



Reproduction Block

Pathology Practicals

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Contents:

1st Practical (Male Genital System):

- Testicular Atrophy.
- Seminoma of the testis.
- Embryonal carcinoma and teratoma of testis.
- Prostatic Hyperplasia.
- Adenocarcinoma of the prostate.

2nd Practical (Female Genital System) :

- Uterine Leiomyomata.
- Endometrial hyperplasia and carcinoma.
- Endometriosis.
- Cervical dysplasia and carcinoma.
- Acute salpingitis.

3rd Practical (Ovarian & Breast diseases):

- Ovarian cysts and breast masses.
- Dermoid cysts (Teratoma) of the ovary.
- Breast diseases (Fibroadenoma, invasive ductal carcinoma and Paget's disease of the nipple)

3RD PRACTICAL SESSION

Ovarian Cysts and Breast Masses

OVARIES





OVARIAN CYST

Benign Ovarian Cyst - Gross



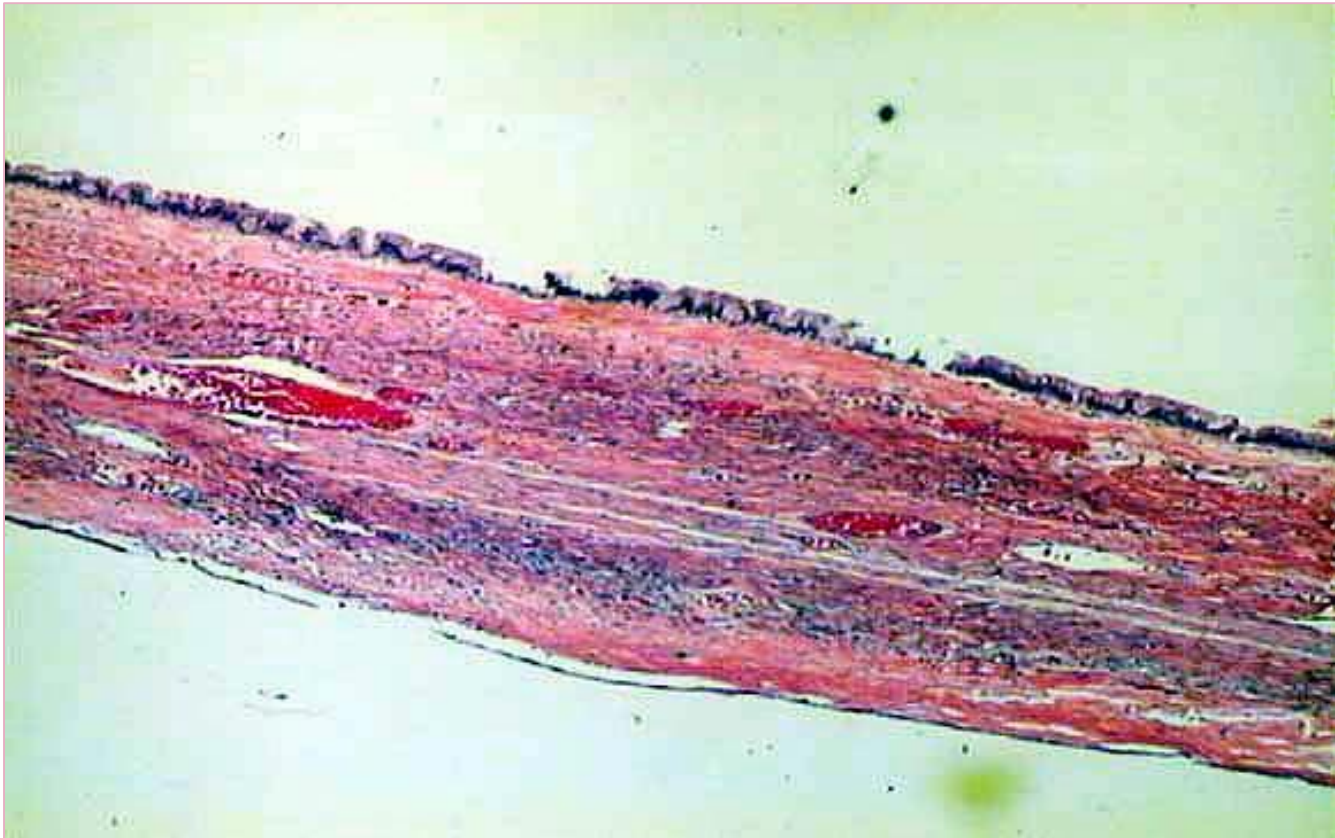
Here is a benign cyst in an ovary. This is probably a follicular cyst. Occasionally such cysts may reach several centimeters in size and, if they rupture, can cause abdominal pain.

