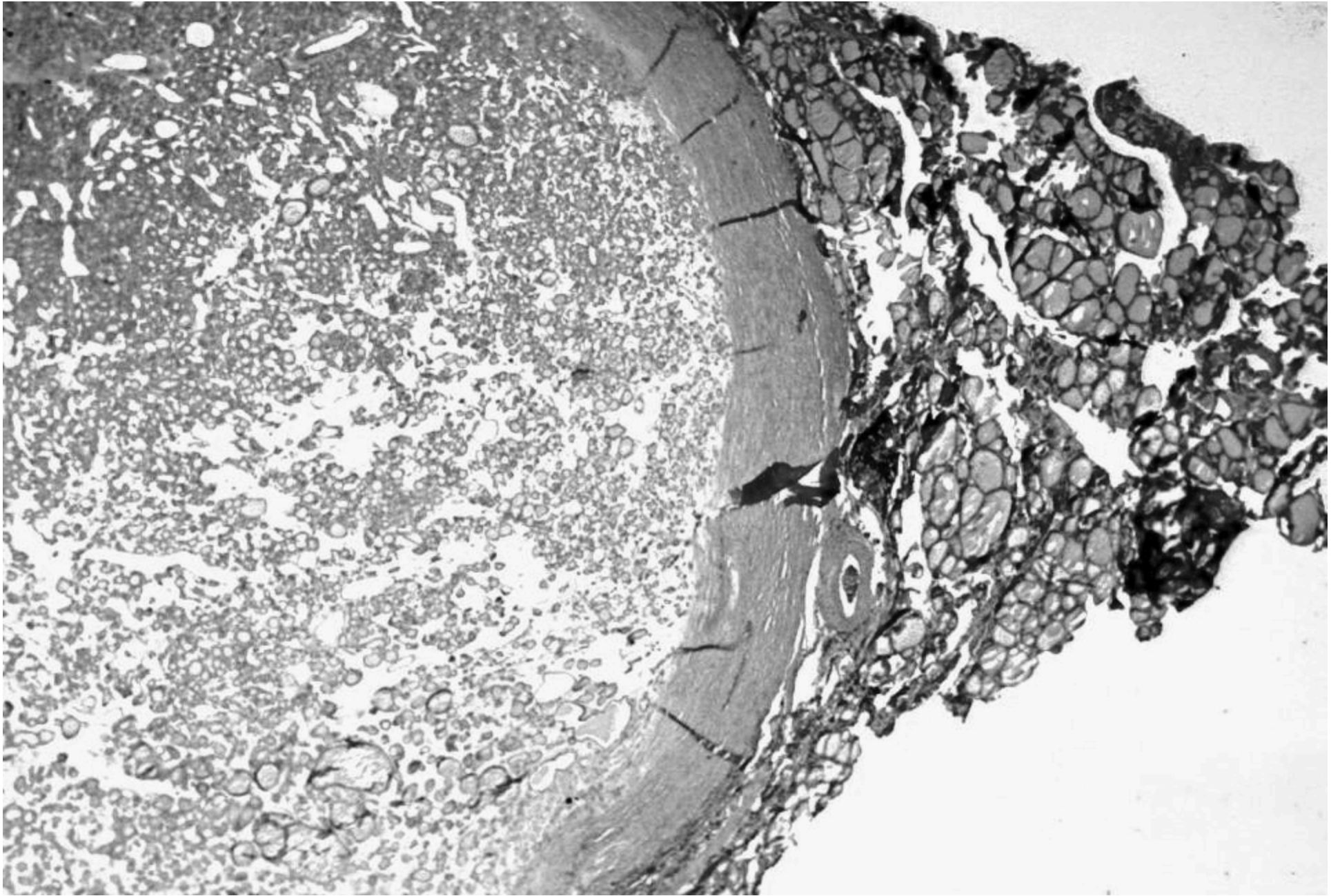
Other benign tumor names

- papilloma: has finger-like projections
- polyp: projects upward, forming a lump
- cystadenoma: has hollow spaces (cysts) inside

