Charting New Horizons in Education

Neoplasia Lab

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Pathology

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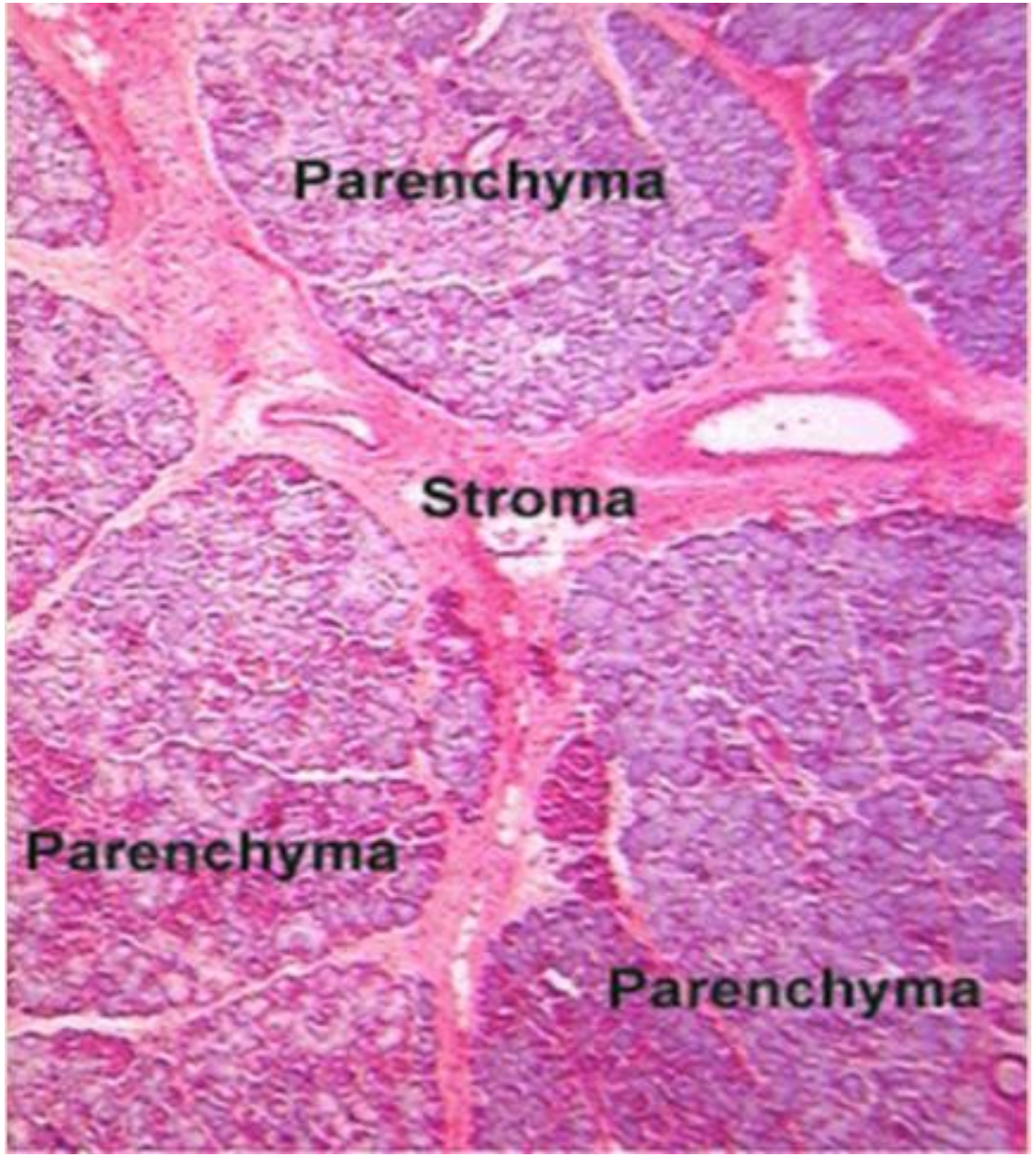
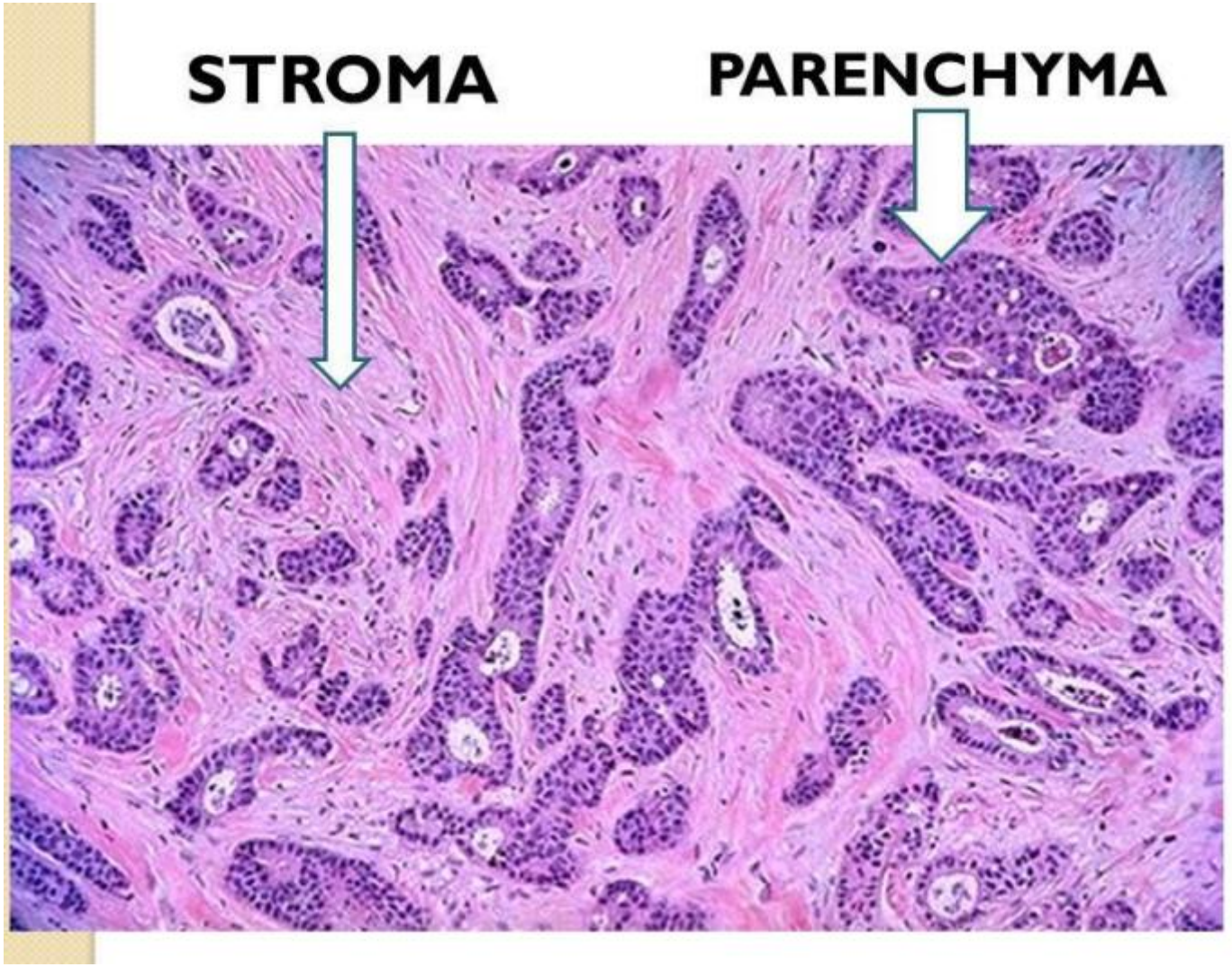

Parenchyma
Stroma
Parenchyma
Parenchyma


STROMA
PARENCHYMA

Hepatic Adenoma

Fig. 6.1 Colonic polyp. This glandular tumor is seen projecting into the colonic lumen. The polyp is attached to the mucosa by a distinct stalk.

FIG. 6.1 Colonic polyps. Several pedunculated "velvety" polyps are seen in this segment of colon.