Serous Cystadenoma of the Ovary



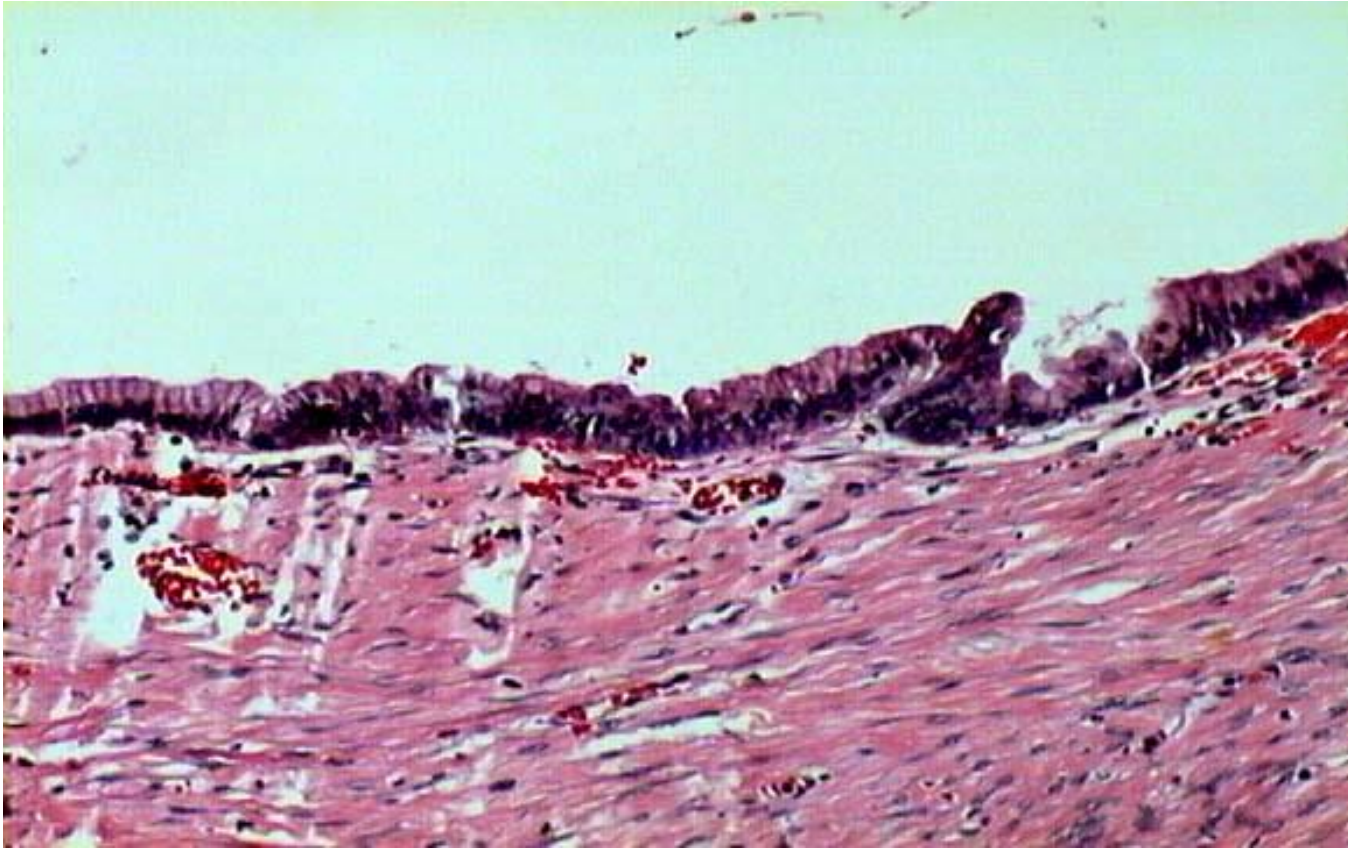
Benign epithelial tumors of the ovary can reach massive proportions. The serous cystadenoma seen here fills a surgical pan and dwarfs the 4 cm ruler.

Serous Cystadenoma of the Ovary - LPF



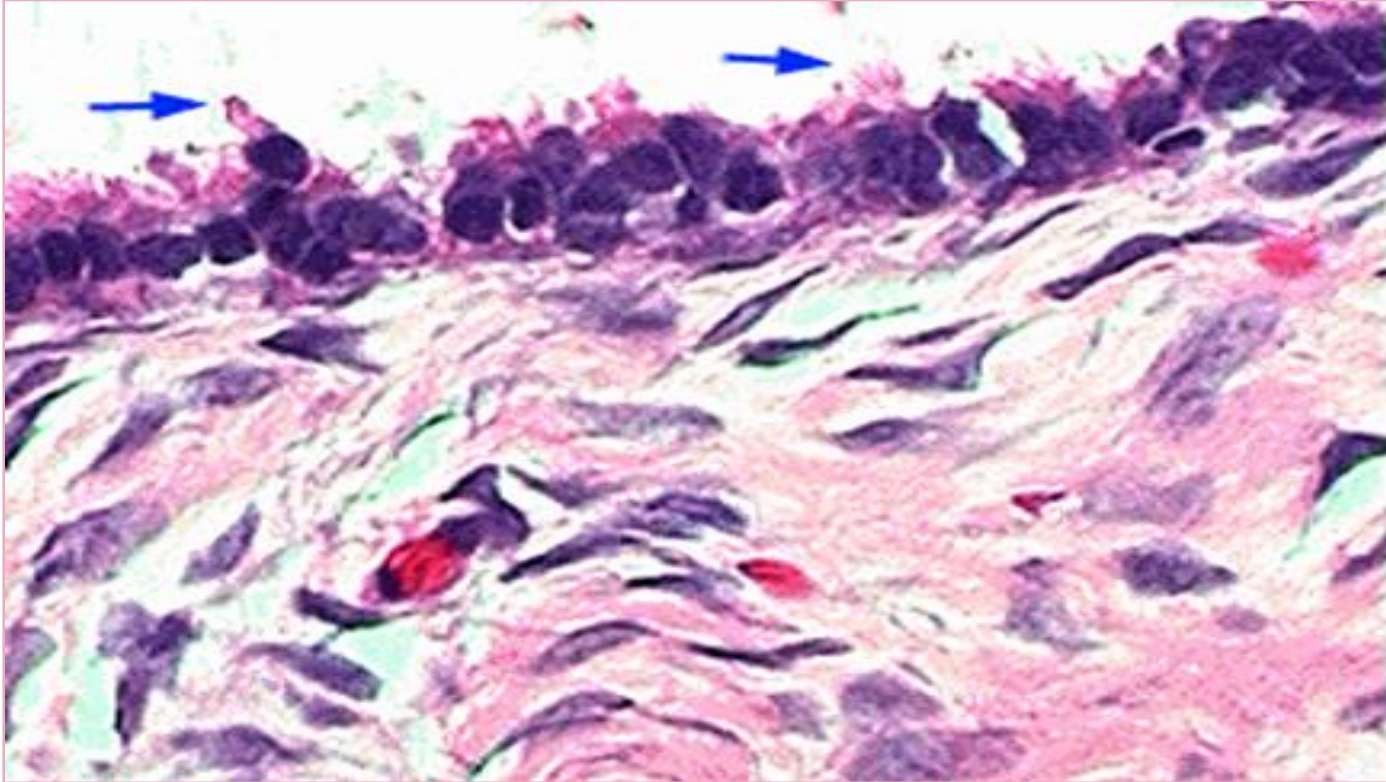
*Microscopy shows the thin wall lined by a simple **epithelium** with cilia that may be columnar or flat.*

Serous Cystadenoma of the Ovary - HPF



High power shows the thin wall lined by a single layer of columnar cells with a basally-placed spherical small nucleus