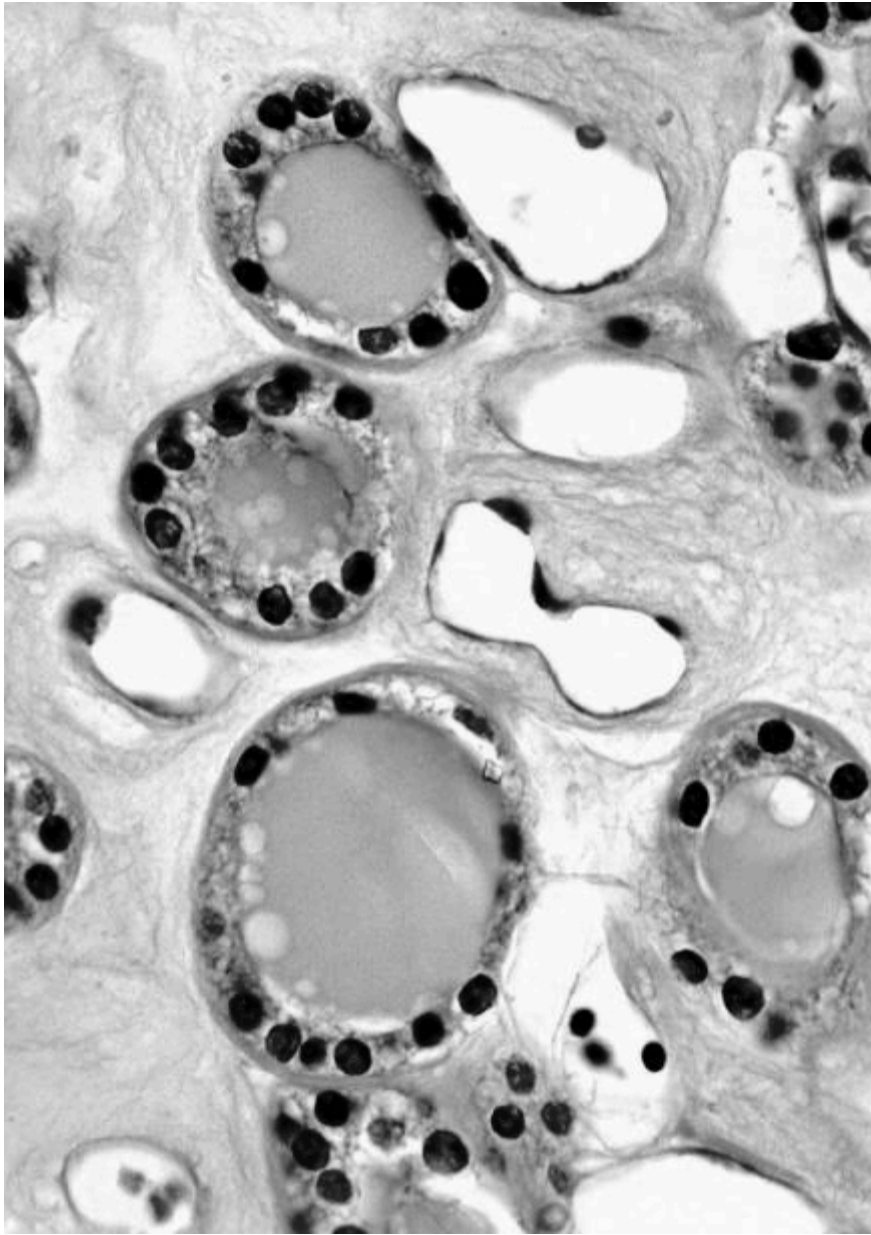




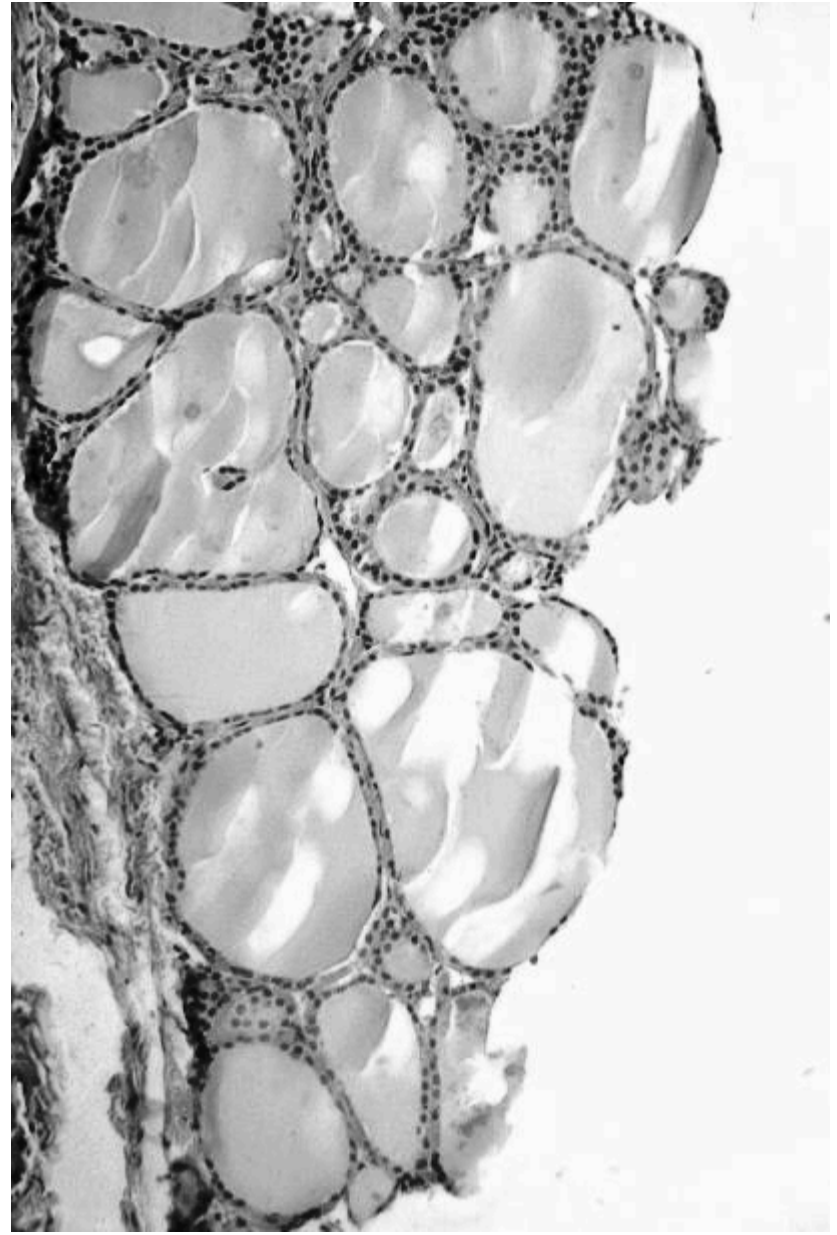
Thyroid adenoma



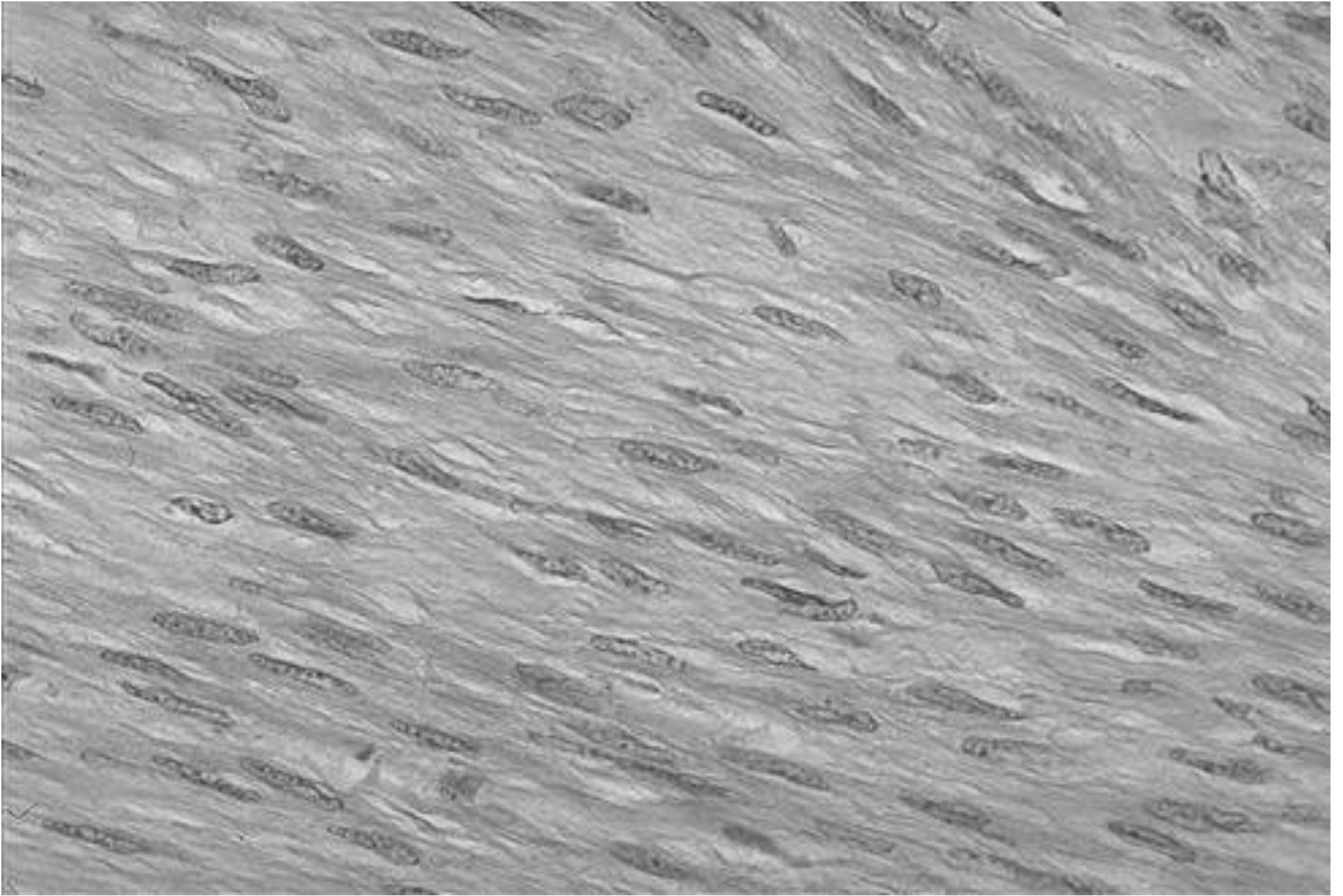
Thyroid adenoma



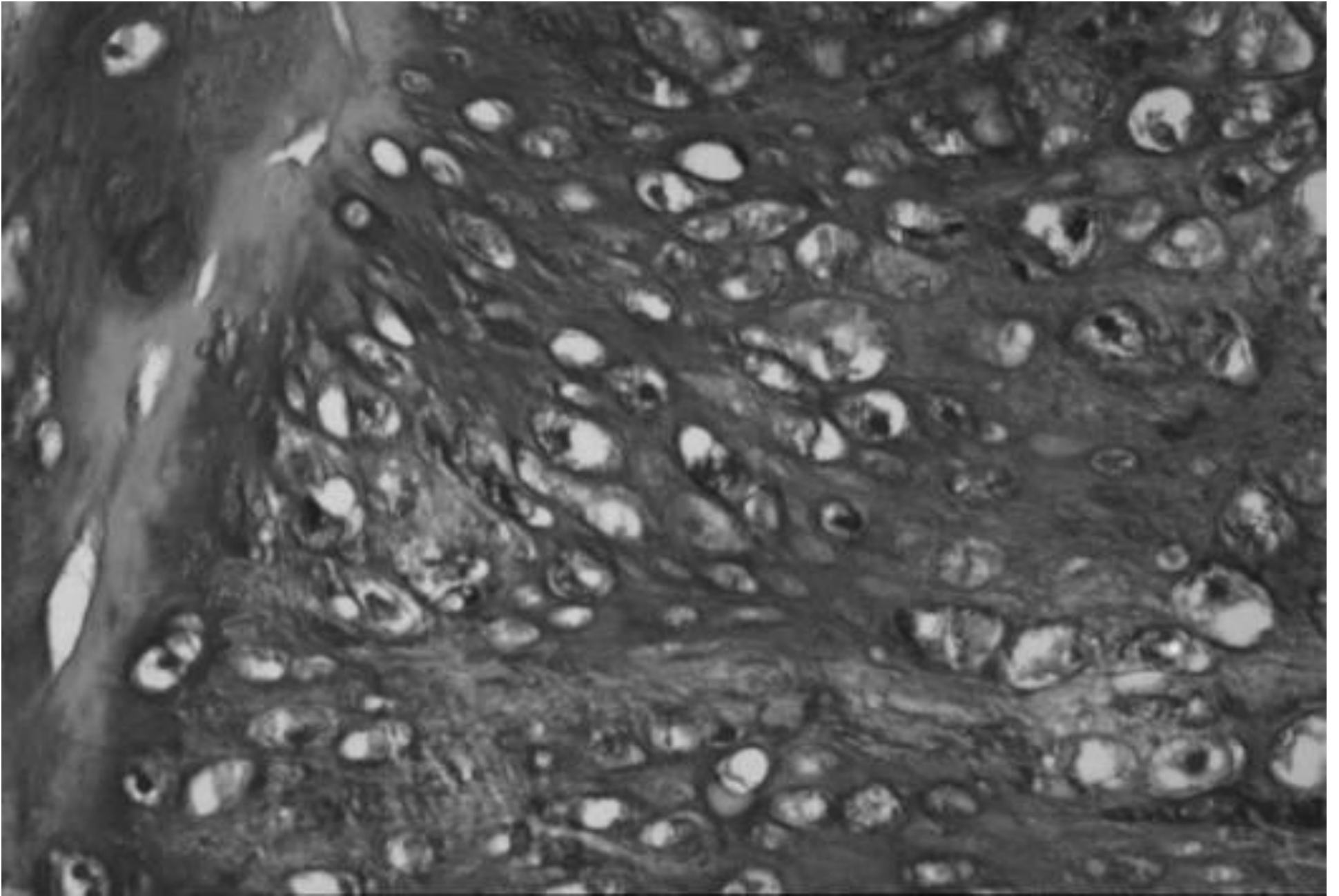
Thyroid adenoma



Normal thyroid



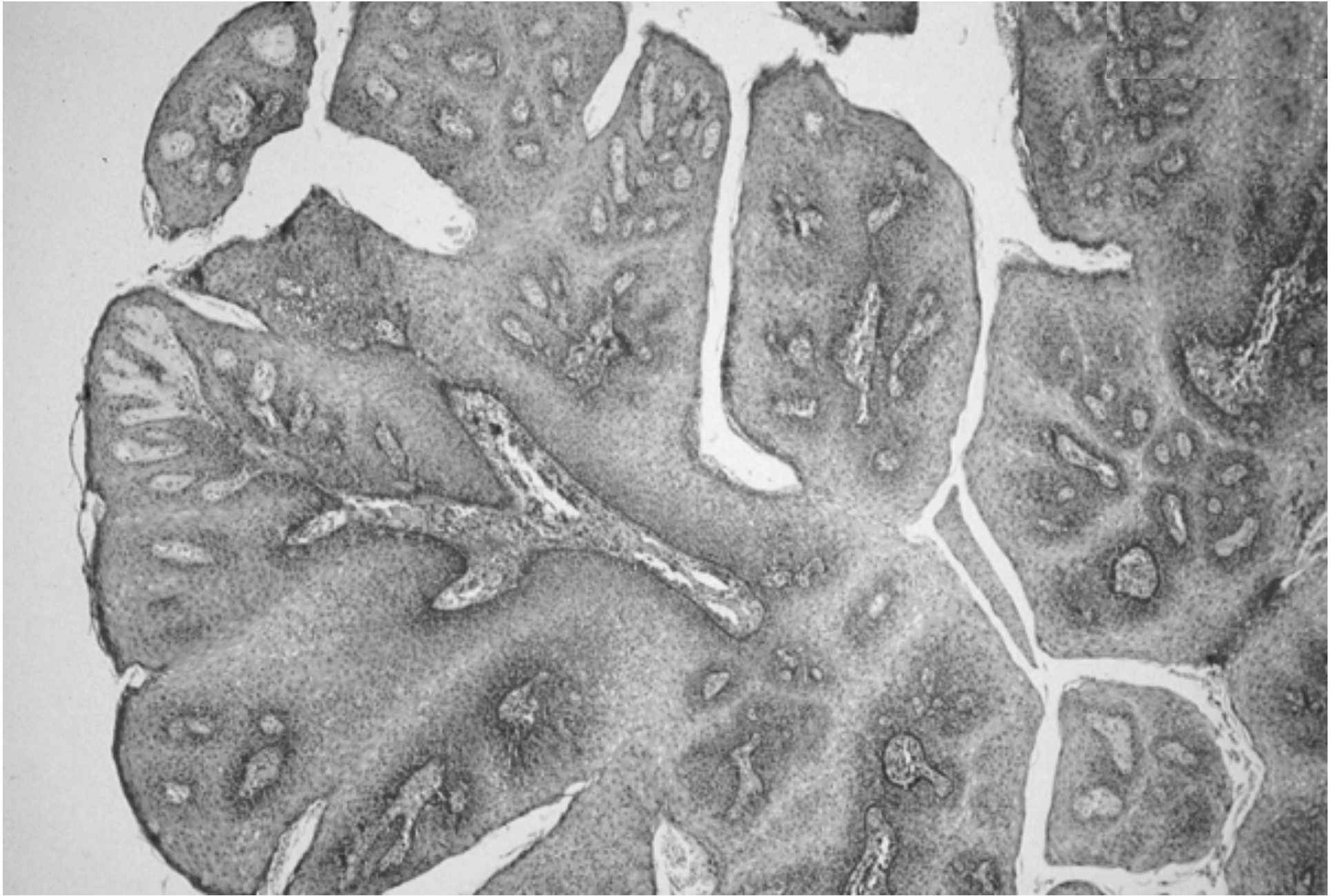
Leiomyoma