Papilloma

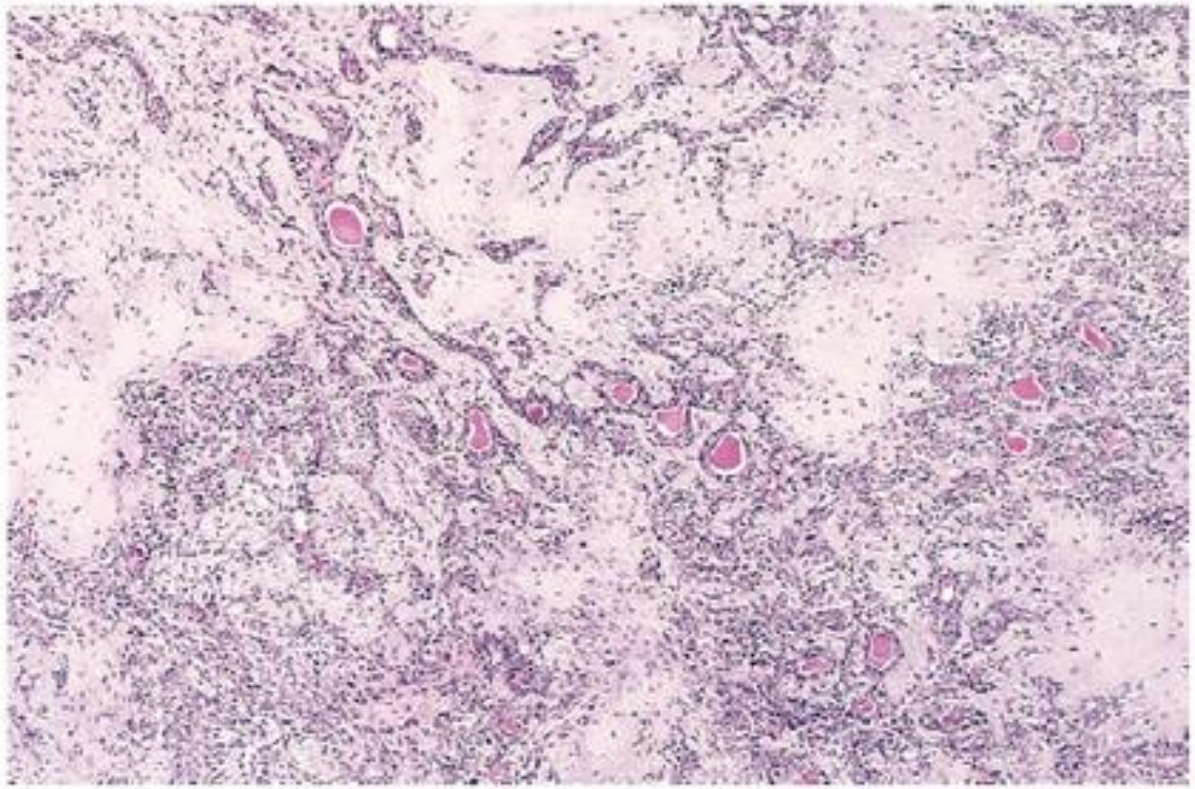


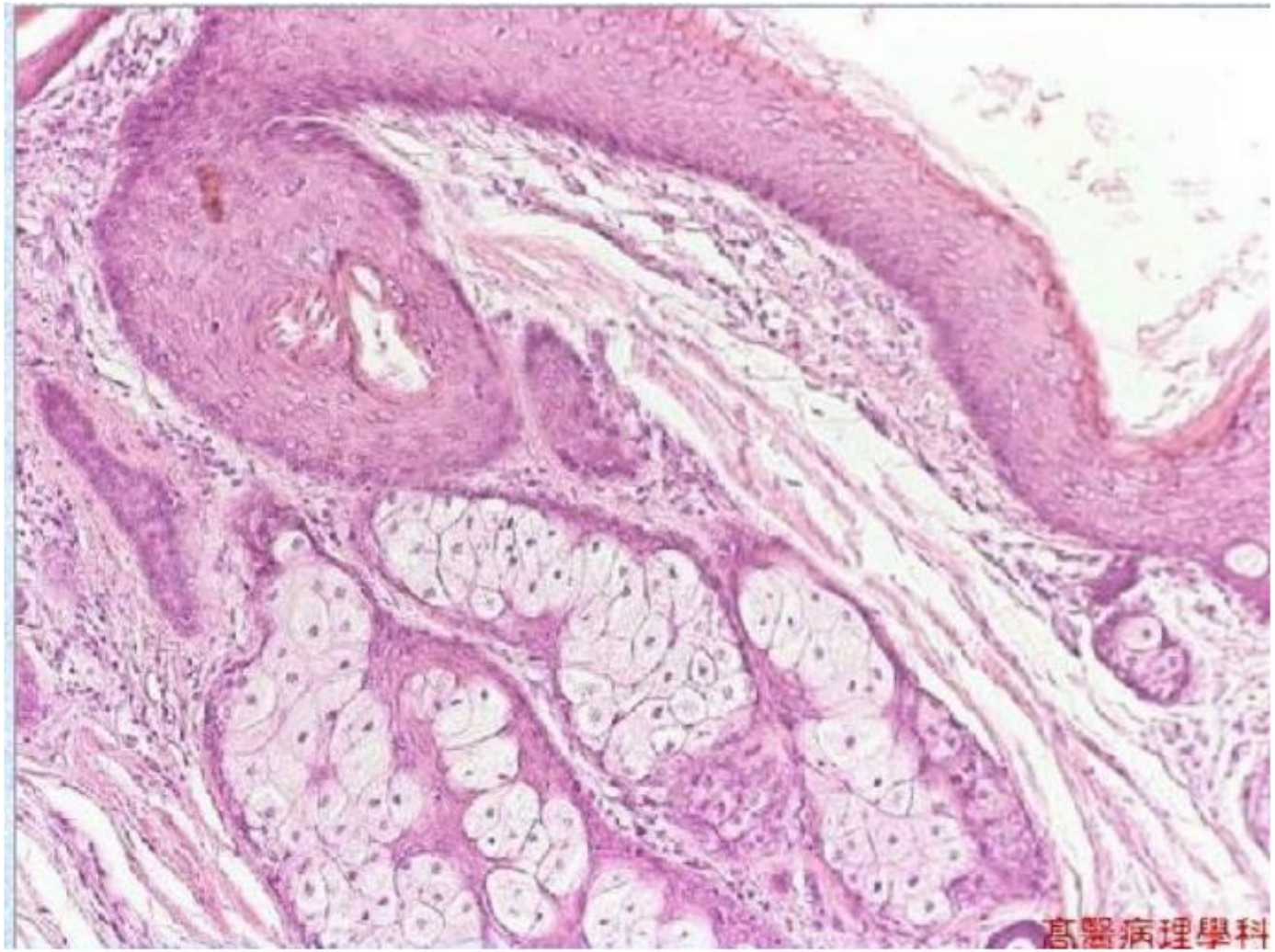
Figure 5–2 Mixed tumor of the parotid gland contains epithelial cells forming ducts and myxoid stroma that resembles cartilage.

(Courtesy of Dr. Trace Worrell, Department of Pathology, University of Texas Southwestern Medical School, Dallas, Texas.)

Teratoma

Dermoid Cyst

Dermoid Cyst



Mature skin with sebaceous glands and hair follicles.

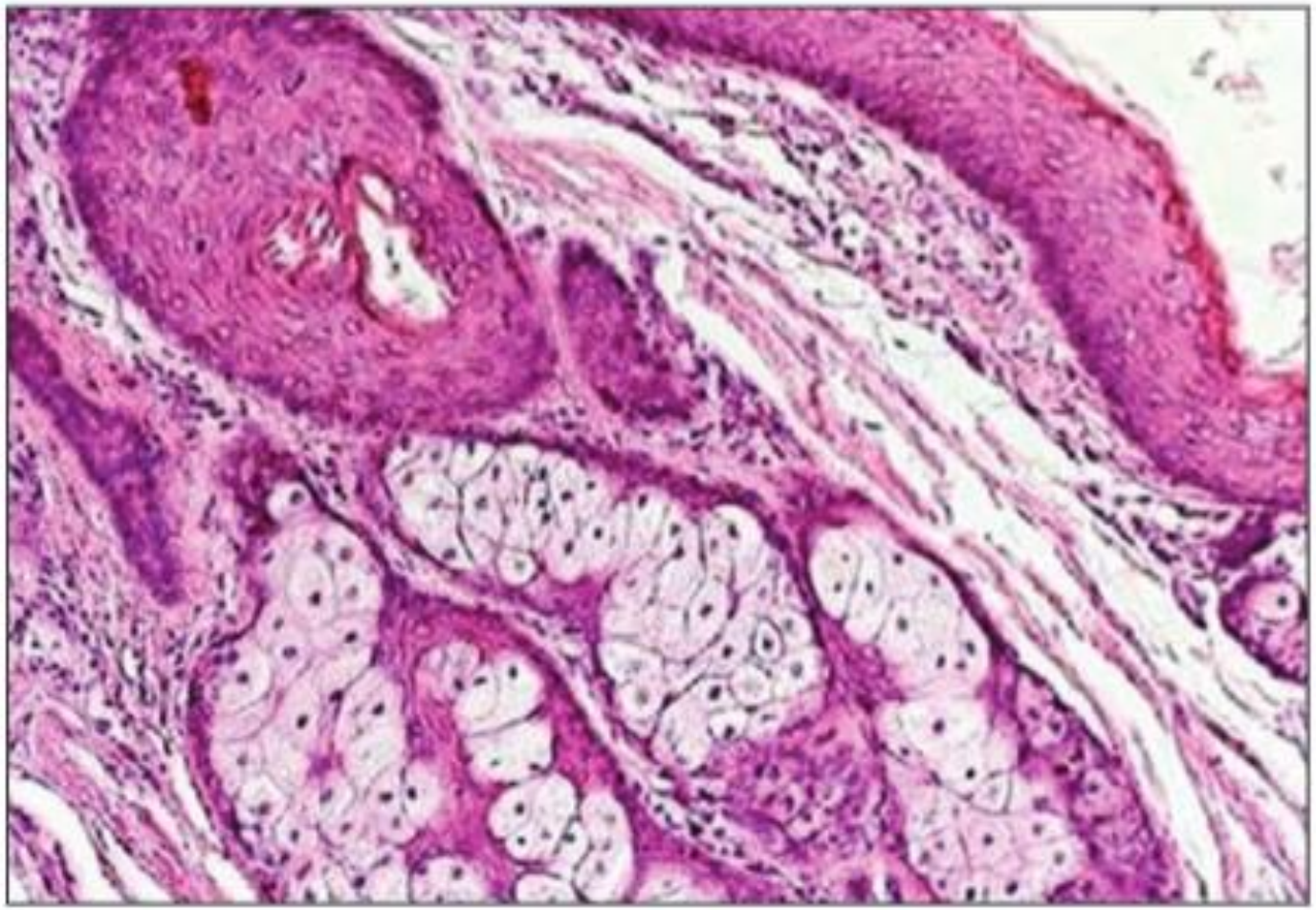
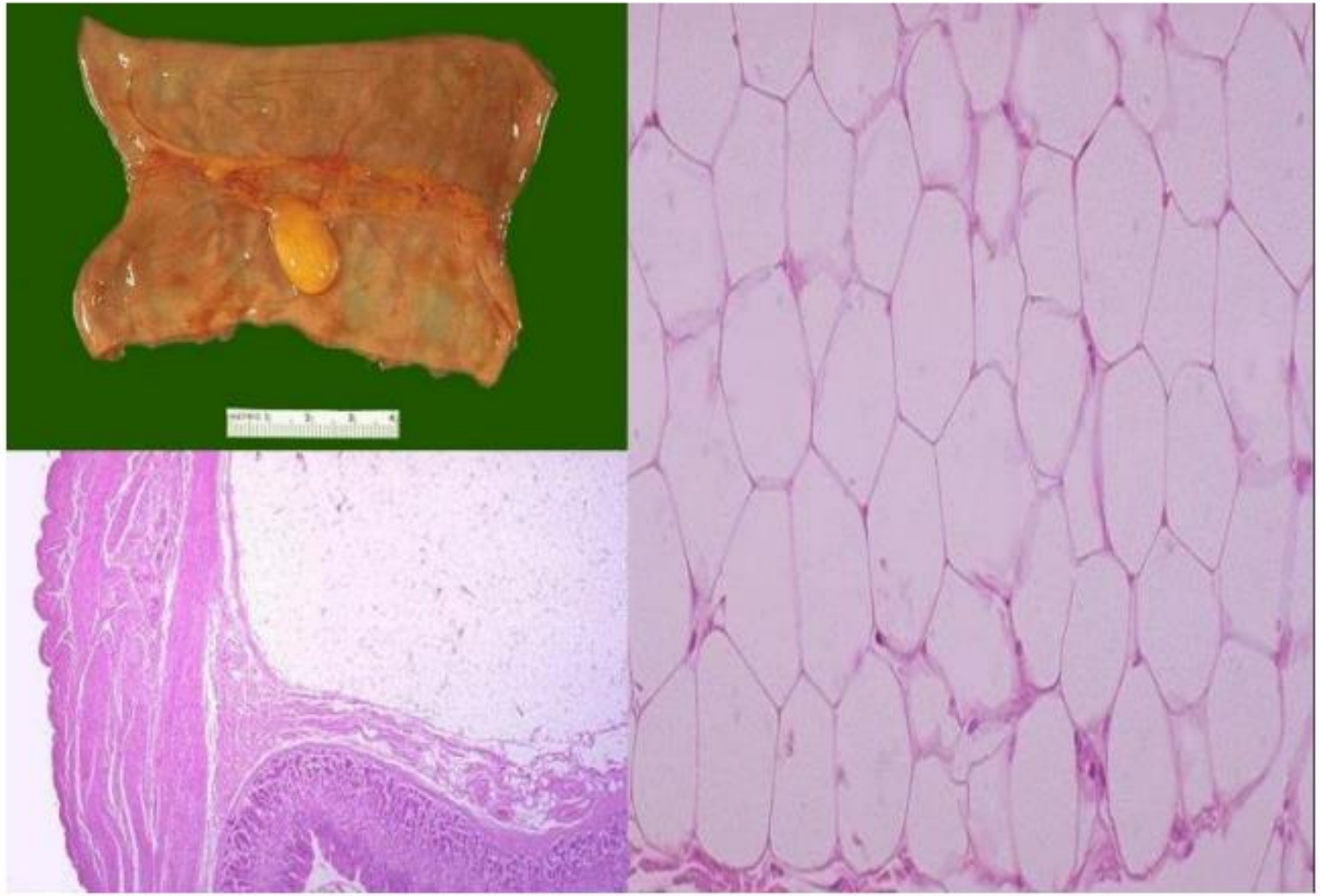
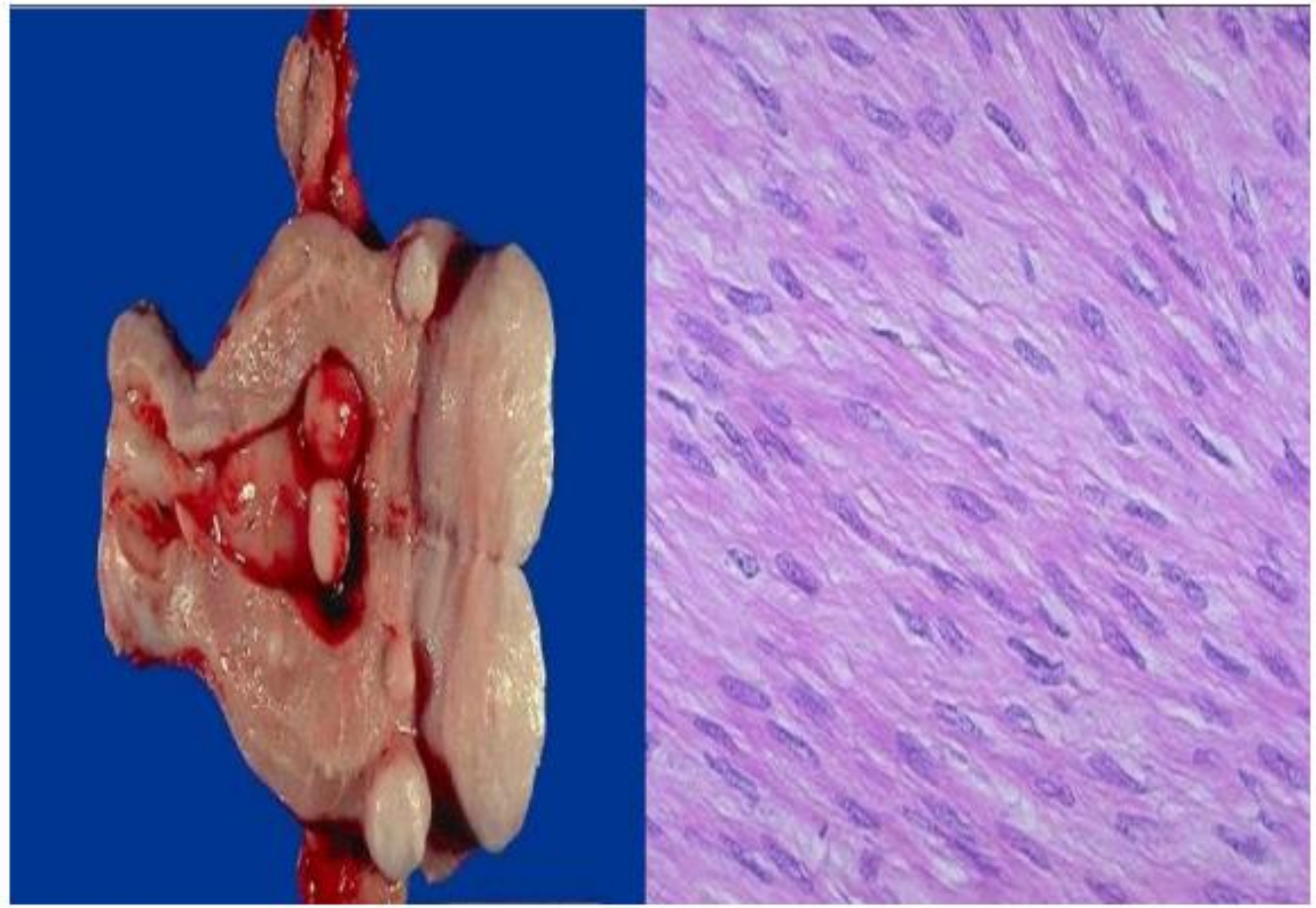