Serous Cystadenoma of the Ovary - HPF

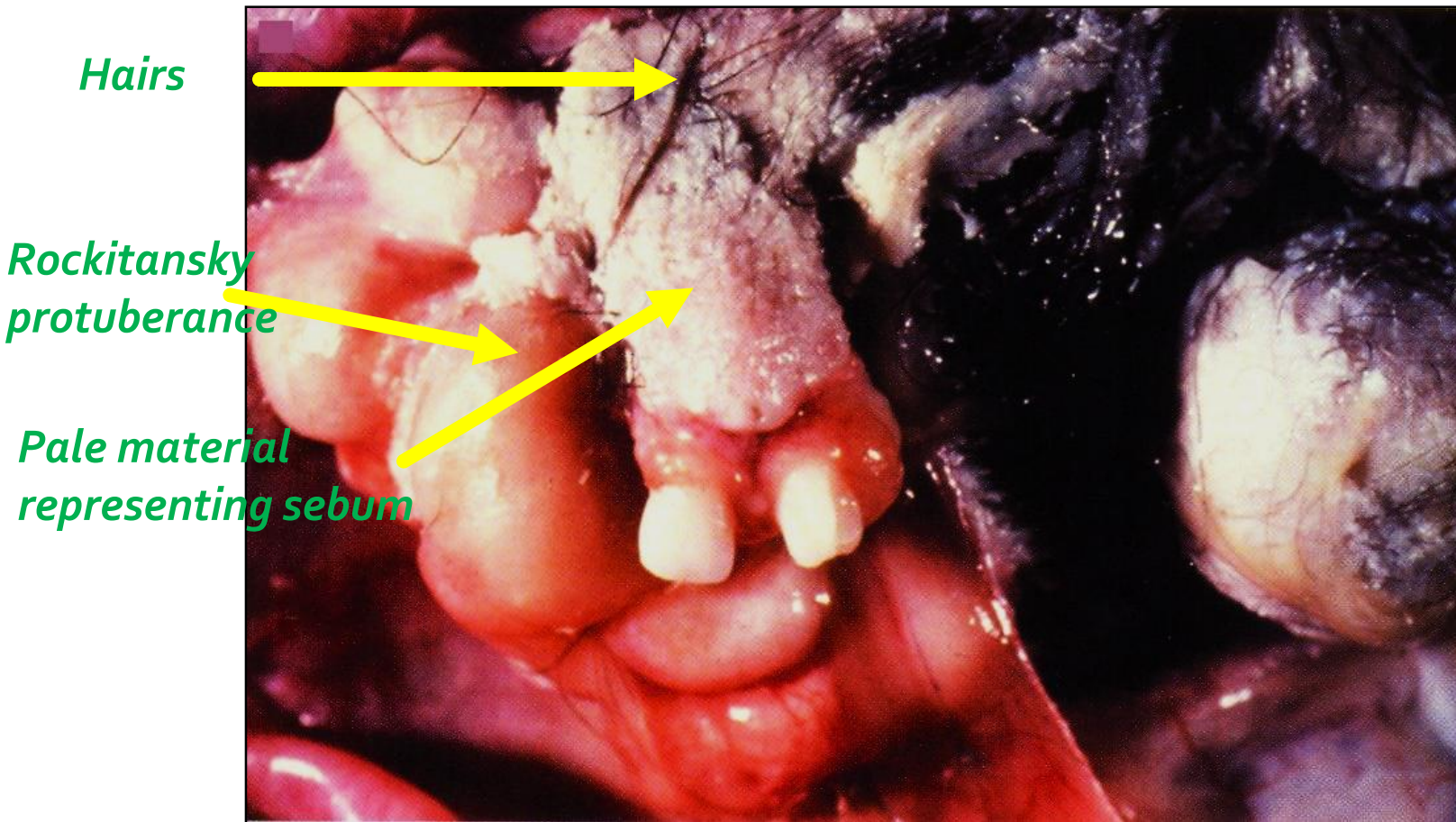


- *The blue arrows point to cilia.*
- *The cells have dark nuclei without nucleoli or mitoses.*
- *The cytoplasm is eosinophilic and ciliated like tubal epithelium.*
- *The stroma contains spindle fibroblasts*



Dermoid Cyst (Teratoma) of the Ovary

Ovary: Mature Cystic Teratoma



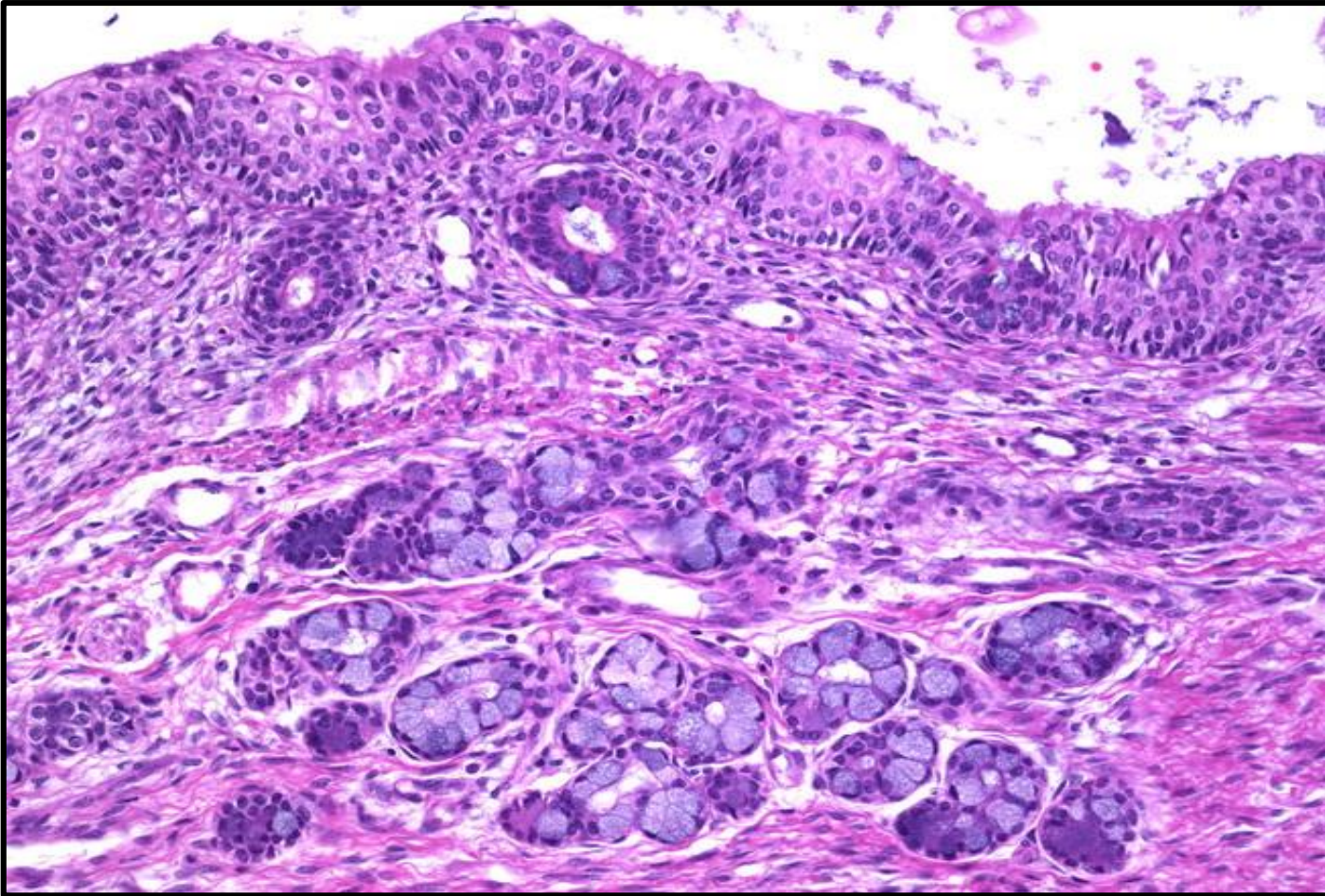
The picture shows cyst containing teeth and hairs with nail tissue and skin . It may be complicated by torsion infarction , struma ovarii and immature teratoma .