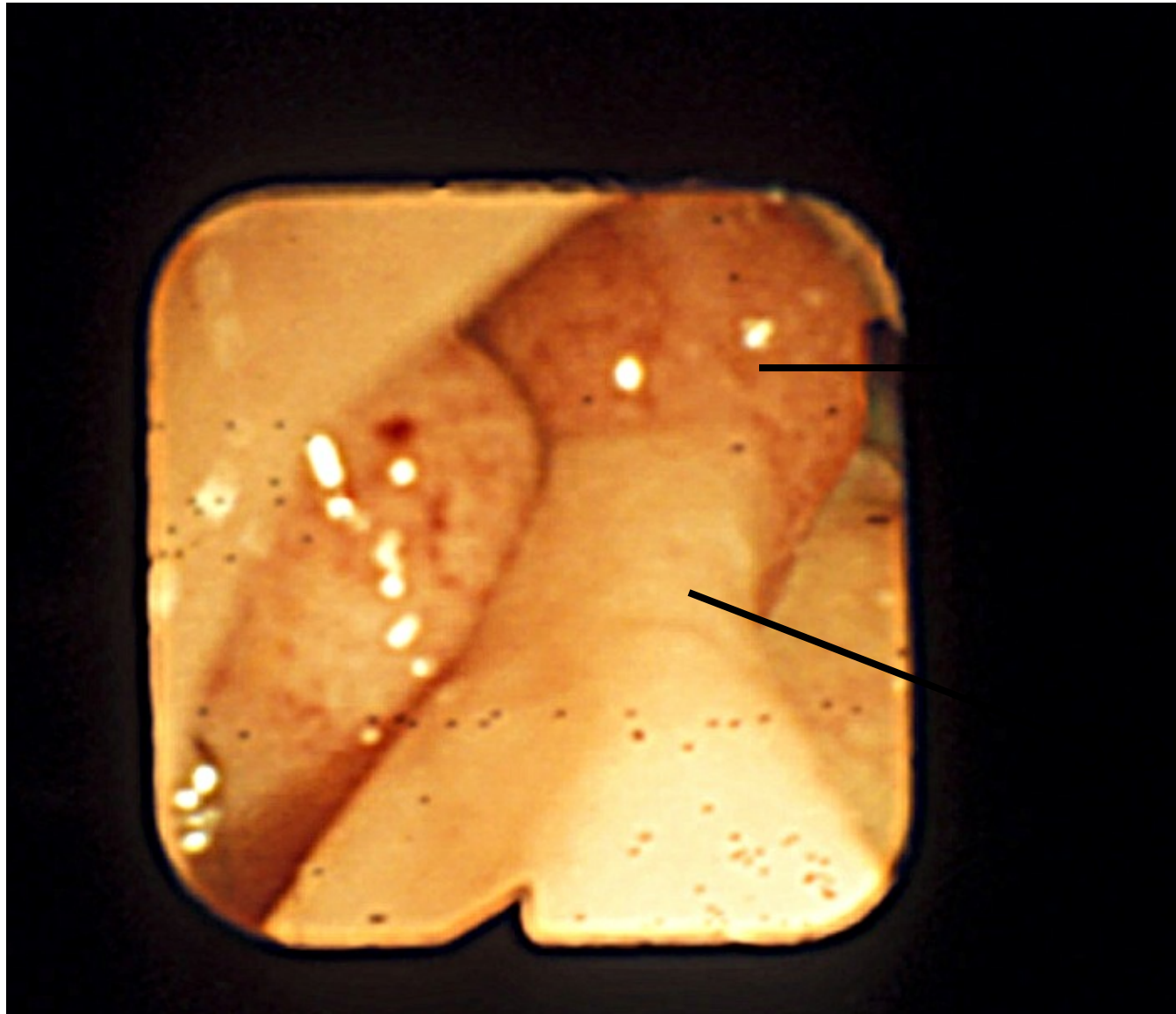
Chondroma



Oral papilloma

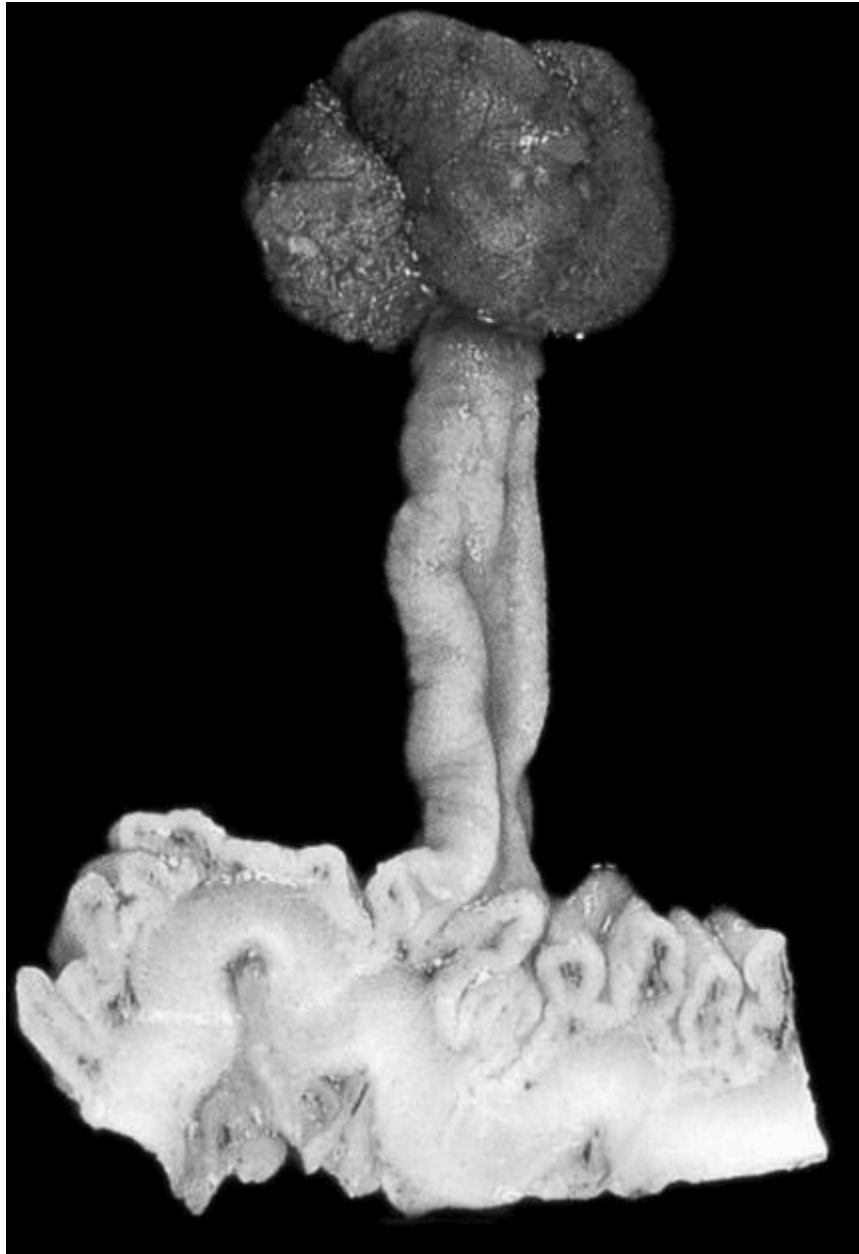


Oral papilloma



Colon polyp





Colon polyp



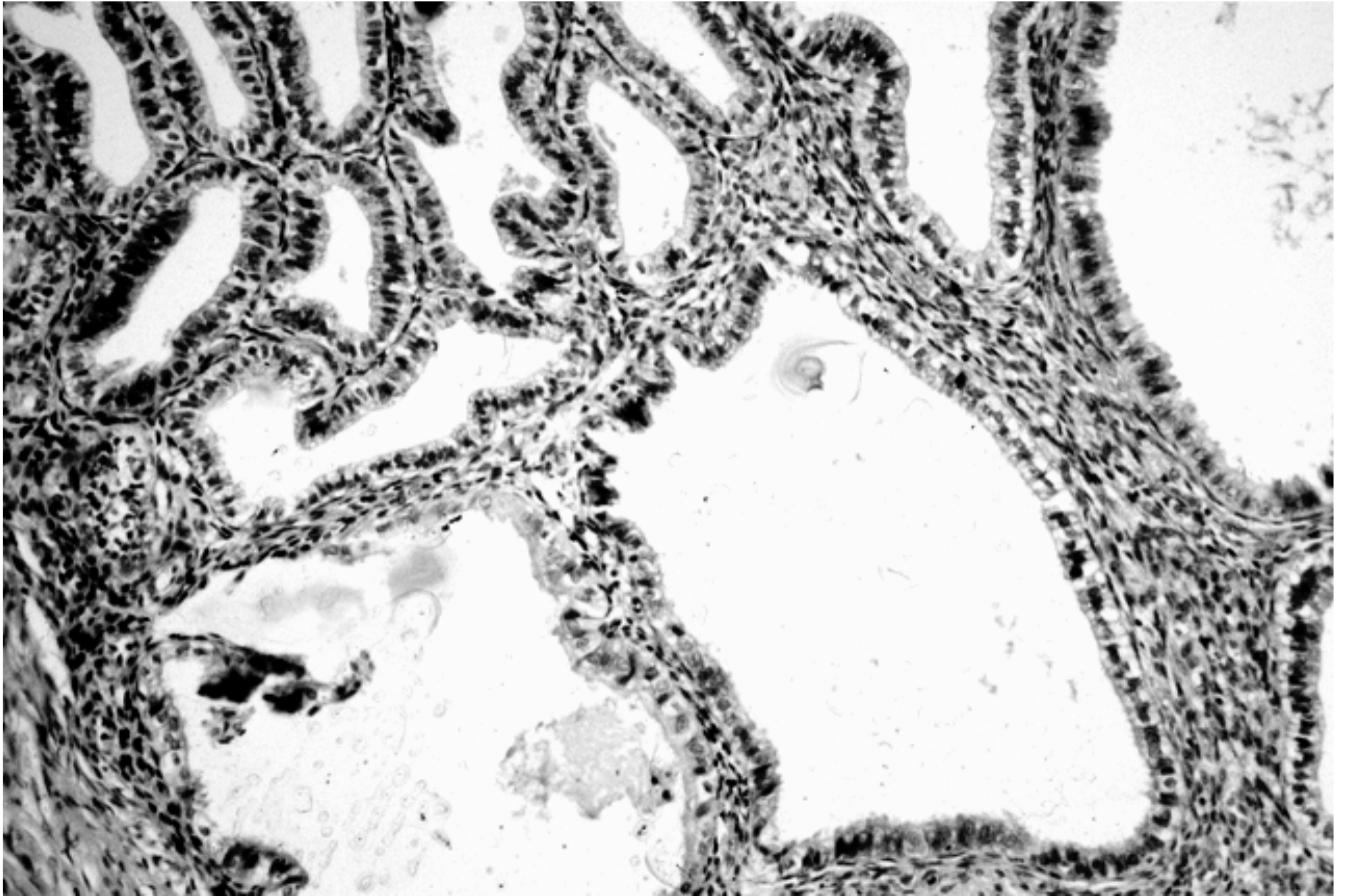
Colon polyp



Ovarian cystadenoma



Ovarian cystadenoma



Ovarian cystadenoma