Figure 3: Photomicrograph showing mature teratoma cells with squamous epithelium and keratinous debris, adipose tissue with duct-like and glandular elements

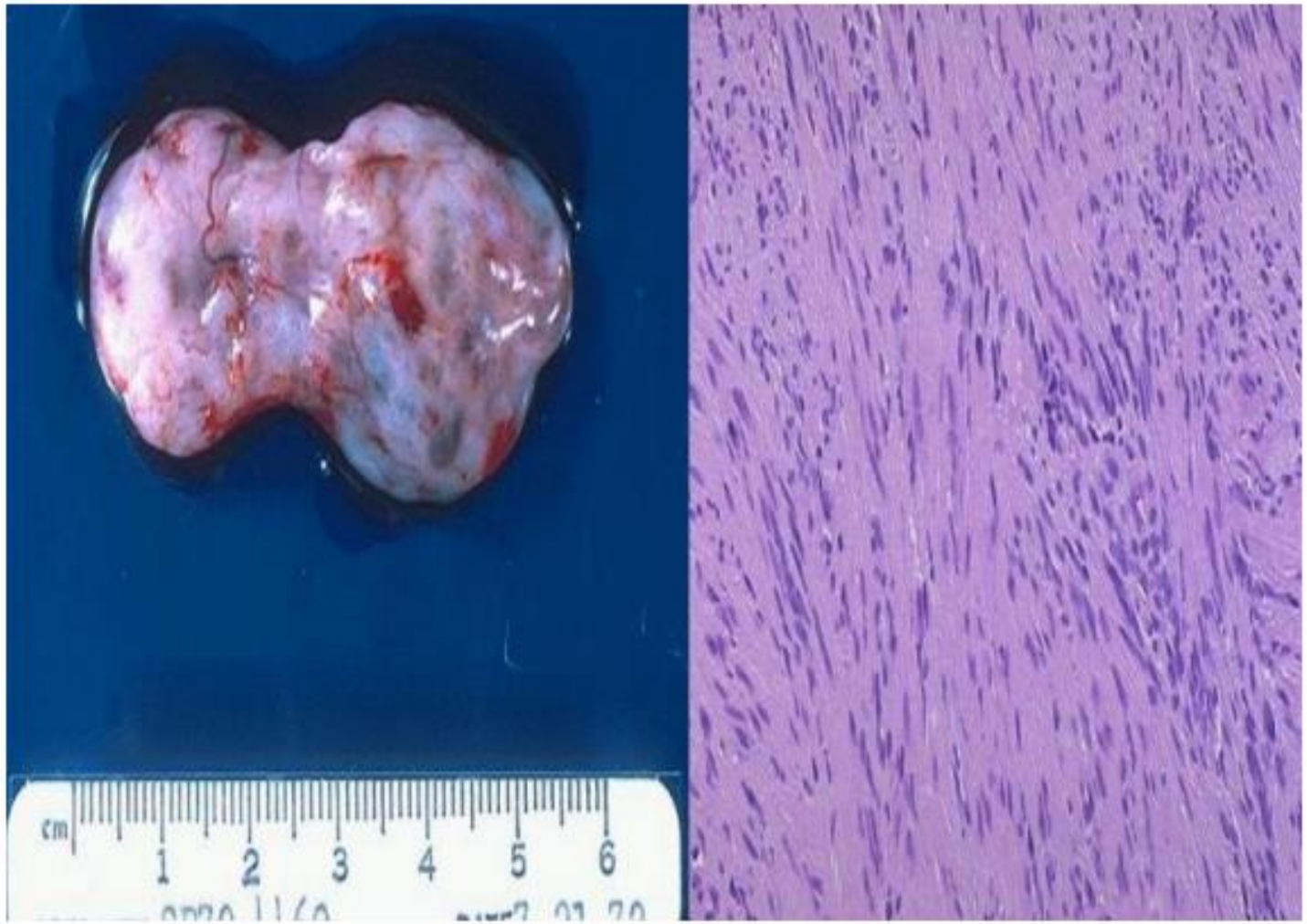
Intestinal lipoma



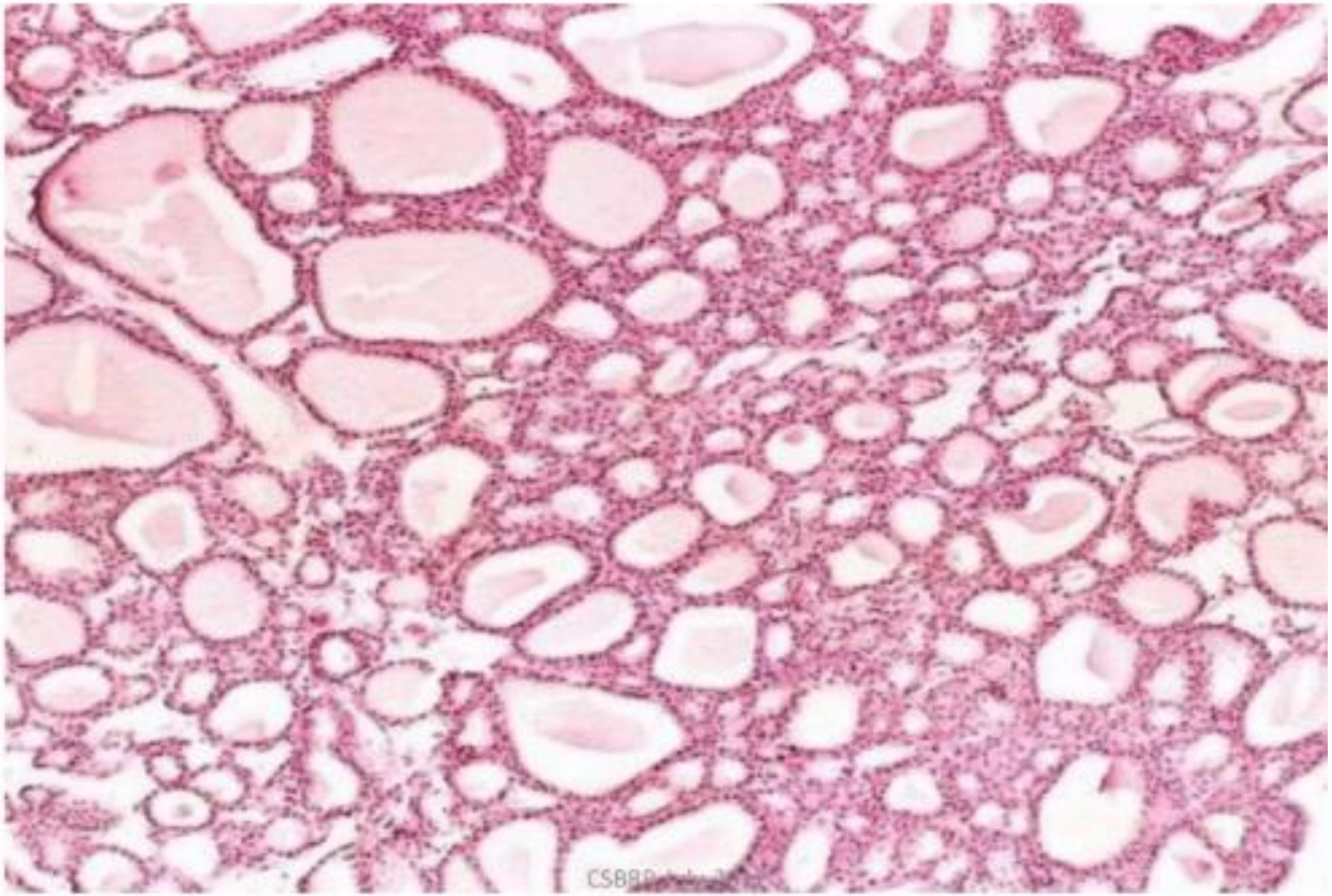
Uterine Leiomyoma (fibroid)



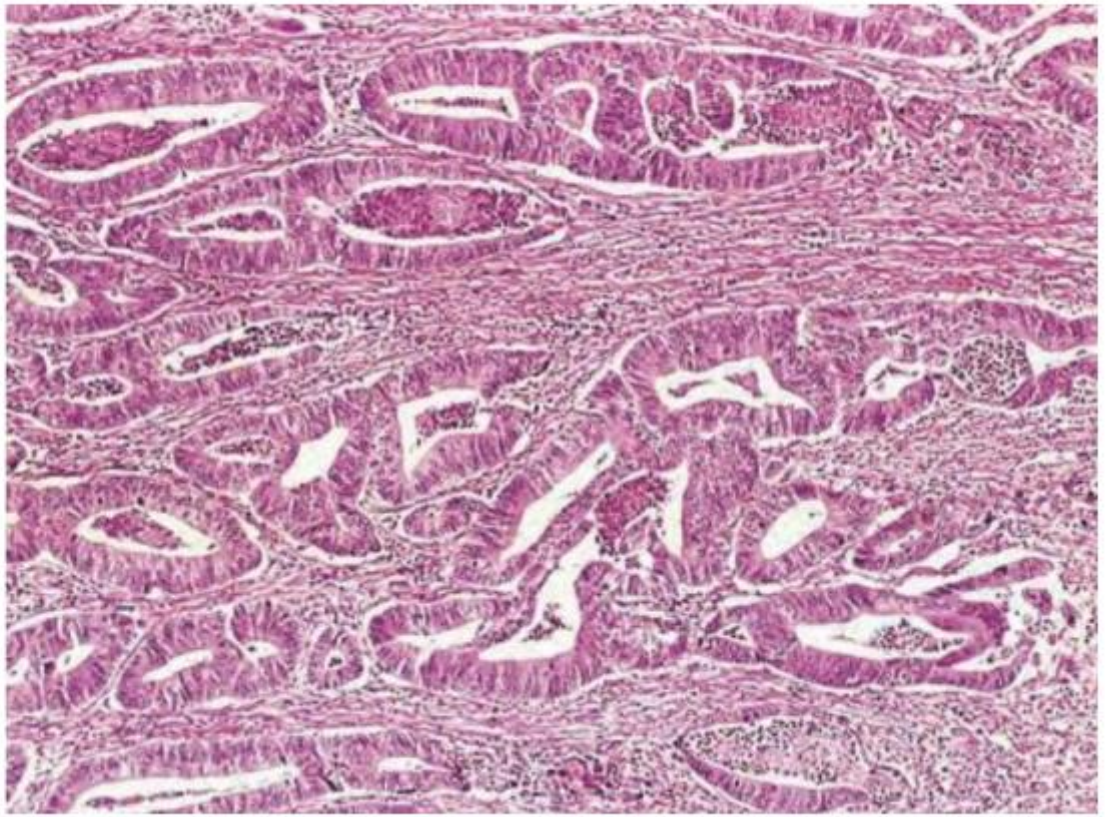
Fibroma



Benign tumor (adenoma) of the thyroid. Note the normal-looking (well-differentiated), colloid-filled thyroid follicles.