Ovary: Mature Cystic Teratoma



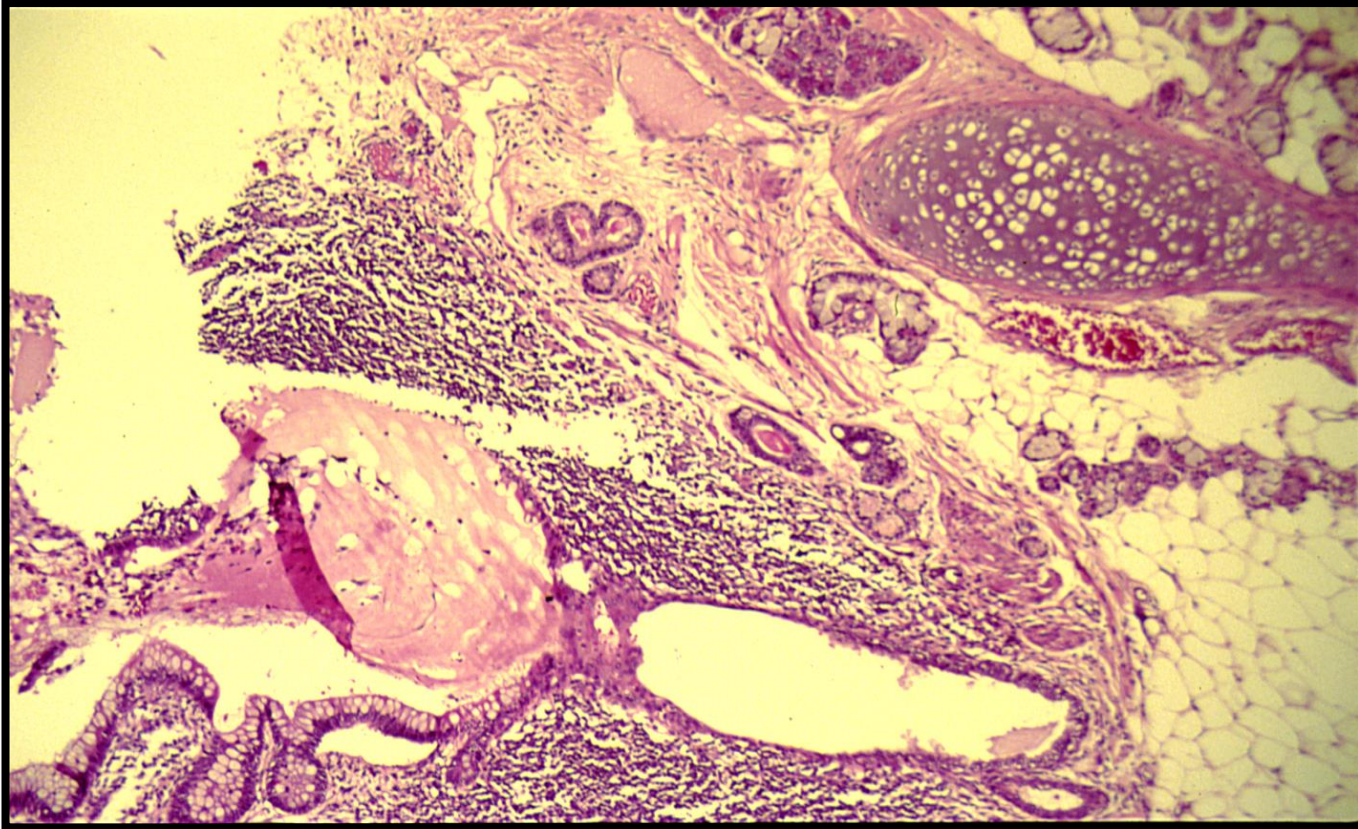
- *Hairs.*
- *Pale material representing sebum.*
- *Rockitansky protuberance.*