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  - Malignant tumors

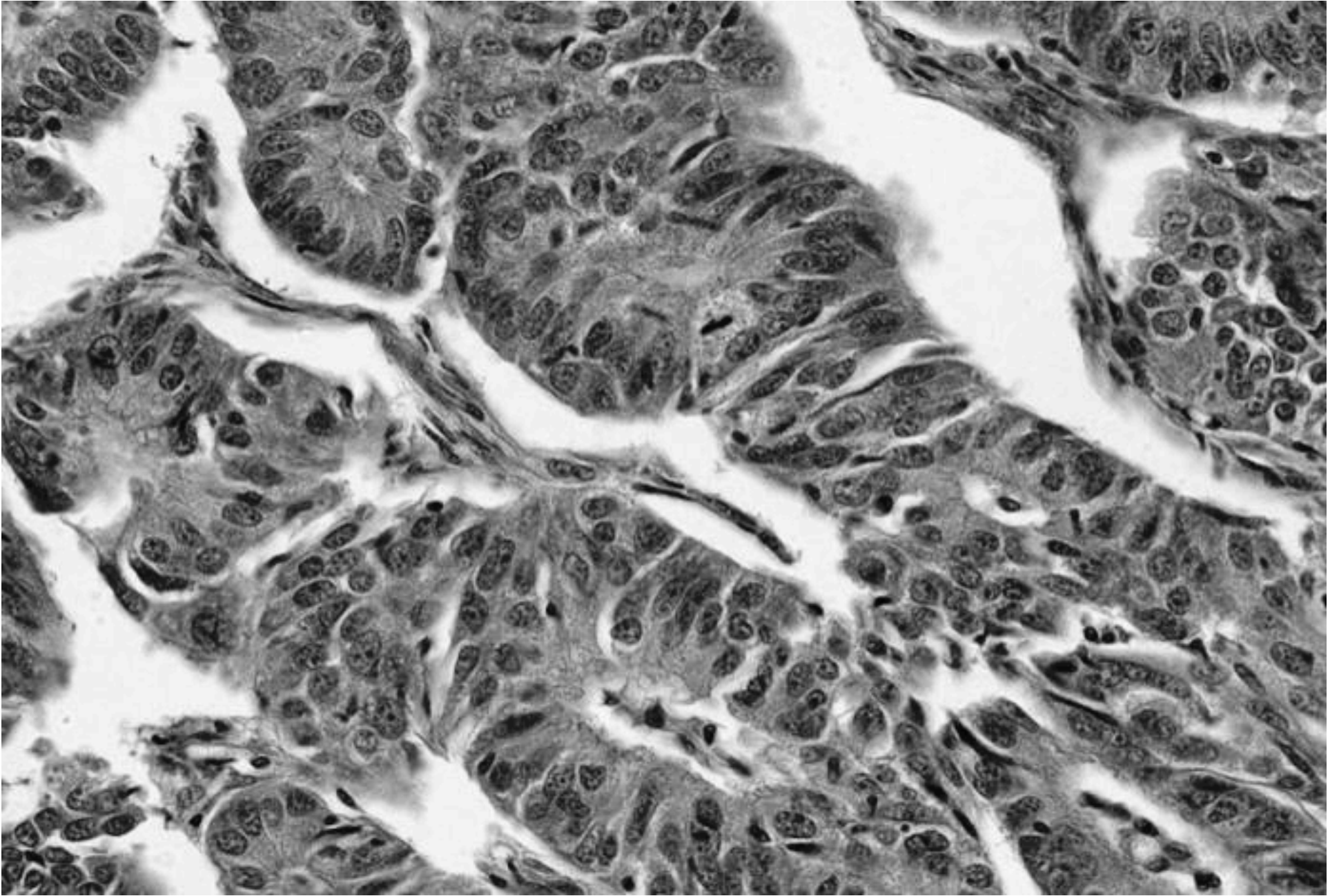
# Malignant Tumors

Carcinomas arise in epithelial tissue

- adenocarcinoma: malignant tumor of glandular cells
- squamous cell carcinoma: malignant tumor of squamous cells