Malignant tumor (adenocarcinoma) of the colon – Moderately differentiated



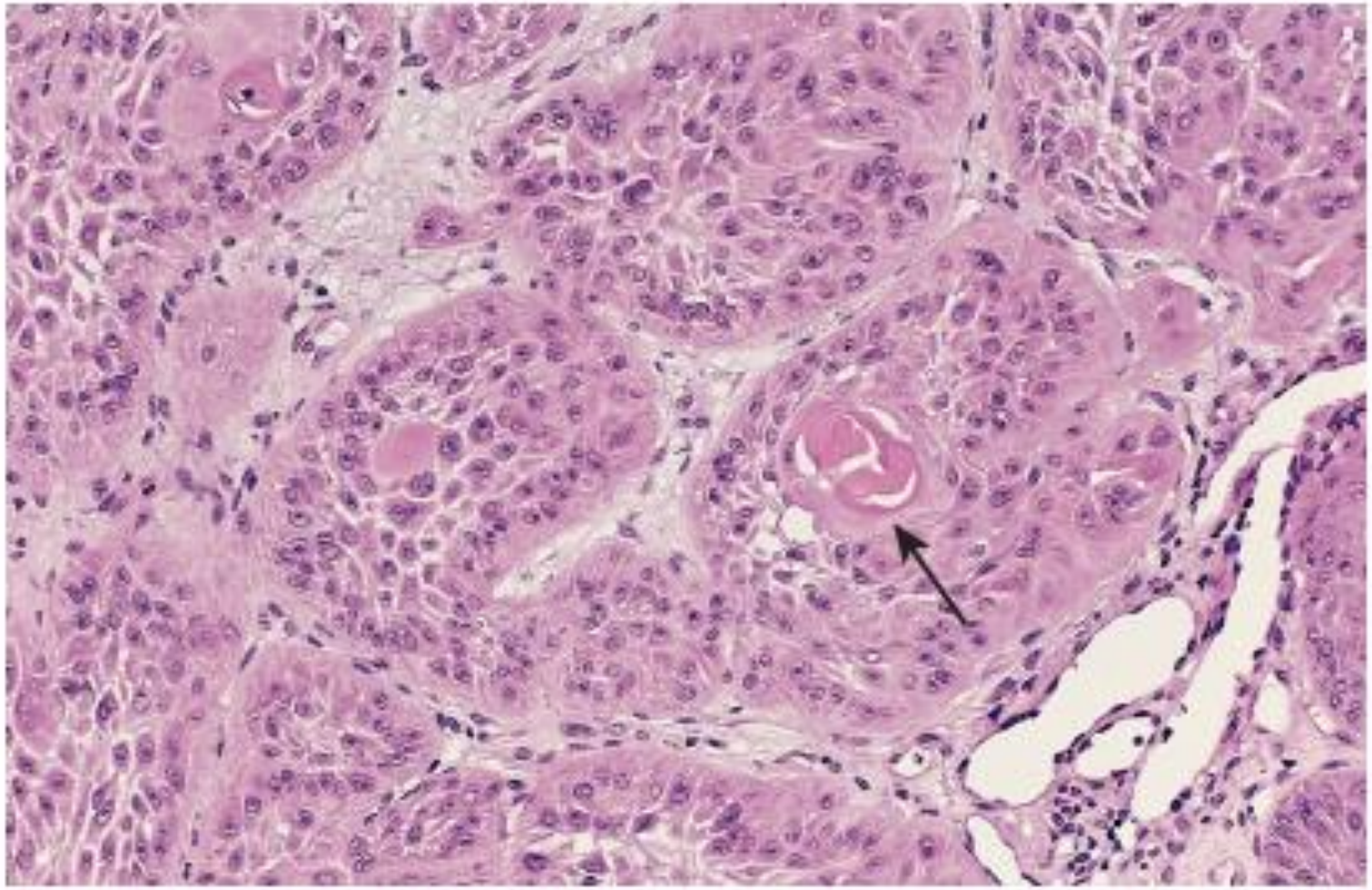


Fig. 6.3 Well-differentiated squamous cell carcinoma of the skin. The tumor cells are strikingly similar to normal squamous epithelial cells, with intercellular bridges and nests of keratin *(arrow)*. *(Courtesy of Dr. Trace Worrell, Department of Pathology, University of Texas Southwestern Medical School, Dallas, Texas.)*

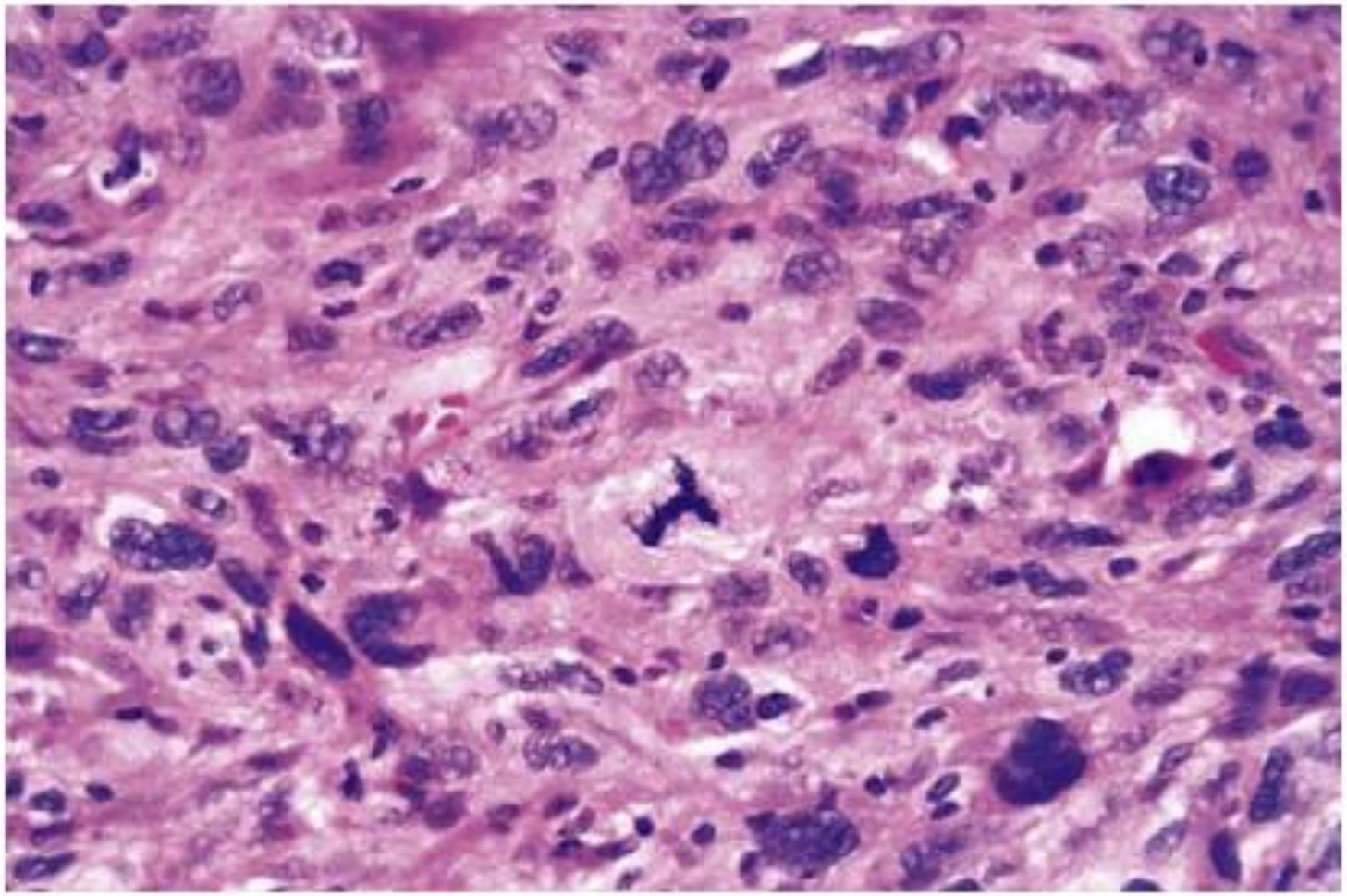


FIG. 6.5 High-power detailed view of anaplastic tumor cells shows cellular and nuclear variation in size and shape. The prominent cell in the center field has an abnormal tripolar spindle.