Ovary: Mature Cystic Teratoma



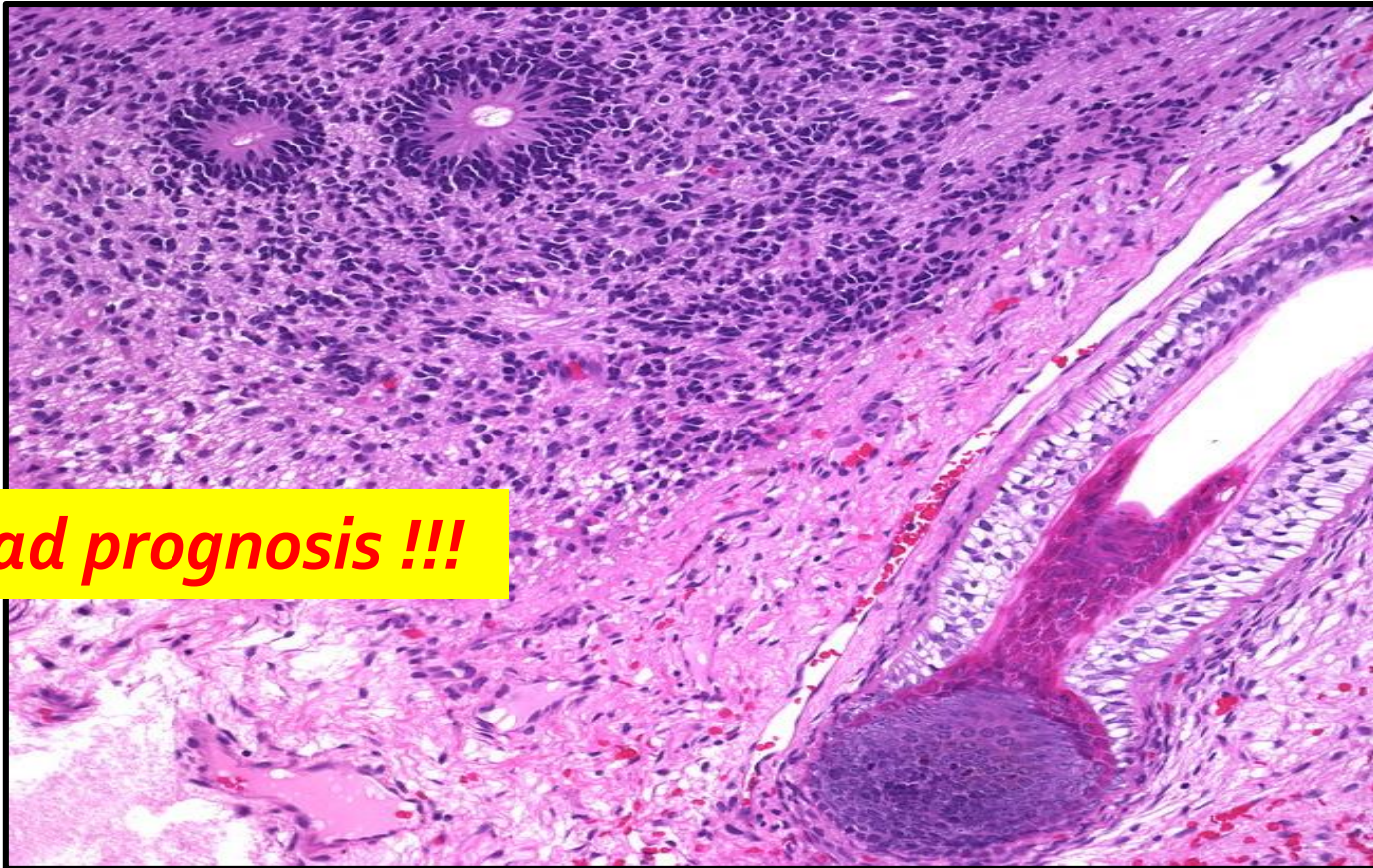
- *Skin and eccrine glands.*
- *Mucinous glands.*

Ovary: Mature Cystic Teratoma



Stratified Squamous epithelium with underlying 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 brain tissue containing neurons and glial cells

Ovary: *Immature* Teratoma



Carry bad prognosis !!!

- Neuroepithelial elements.
- Immature neural cell.

Sex Cord-Stromal Tumors

Granulosa tumors

Fibromas

Fibrothecomas

Thecomas

Sertoli-Leydig cell tumors

Steroid (lipid) cell tumors

Germ Cell Tumors

Teratoma

 Immature

 Mature

 Solid

 Cystic (dermoid cyst)

 Monodermal (e.g., struma ovarii, carcinoid)