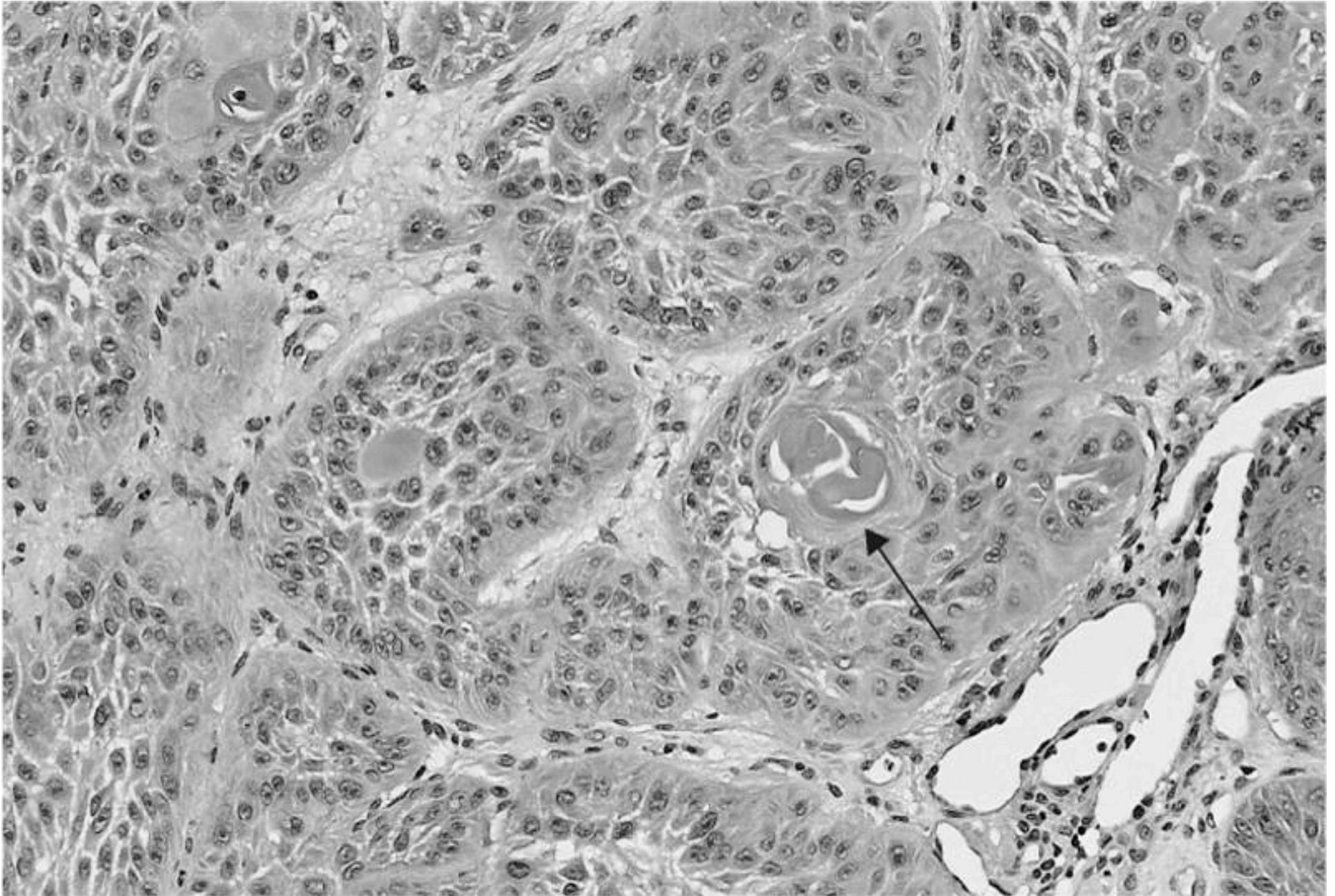
Sarcomas arise in mesenchymal tissue

- chondrosarcoma: malignant tumor of chondrocytes
- angiosarcoma: malignant tumor of blood vessels
- rhabdomyosarcoma: malignant tumor of skeletal muscle cells