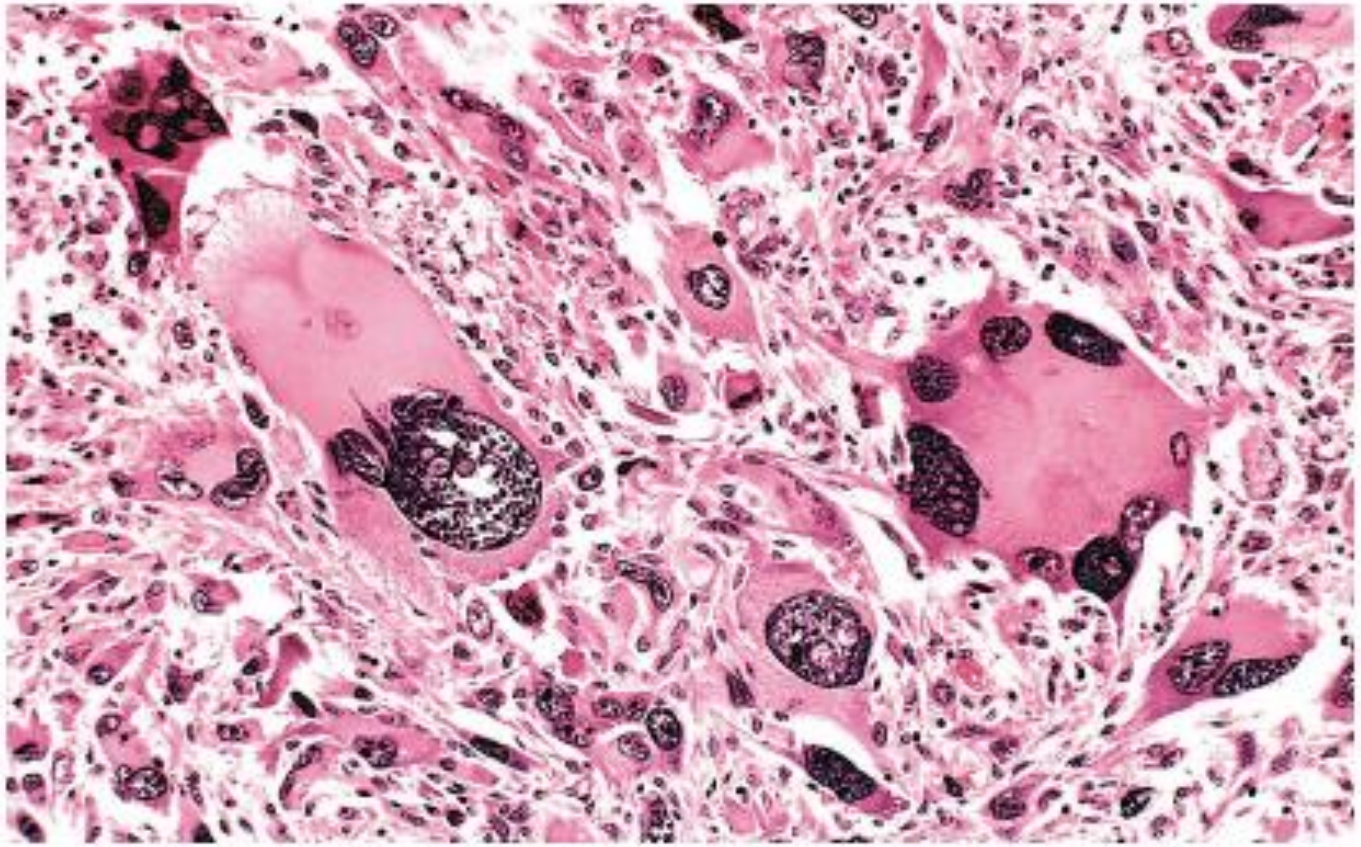
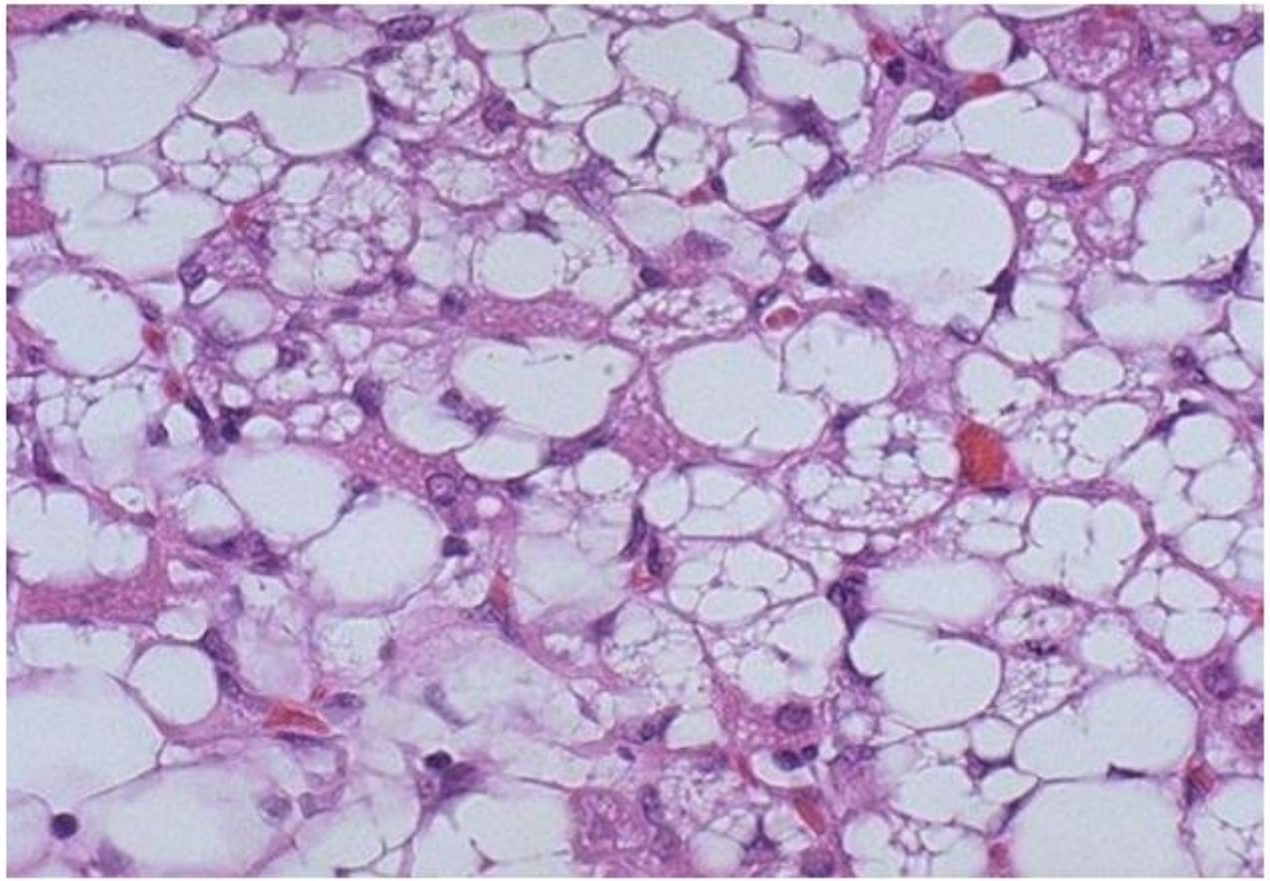
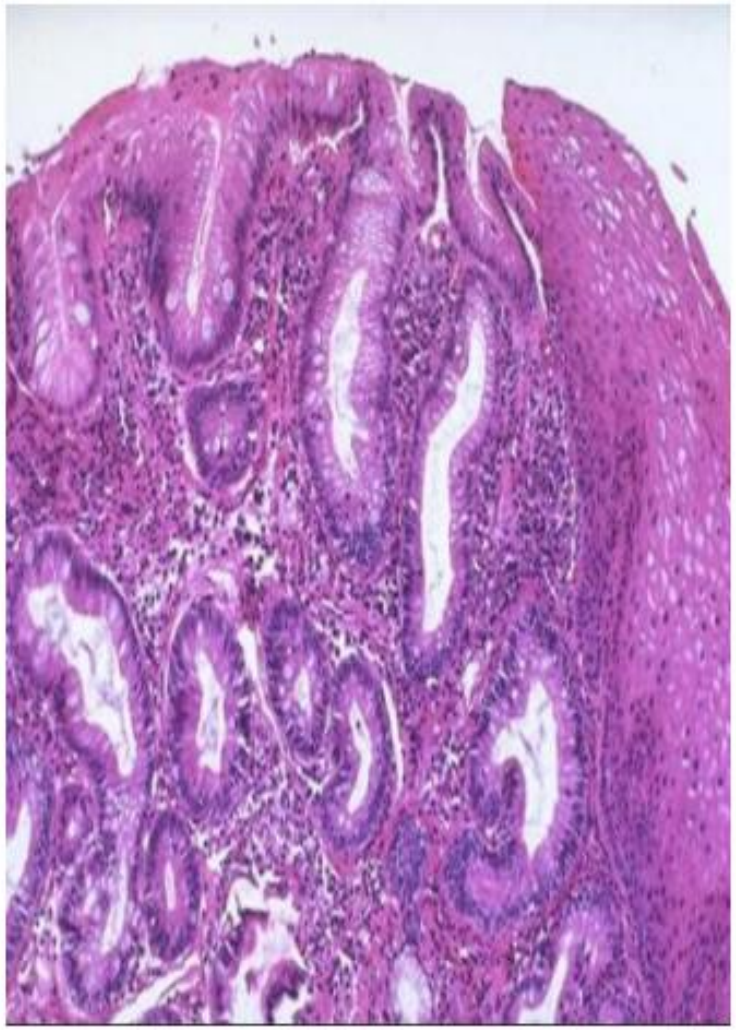


Fig. 6.4 Pleomorphic malignant tumor (rhabdomyosarcoma). Note the marked variation in cell and nuclear sizes, the hyperchromatic nuclei, and the presence of tumor giant cells. *(Courtesy of Dr. Trace Worrell, Department of Pathology, University of Texas Southwestern Medical School, Dallas, Texas.)*