Dysgerminoma

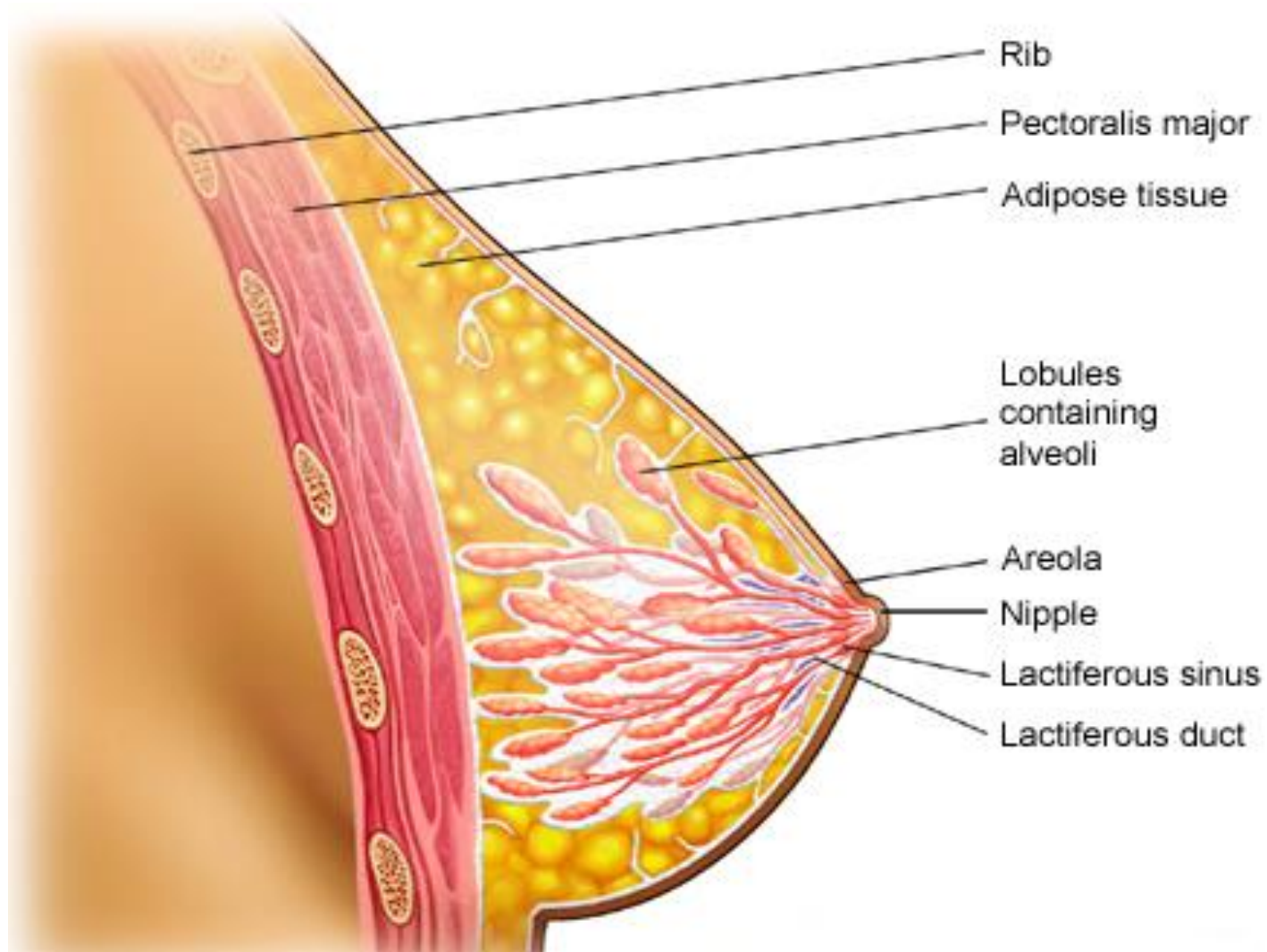
Yolk sac tumor

Mixed germ cell tumors

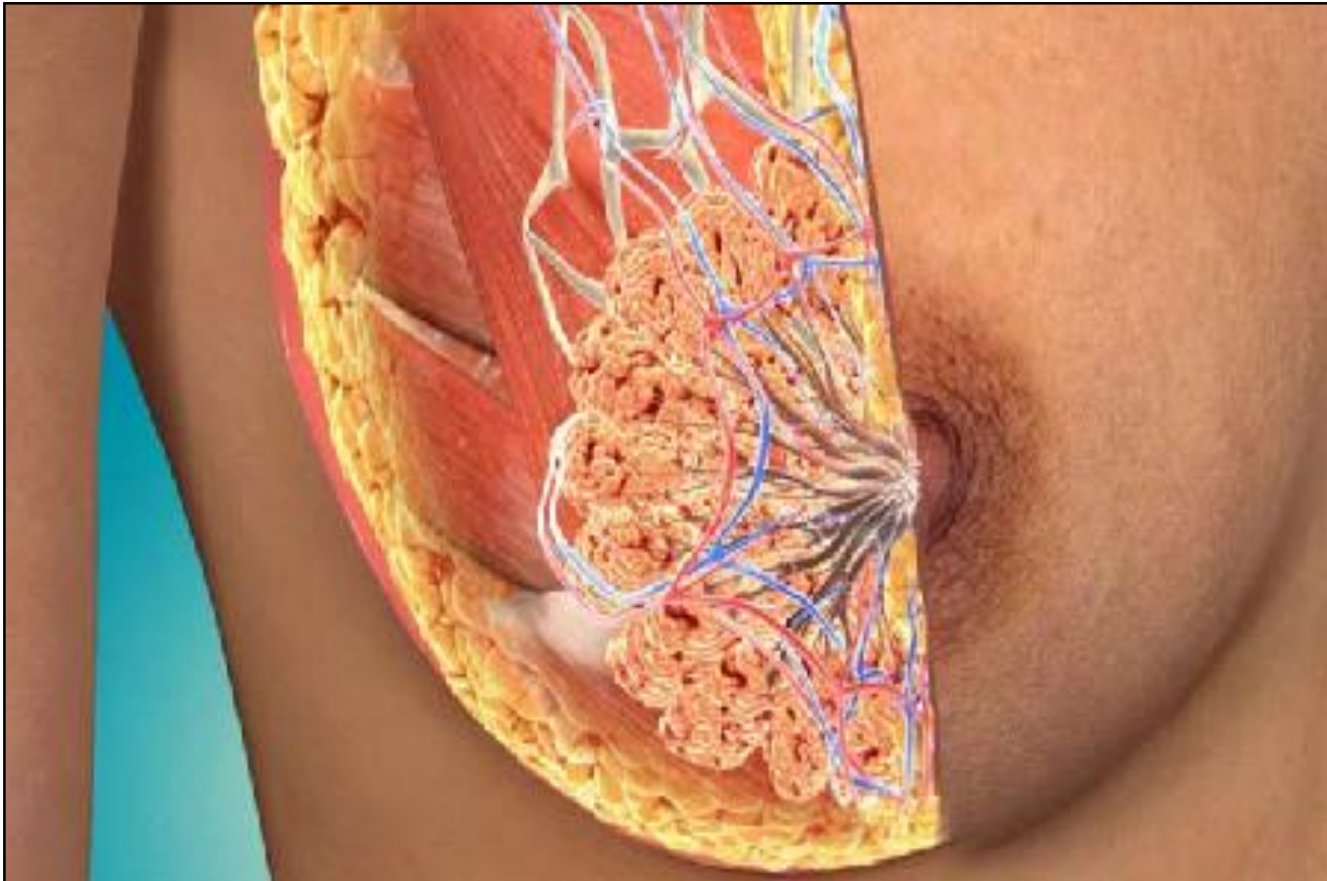


Breast Diseases

Diagram of the Normal Breast



Anatomy of Normal Female Breast



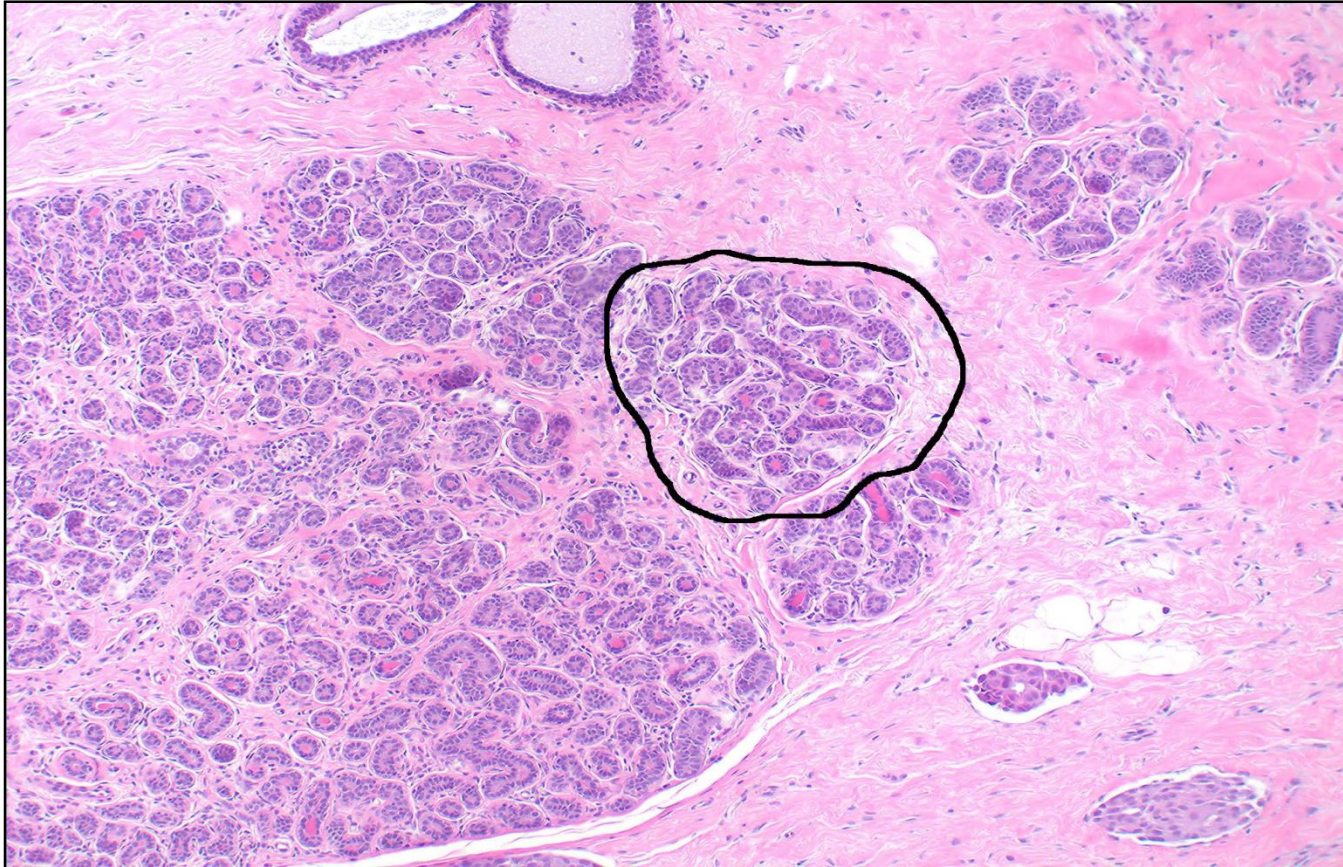
From inside outwards : Pectoralis muscles, Adipose