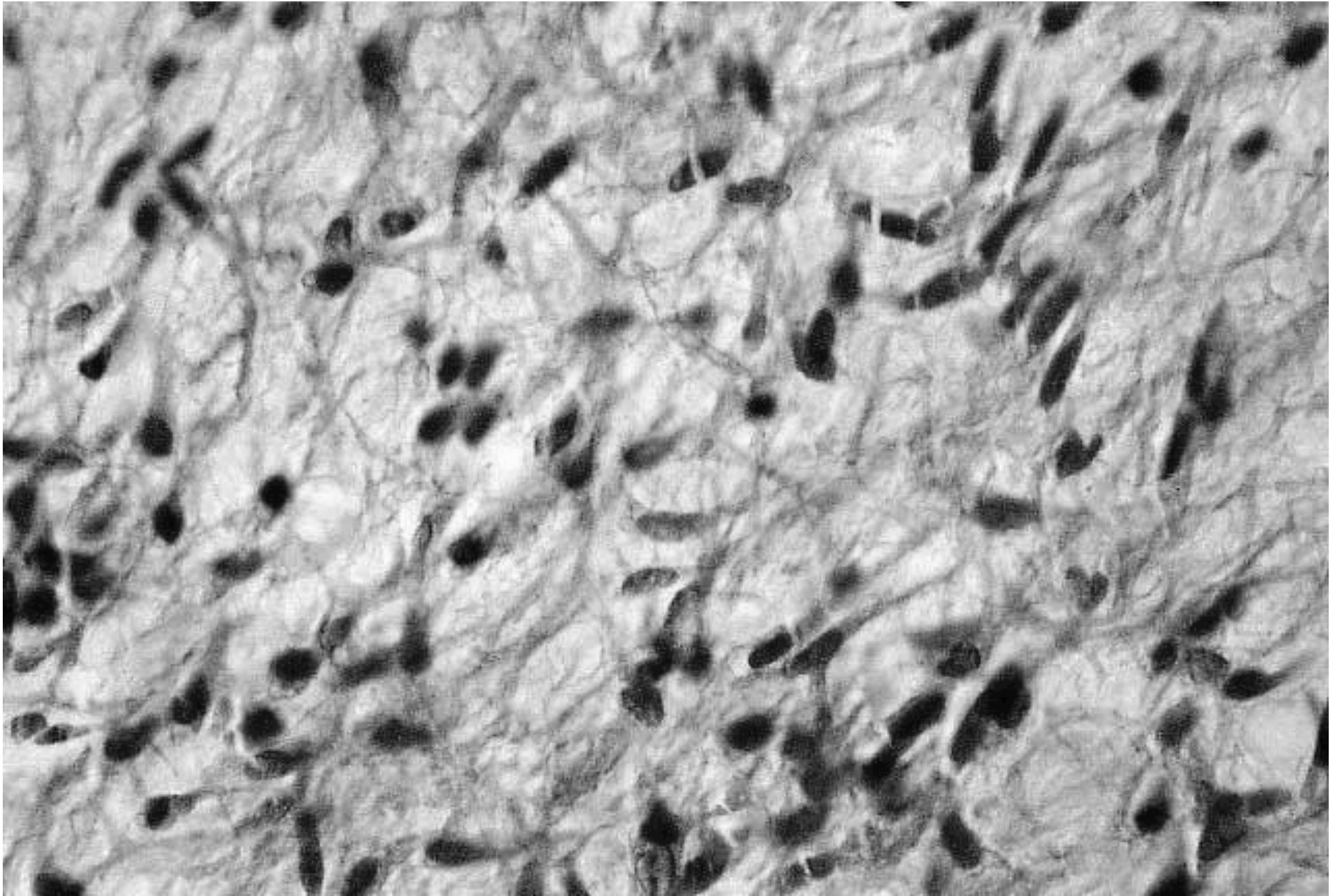


Adenocarcinoma

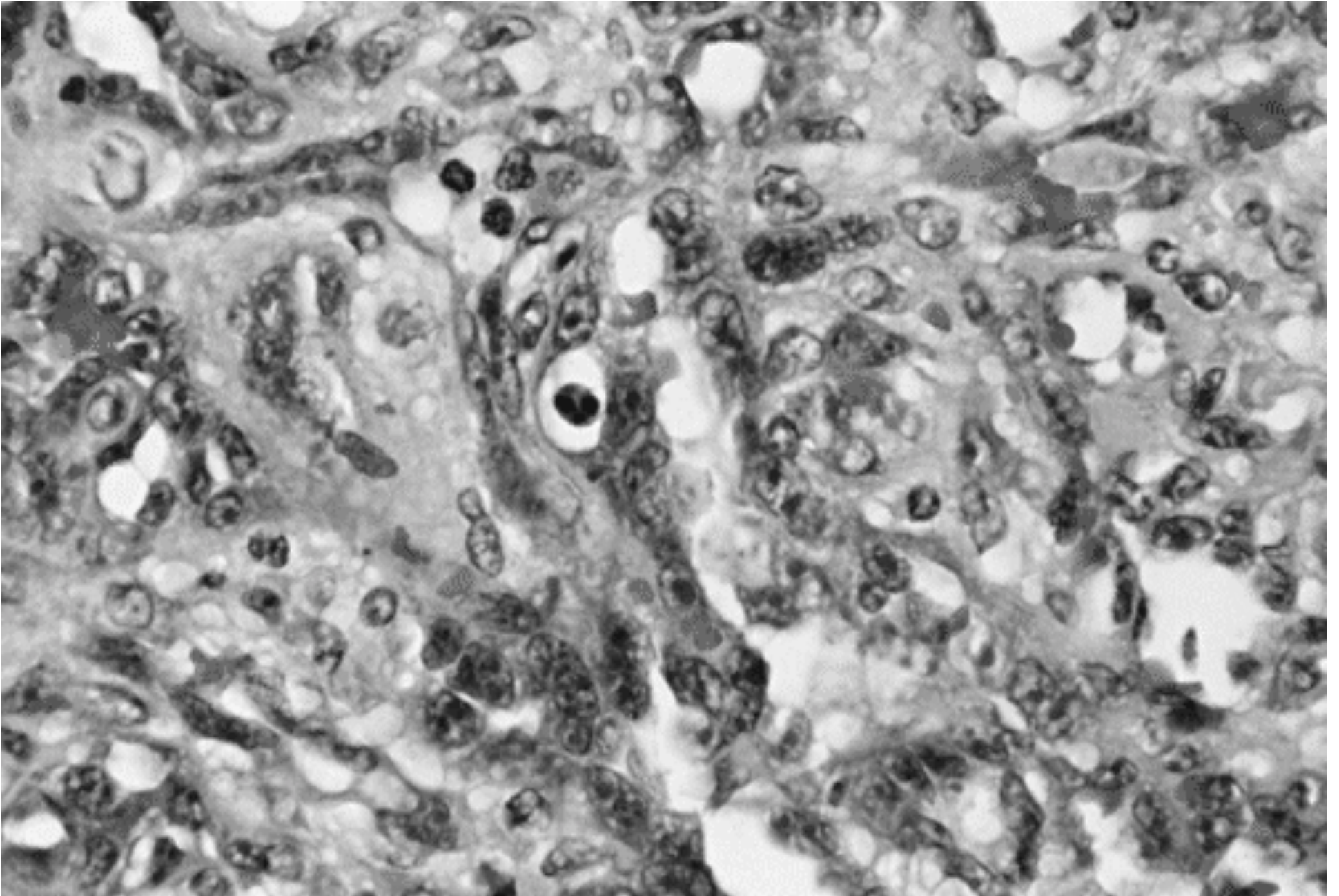




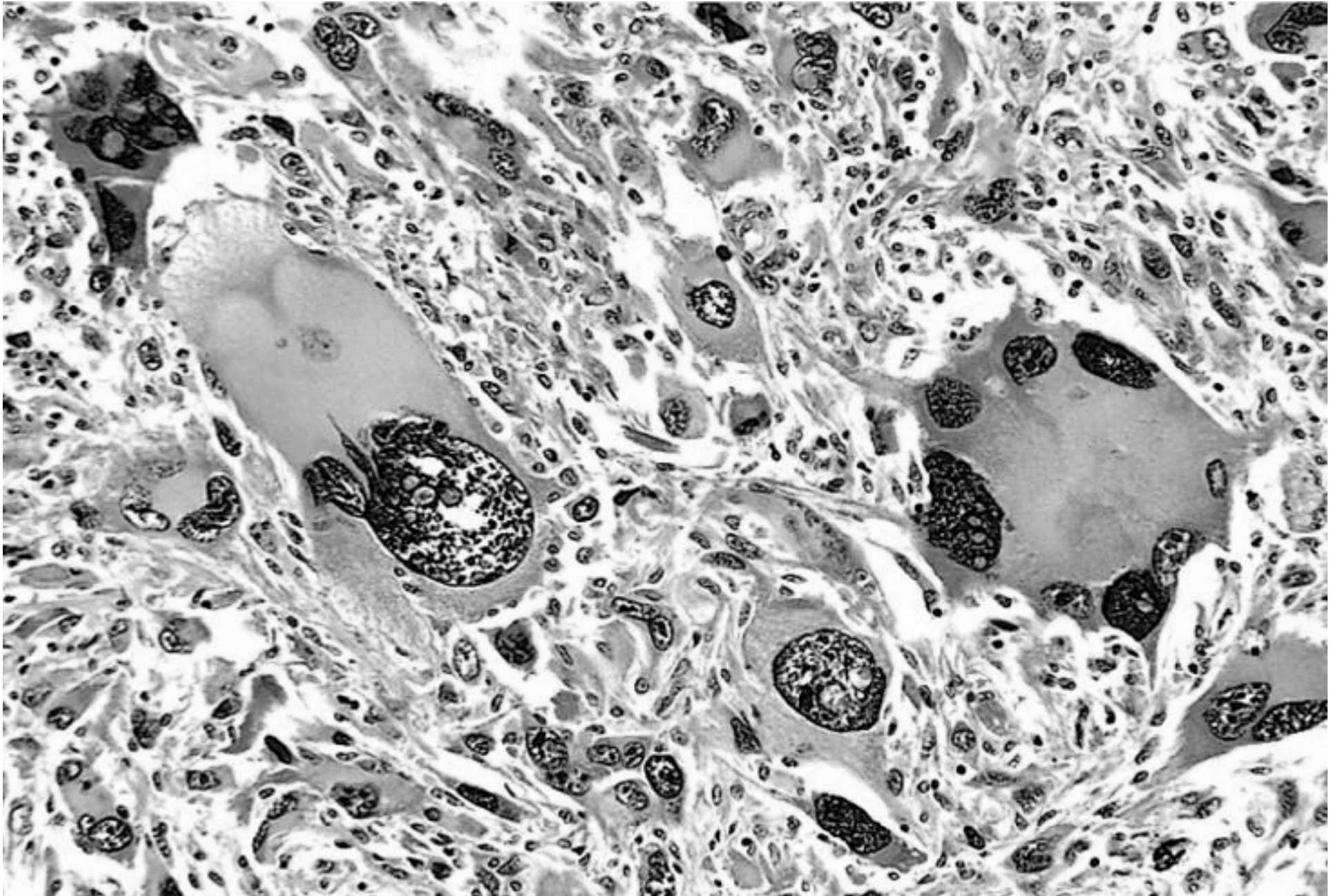
Squamous cell carcinoma



Chondrosarcoma



Angiosarcoma



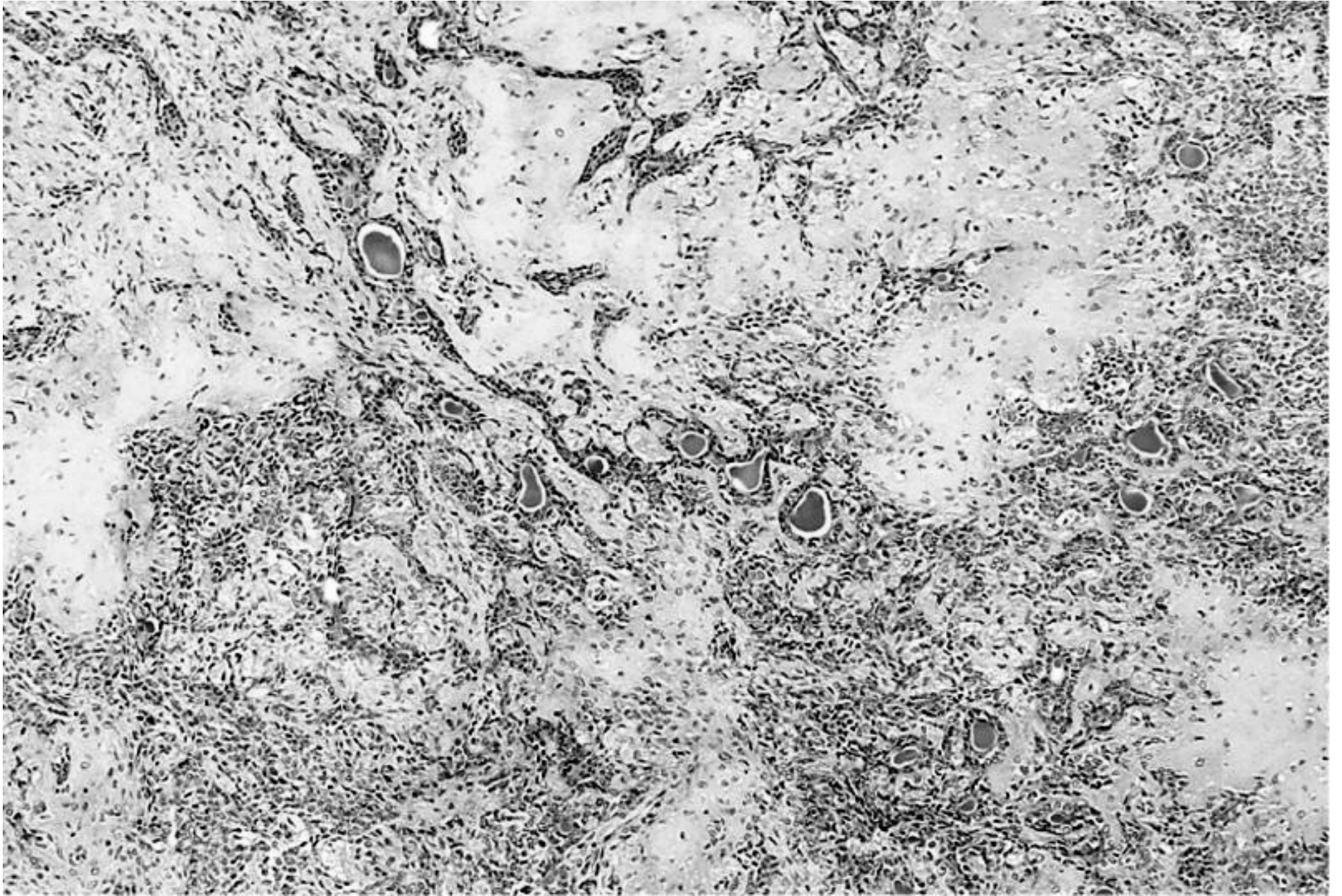
Rhabdmyosarcoma

# Neoplasia Outline

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  - Mixed tumors

# Mixed Tumors

- “Mixed” tumors show divergent differentiation
- Examples
  - pleomorphic adenoma – glands + fibromyxoid stroma
  - fibroadenoma – glands + fibrous tissue