Liposarcoma



Intestinal metaplasia

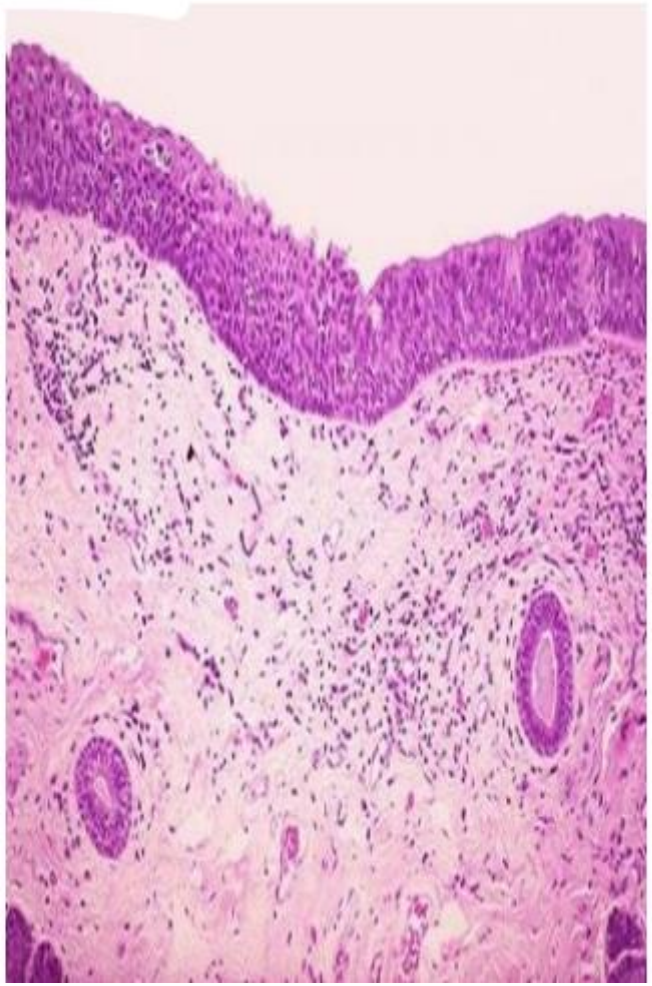


Esophagus

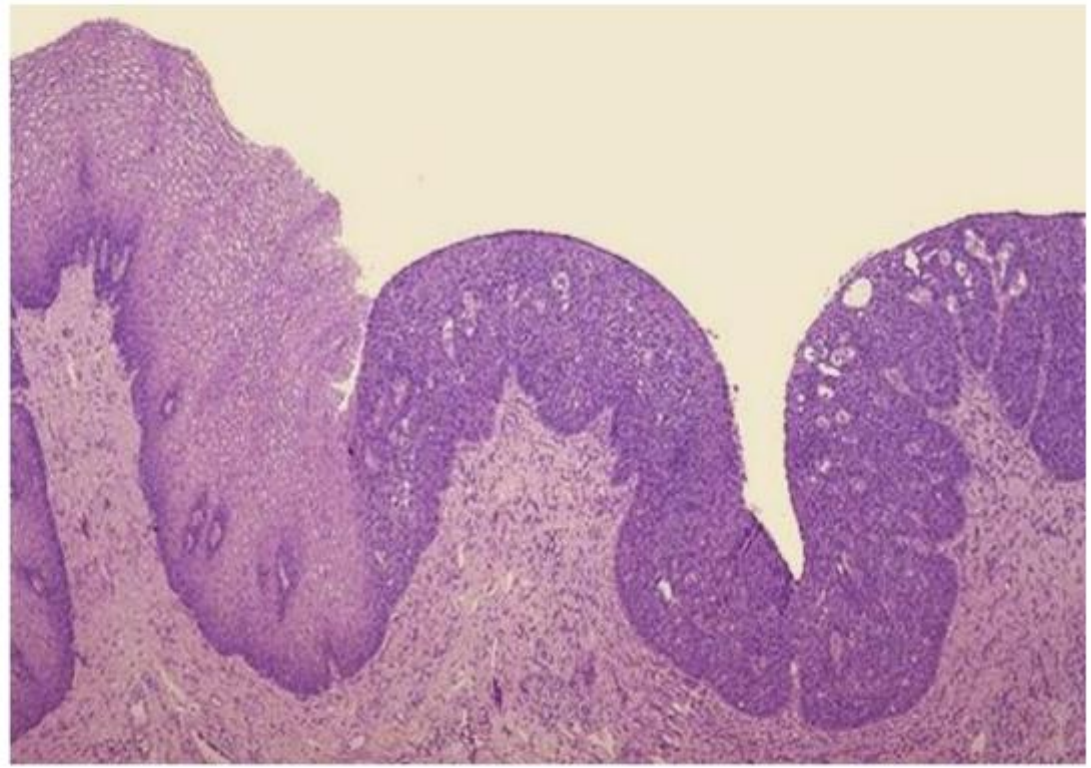
GERD

Barrett's Esophagus

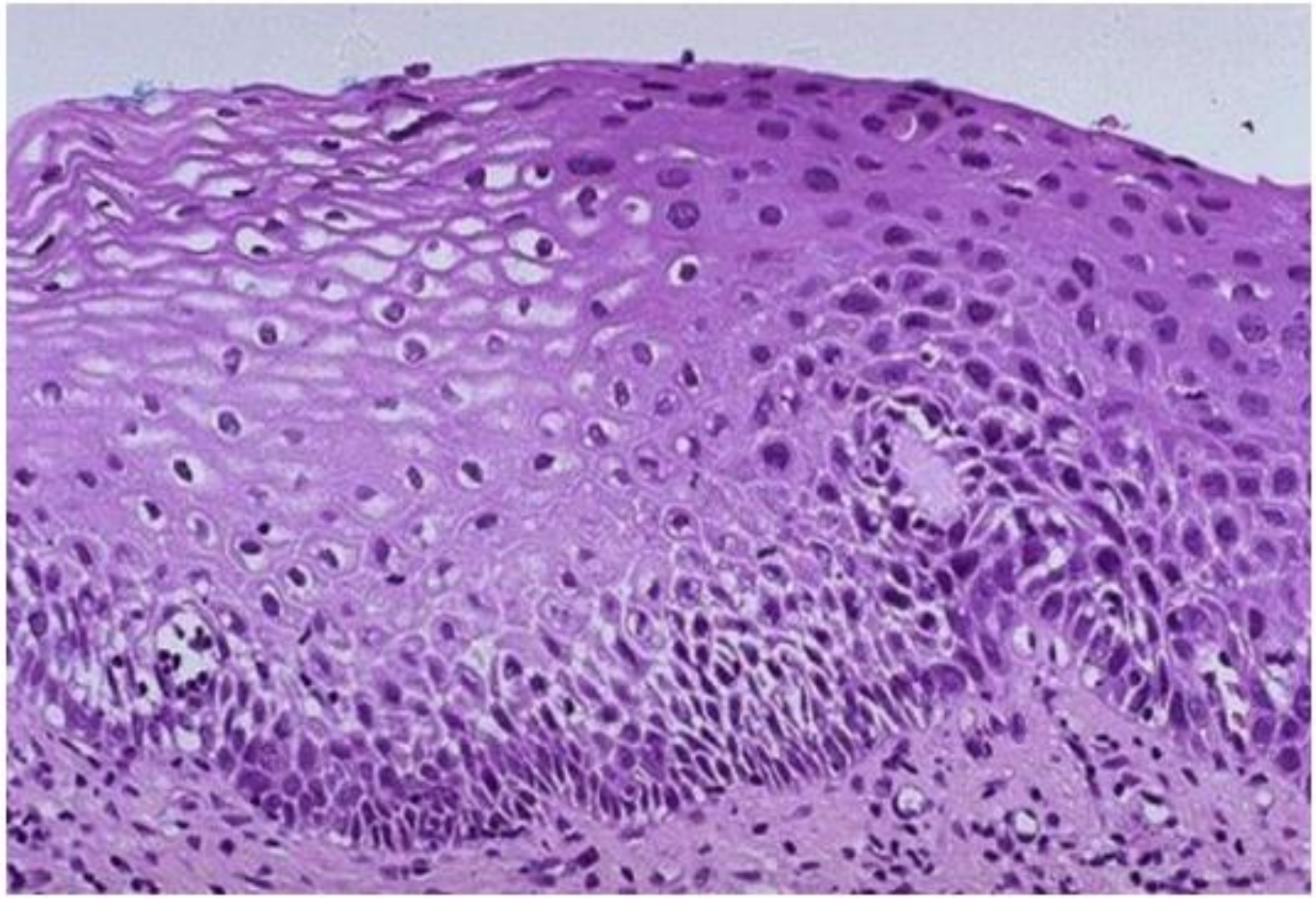
Dysplasia



Cervical dysplasia



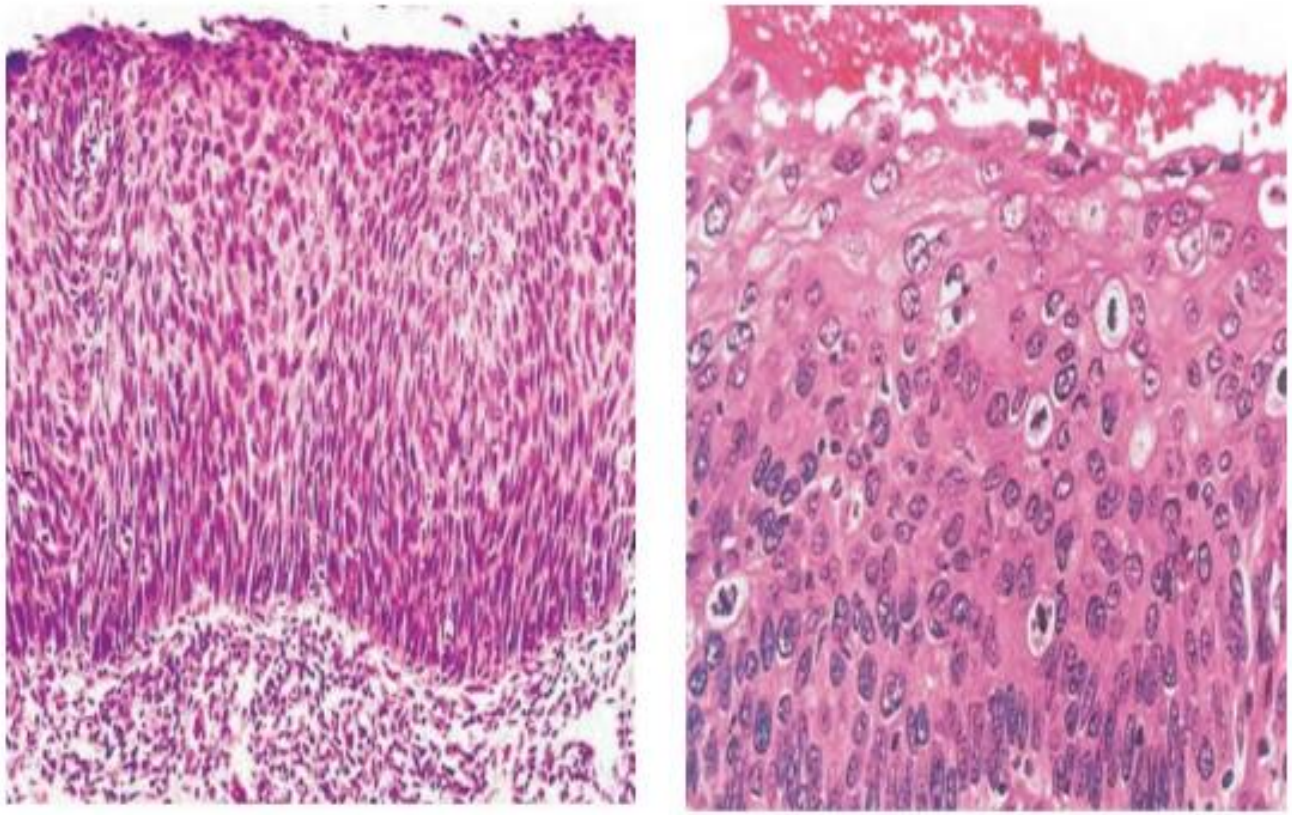
Cervical dysplasia



Carcinoma in situ

- Carcinoma in situ. This low - power view shows that the entire thickness of the epithelium is replaced by atypical dysplastic cells.
- The basement membrane is intact.

- B, A high-power view of another region shows marked nuclear and cellular pleomorphism, and numerous mitotic figures extending toward the surface.



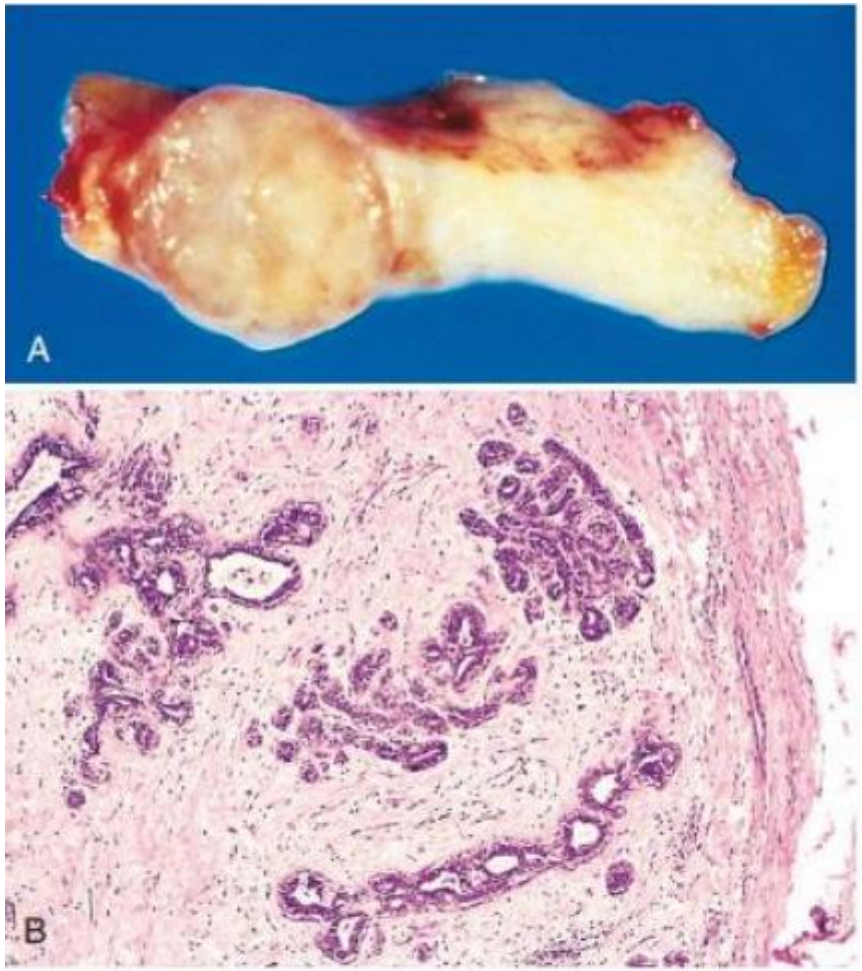


Figure 7.11 Fibroadenoma of the breast. (A) The tan-colored, ncapsulated small tumor is sharply demarcated from the whiter breast issue. (B) Microscopic view shows that the fibrous capsule *(right)* delimits he tumor from the surrounding tissue. (B, Courtesy Dr. Trace Worrell,