tissue , Lobules containing alveoli (acini), Lactiferous ducts, Lactiferous sinus, Nipple , Skin covering the breast with dark colored Areola around the nipple.

Normal Breast Lobe



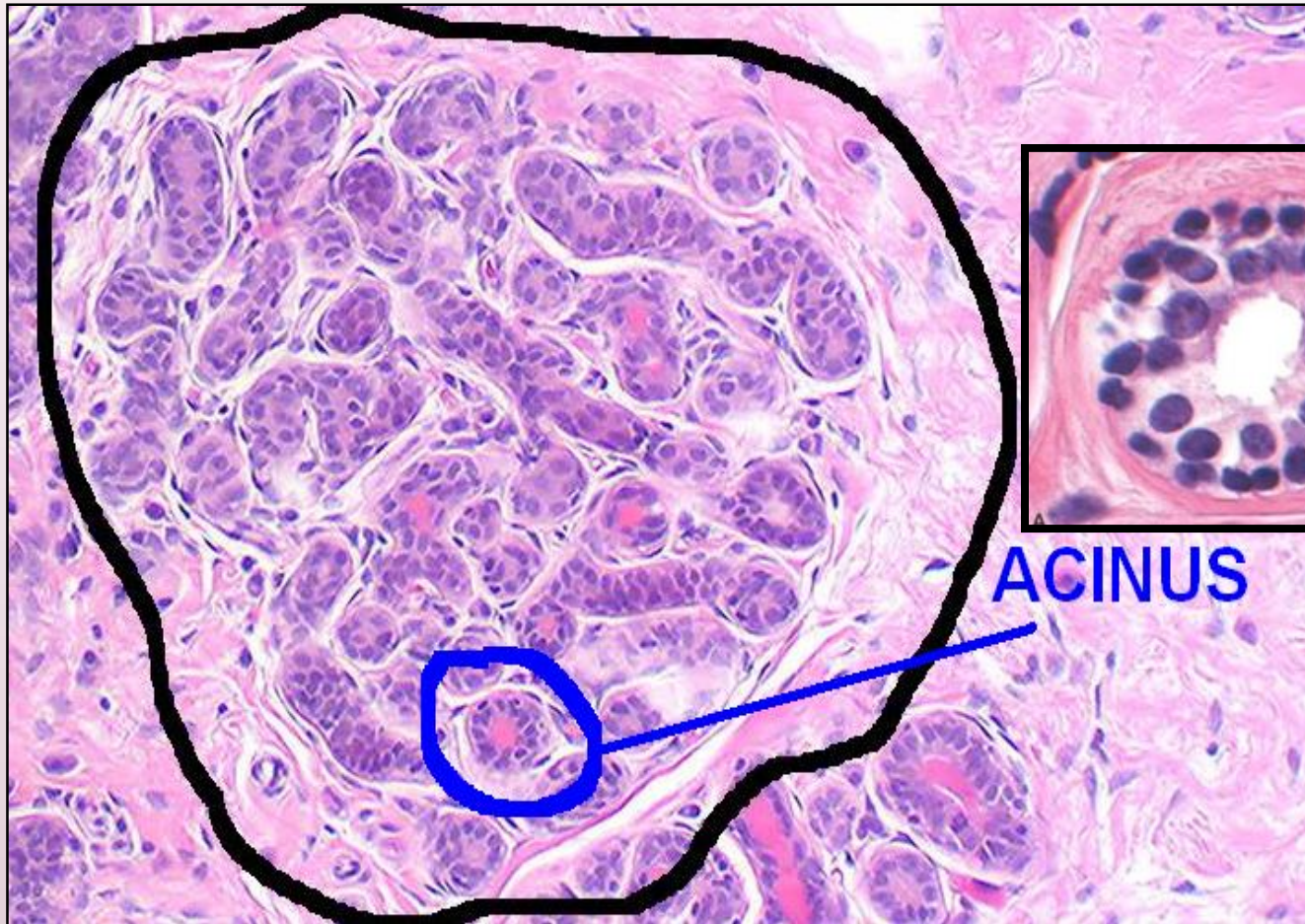
There are an average of about 10 LOBES per breast. The suspensory ligament separates lobes.