- Not to be confused with teratomas



Pleomorphic adenoma

# Neoplasia Outline

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  - Confusing terms



# Confusing Terms

## Malignant tumors that sound benign

- lymphoma
- mesothelioma
- melanoma
- seminoma

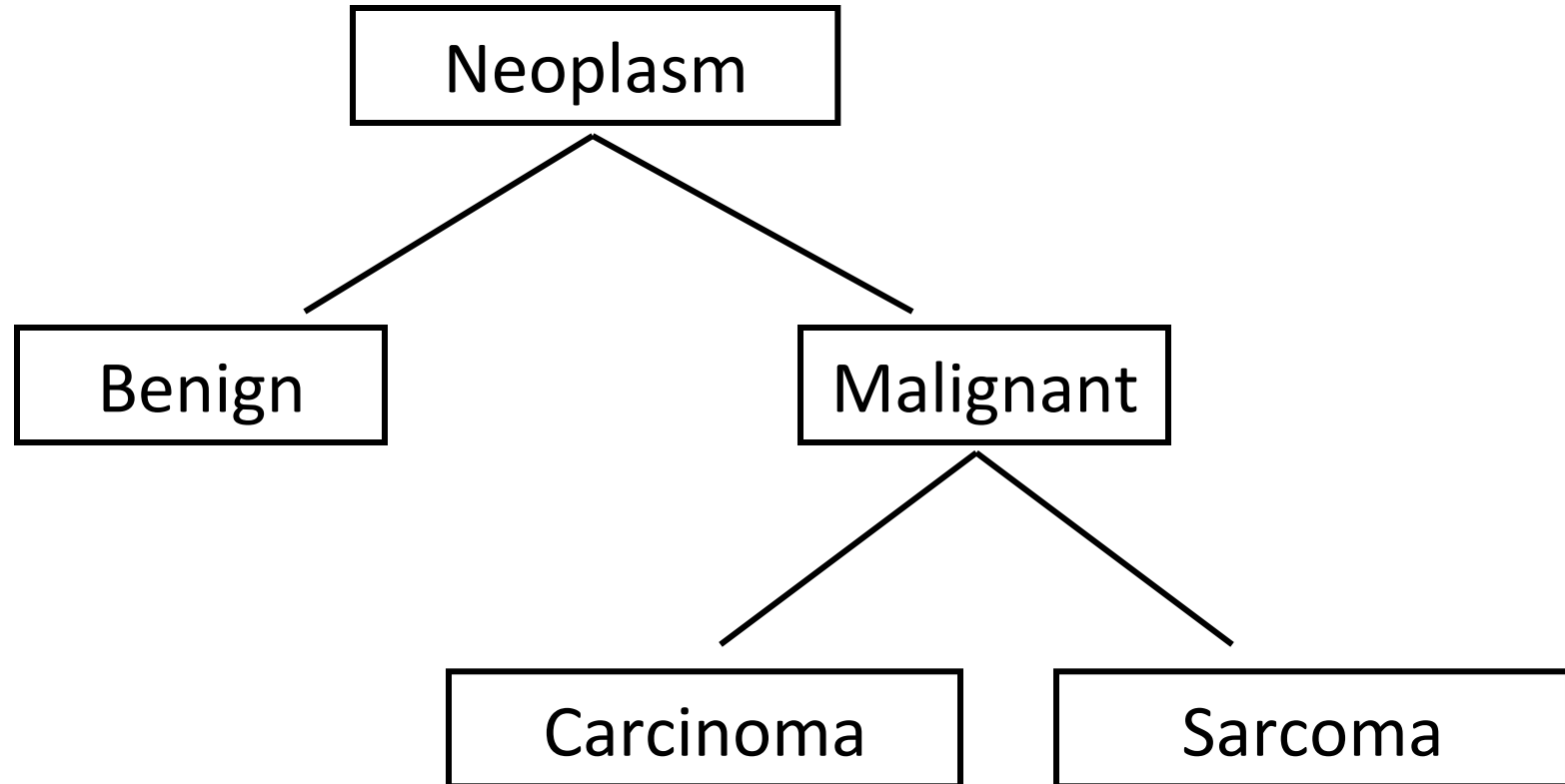
## Non-tumors that sound like tumors

- hamartoma: mass of disorganized indigenous tissue
- angiosarcoma: heterotopic rest of cells

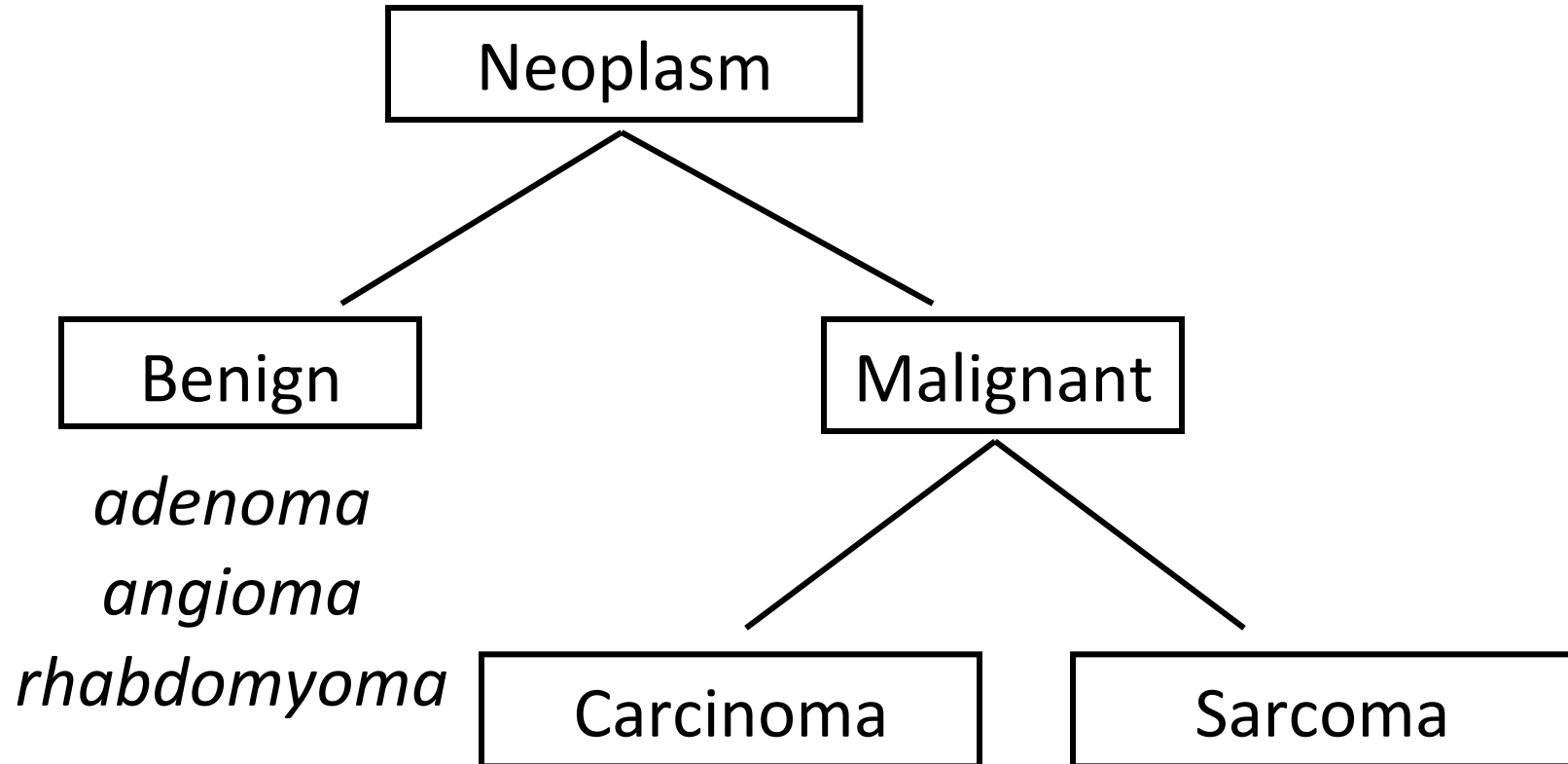
## Names that seem to come out of nowhere