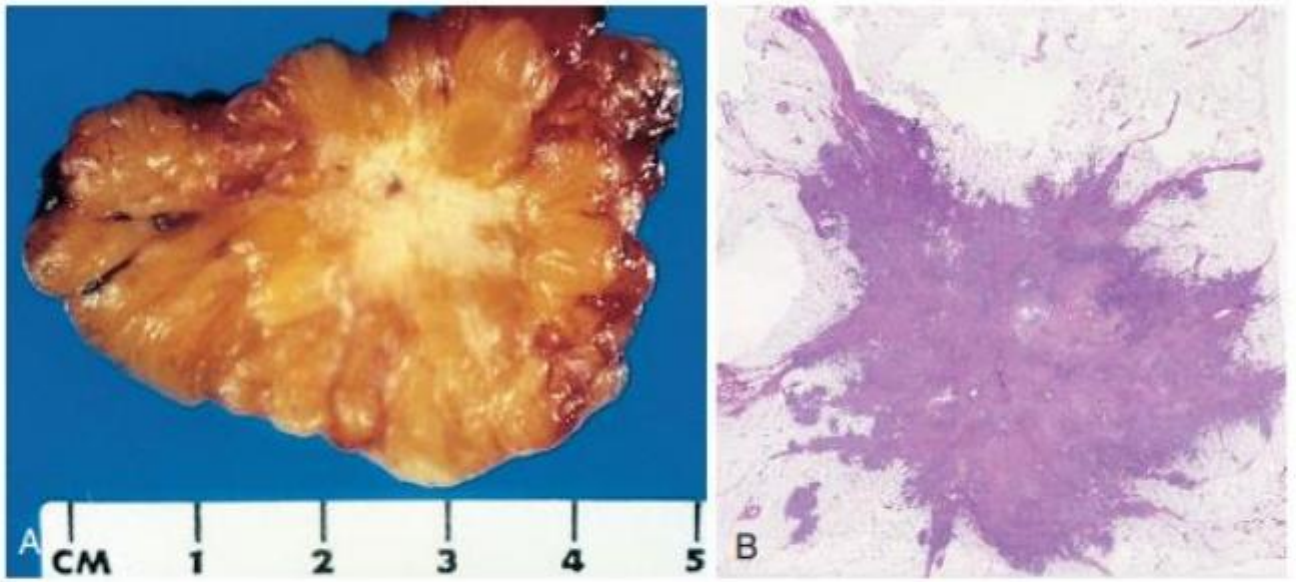
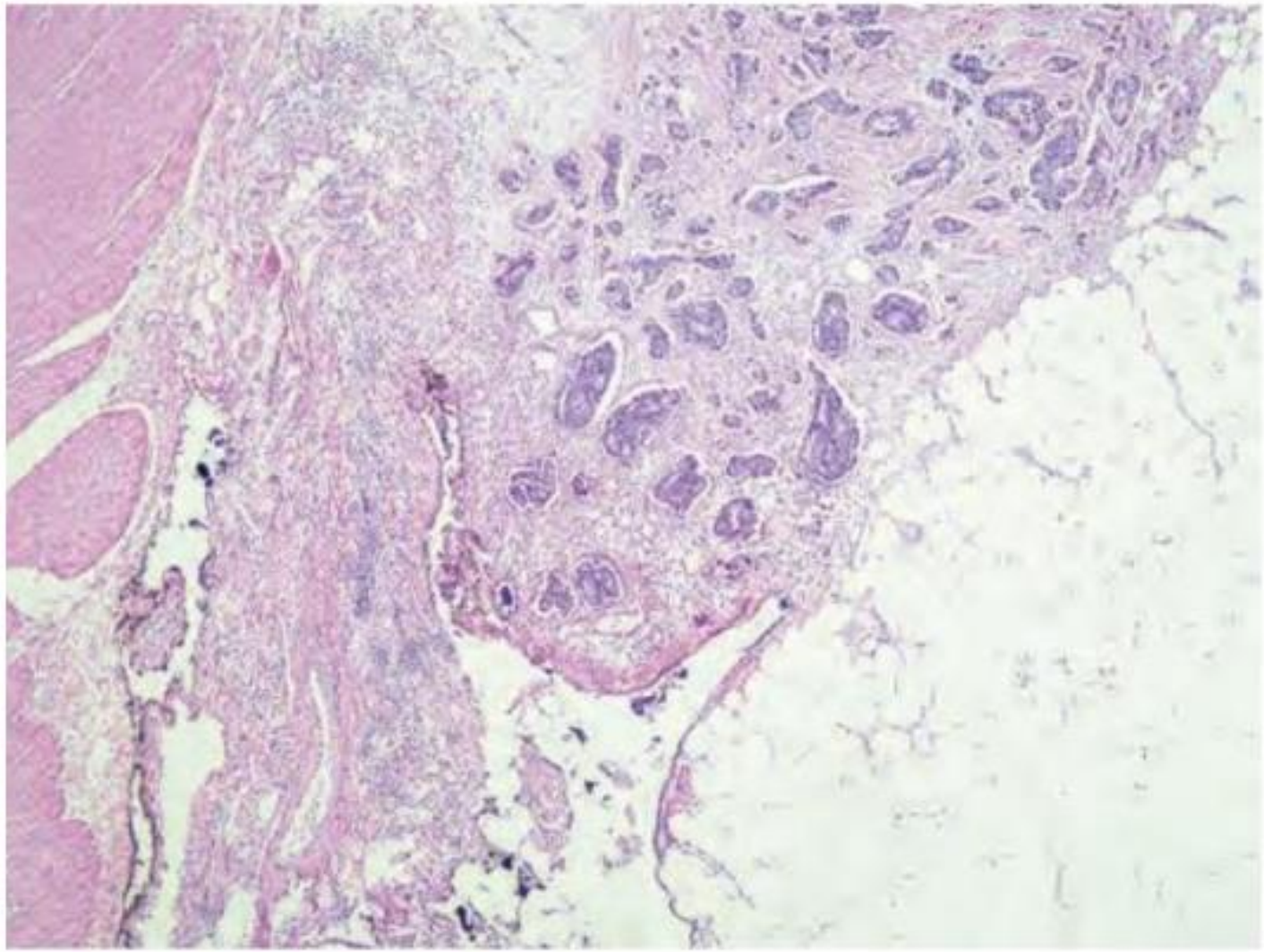


Figure 7.12 Invasive ductal carcinoma of the breast. (A) On cut section, the lesion is retracted and infiltrates the surrounding breast substance and woul be stony hard on palpation. (B) Low-power microscopic view shows irregular infiltrative borders without a well-defined capsule and intense stromal reaction. (A, Courtesy Dr. Trace Worrell, University of Texas Southwestern Medical School, Dallas, Tex.; B, Courtesy Dr. Susan Lester, Brigham and Women'

Colon Adenocarcinoma with Adipose Tissue Invasion



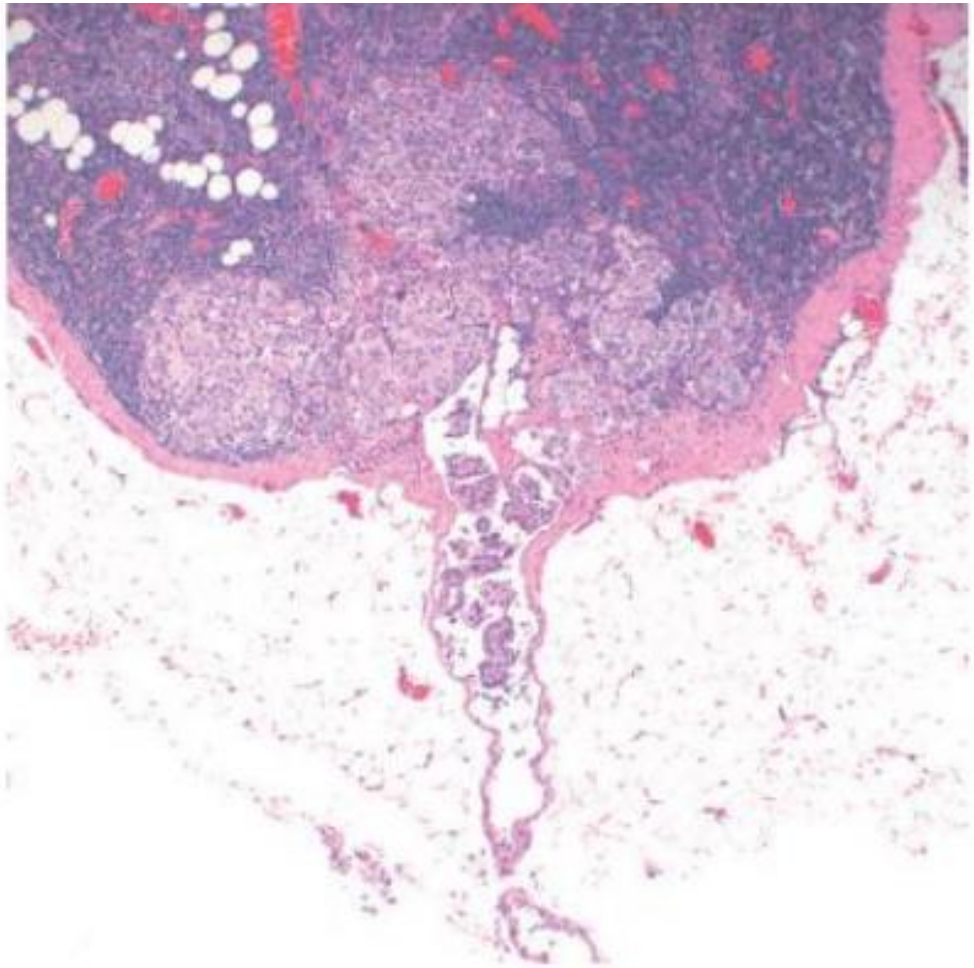


Figure 7.14 Axillary lymph node with metastatic breast carcinoma. Note the aggregates of tumor cells within the substance of the node and the dilated lymphatic channel. (Courtesy Dr. Susan Lester, Brigham and Women's Hospital, Boston, Mass.)

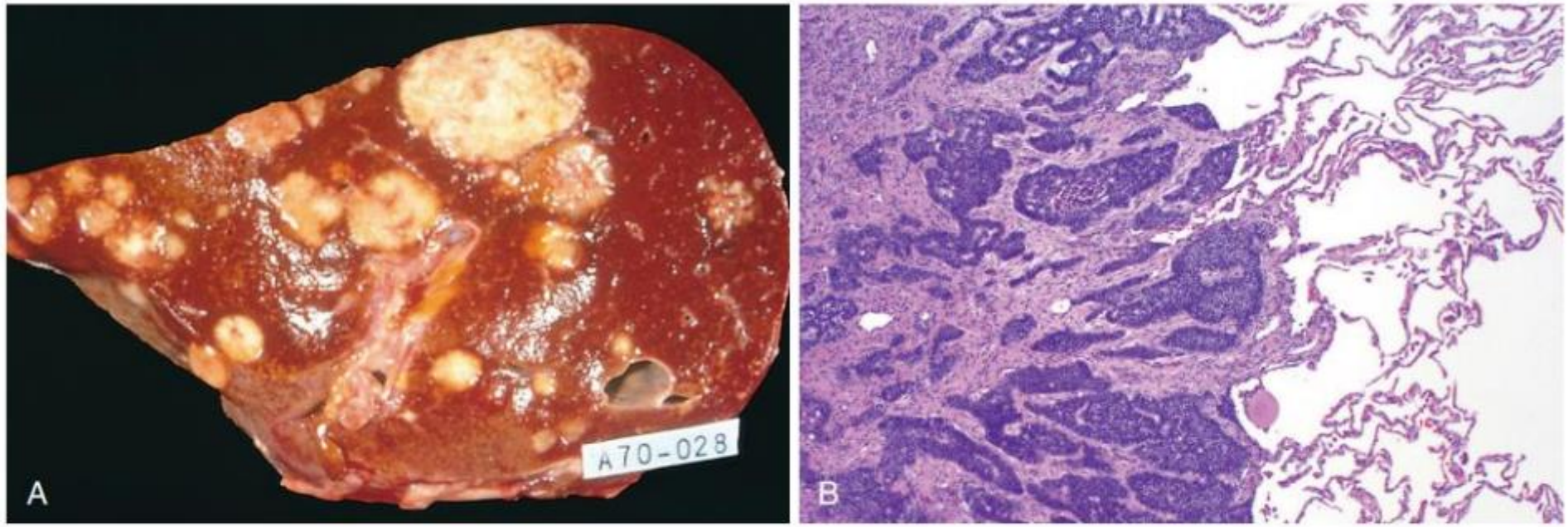
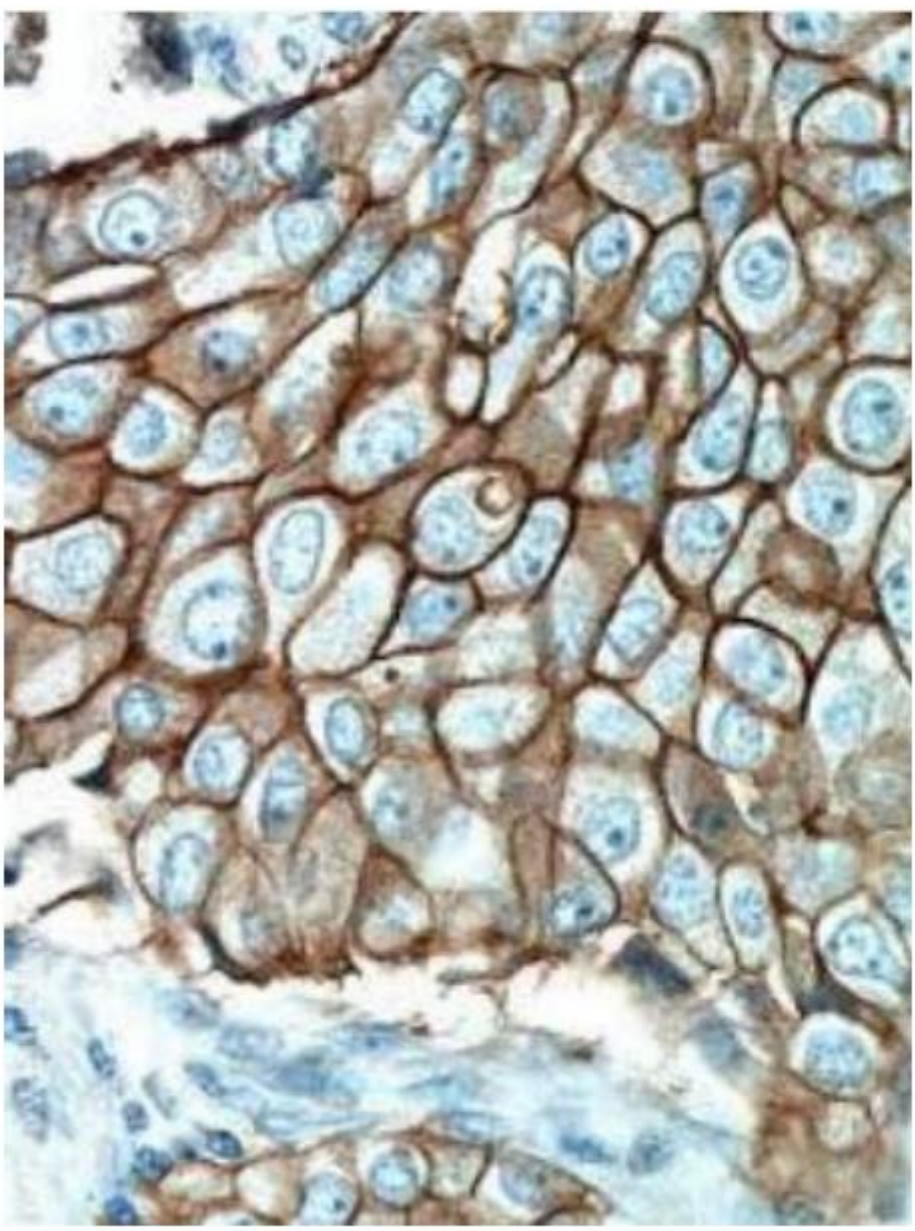


Figure 7.15 Cancer metastasis. (A) Liver studded with metastatic cancer. (B) Microscopic view of lung metastasis. A colonic adenocarcinoma has formed a metastatic nodule in the lung. (B, Courtesy Dr. Shuji Ogino, Dana Farber Cancer Institute, Boston, Mass.)

EGFR

Invasive ductal carcinoma



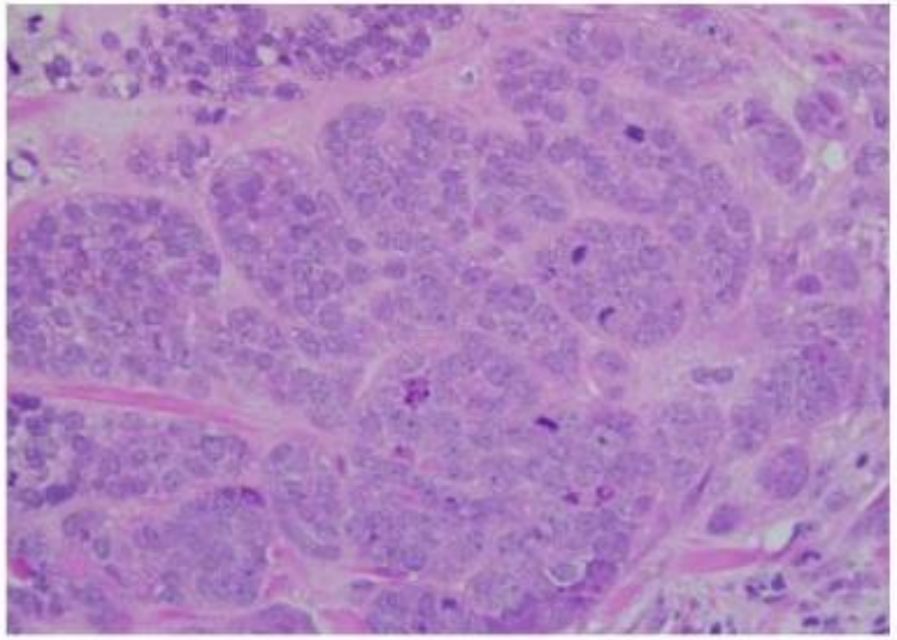
RB IS NAMED AFTER A TUMOR CALLED: RETINOBLASTOMA

- Retinoblastoma is a rare childhood tumor affecting the eye (retino)
- RB gene was first discovered in this tumor and it's named after it
- **However, RB is mutated in most human cancers, not just retinoblastoma tumor.**
- People with inherited RB have increased risk of other cancers →Mainly osteosarcomas and soft tissue sarcomas.

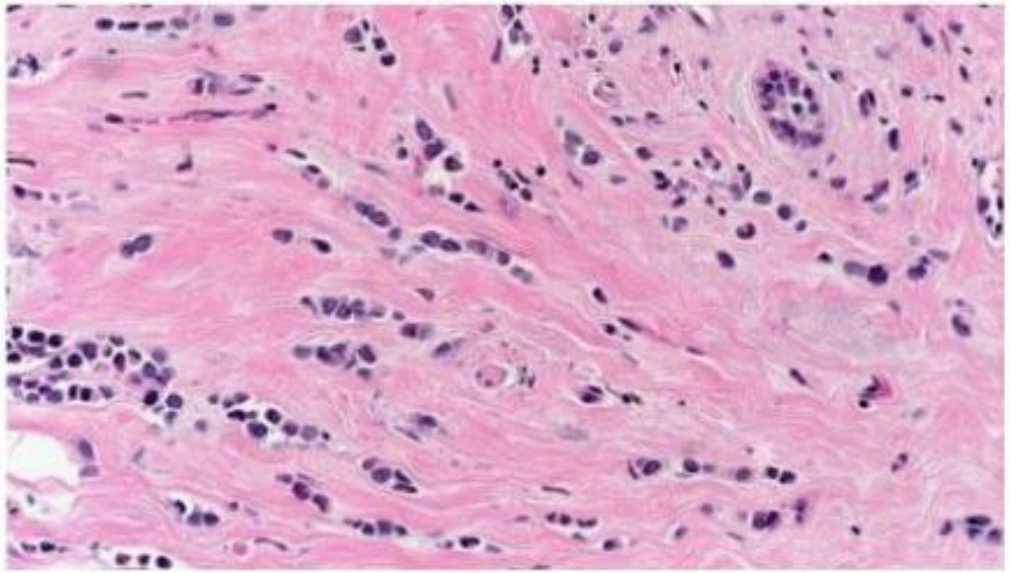
E CADHERIN

→ Contact inhibition

Invasive ductal carcinoma, there is cohesion between cancer cells caused by E cadherin.

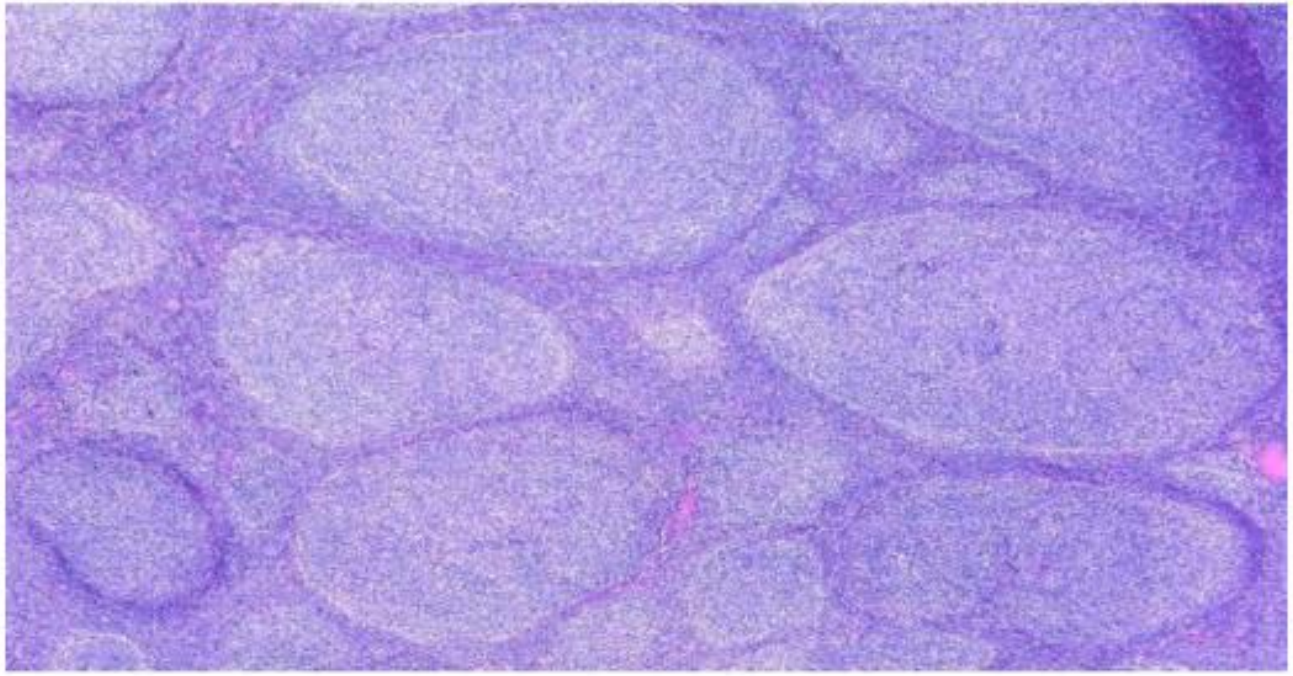


Invasive lobular carcinoma, E cadherin is lost so there is no cohesion. Tumor cells grow as individual cells.



FAP SYNDROME: COLON FULL OF ADENOMAS!

FOLLICULAR LYMPHOMA/ NOTE THE FORMATION OF FOLLICLES



BCL2

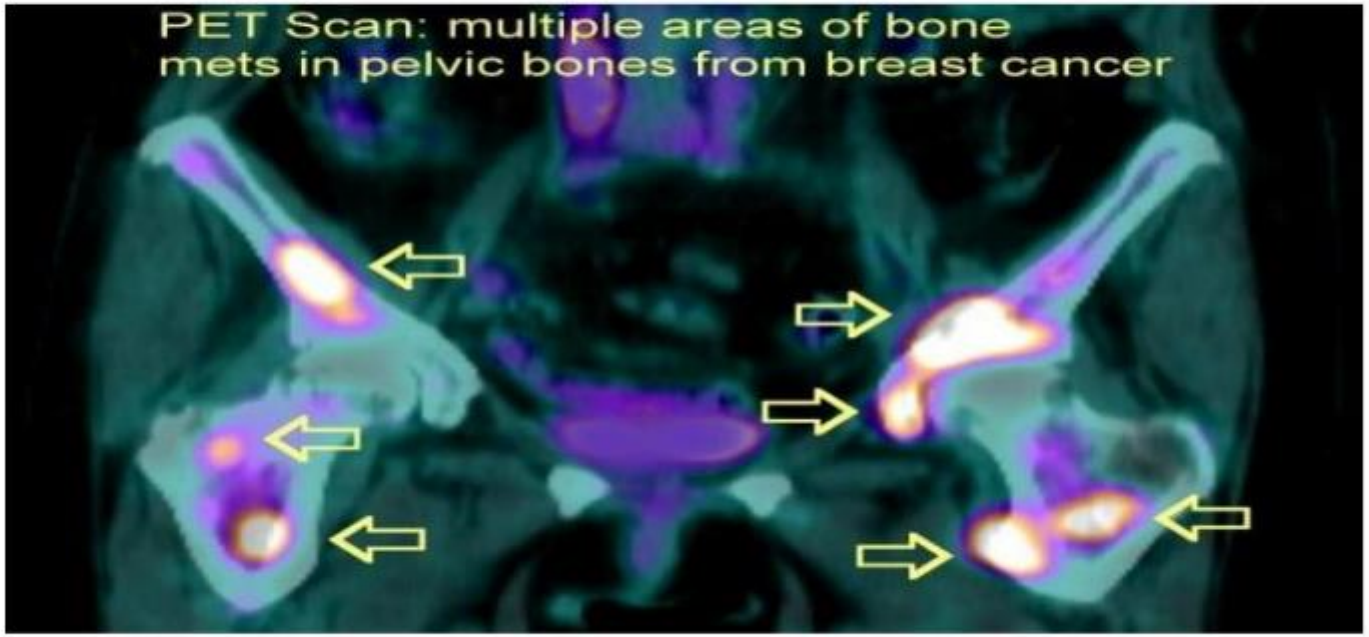
- Follicular lymphomas are slow growing (indolent) tumors that have a translocation causing → increased bcl2

- T (14;18) → Bcl2 translocated and overexpressed

- In lymphocytes having this mutation → apoptosis is decreased

- These lymphocytes live longer rather than being transformed → that's why this type of lymphoma (follicular lymphoma) is indolent

PET SCAN


PET Scan: multiple areas of bone
mets in pelvic bones from breast cancer

«Wherever the art of medicine is loved,
there is also a love of humanity.»

- Hippocrates-

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