- nevus
- leukemia
- hydatidiform mole

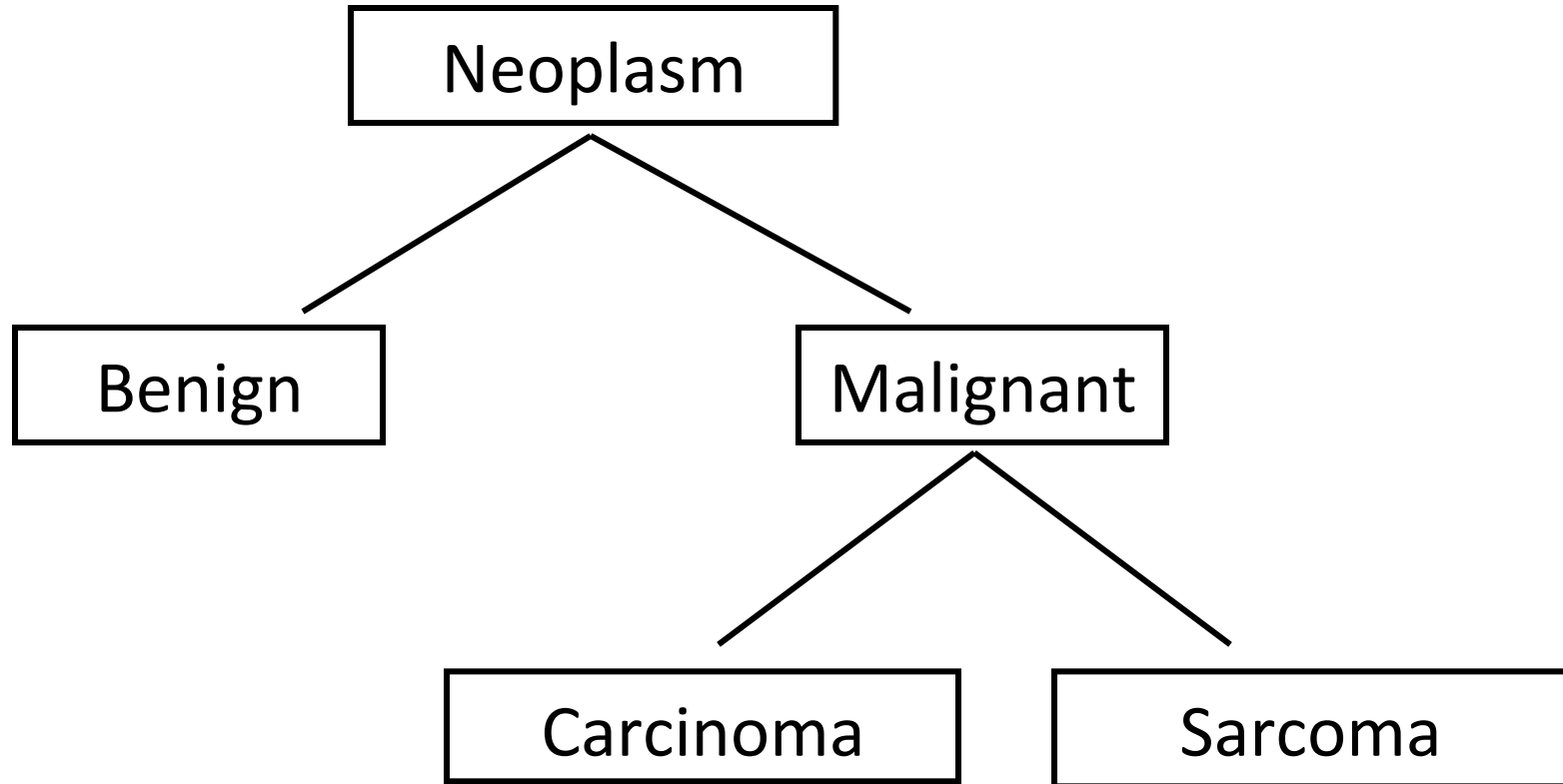
# Nomenclature



# Nomenclature

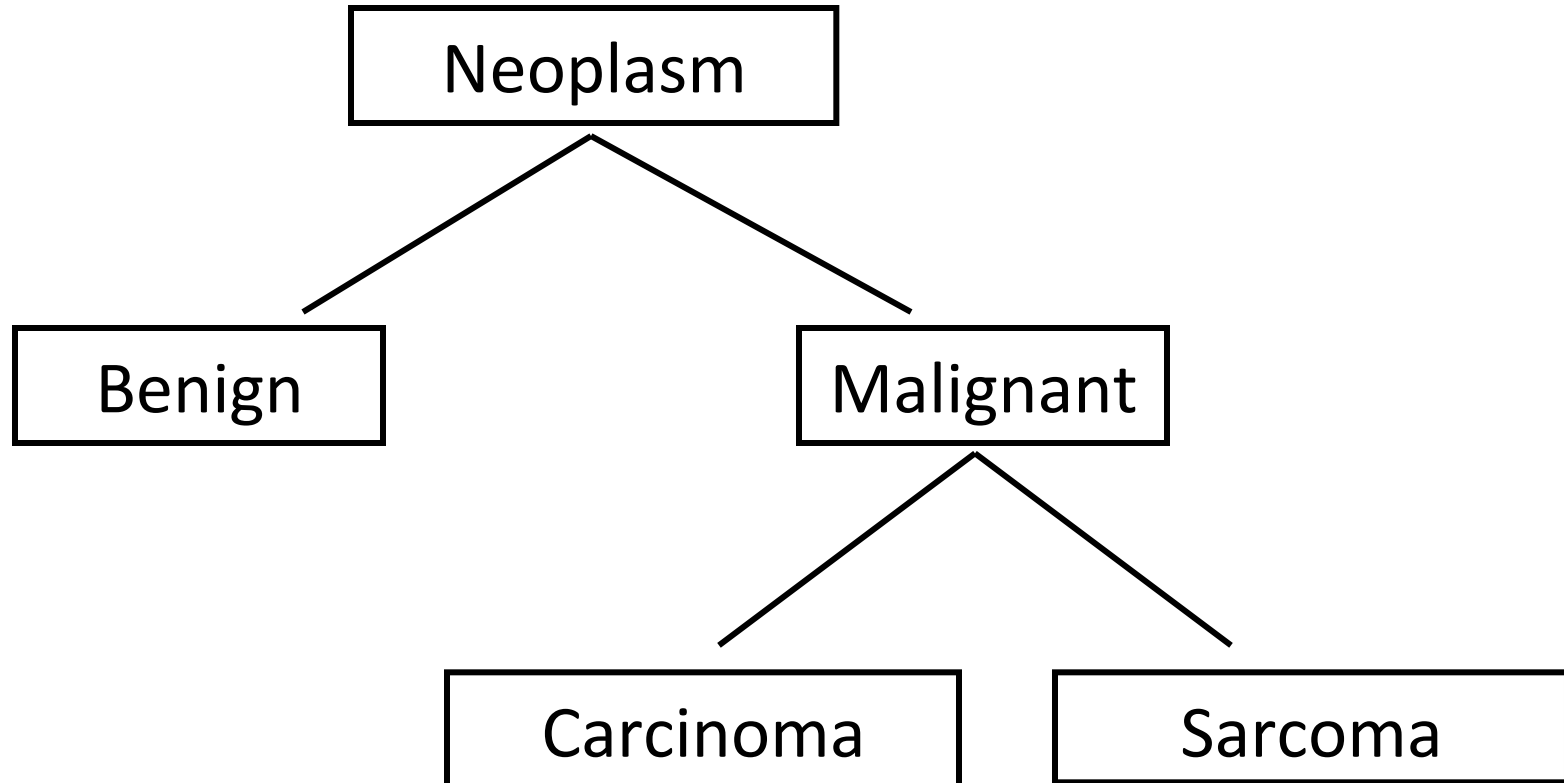


# Nomenclature



*squamous cell carcinoma*  
*adenocarcinoma*

# Nomenclature



*angiosarcoma*  
*rhabdomyosarcoma*

# Know these names!

Tissue of origin	Benign	Malignant
Fibrous tissue	Fibroma	Fibrosarcoma
Fat	Lipoma	Liposarcoma
Cartilage	Chondroma	Chondrosarcoma
Bone	Osteoma	Osteogenic sarcoma
Blood vessels	Hemangioma	Angiosarcoma
Mesothelium		Mesothelioma
Hematopoietic cells		Leukemia
Lymphoid cells		Lymphoma
Squamous epithelium	Squamous cell papilloma	Squamous cell carcinoma
Glandular epithelium	Adenoma Papilloma Cystadenoma	Adenocarcinoma Papillary adenocarcinoma Cystadenocarcinoma
Smooth muscle	Leiomyoma	Leiomyosarcoma
Skeletal muscle	Rhabdomyoma	Rhabdomyosarcoma
Melanocytes	Nevus	Melanoma

## Sample board question

Which of the following describes a benign tumor arising from skeletal muscle?

- A. Leiomyoma
- B. Papilloma
- C. Rhabdomyoma
- D. Leiomyosarcoma
- E. Rhabdomyosarcoma