Normal Histology of Breast– LPF



Normal histology of breast tissue consists of the lobules. Within the lobules are small acini. Lobules are connected to intralobular ductules and interlobular ducts. Lobules are surrounded by loose connective tissue sensitive to sex hormones.

BREAST ACINUS – HPF Microscopy



Each lobule contains several acini. Acini are also known as alveoli similar to pulmonary alveoli but the difference here it is secretory but in the lungs it is respiratory.



GROSS AND HISTOPATHOLOGY



Fibroadenoma

Fibroadenoma of the Breast - Gross

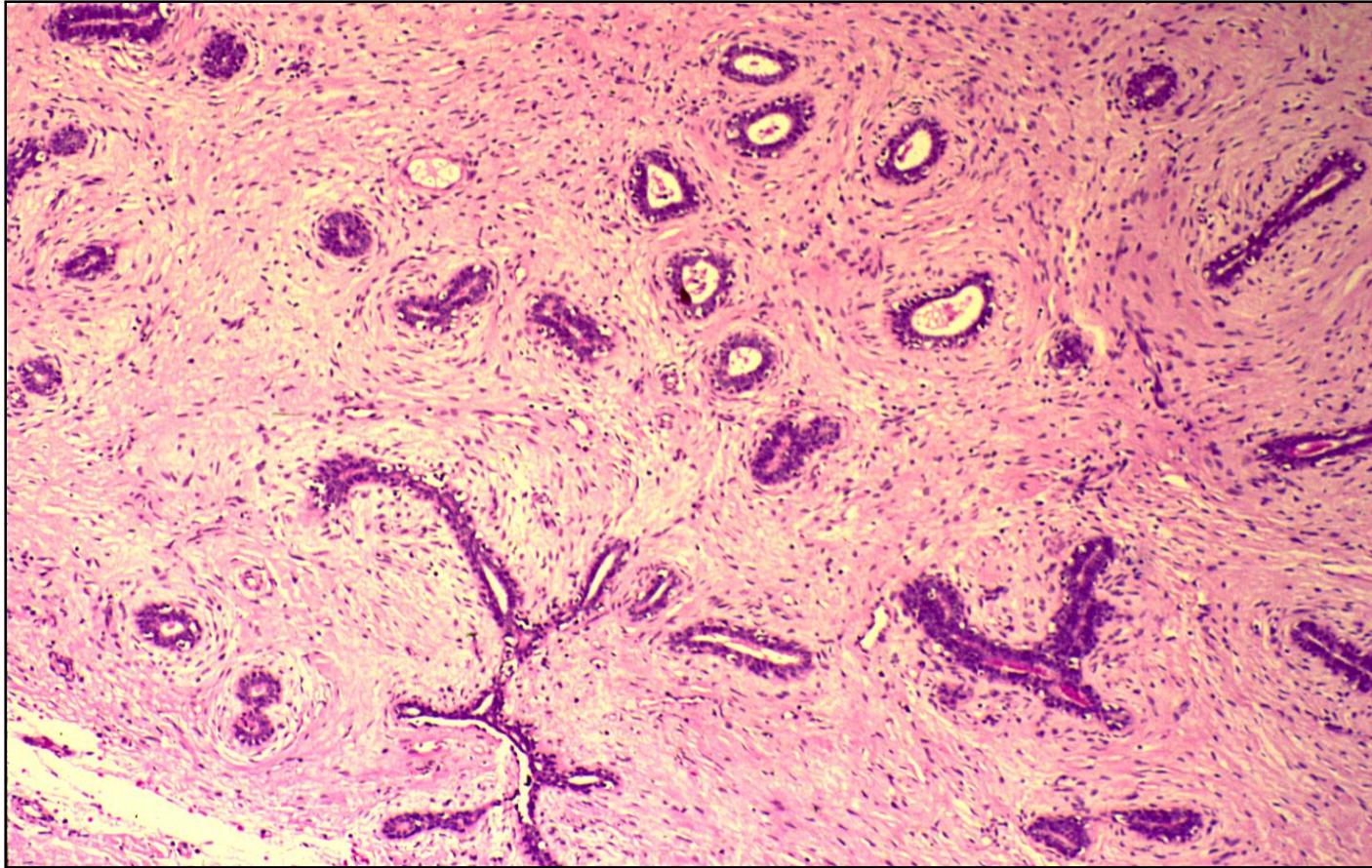
On examining the Breast lesion : *Well-circumscribed, movable, rubbery and discrete mass.*

Gross



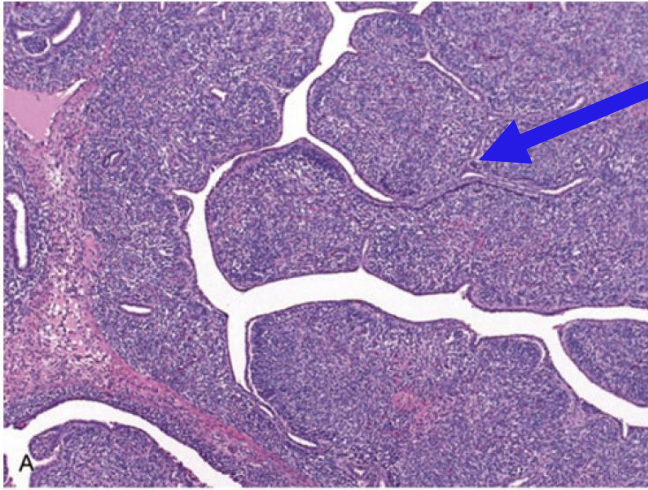
Pale, bulging white mass with "slit-like" spaces.

Fibroadenoma of the Breast- HPF



- *Proliferating fibrous stroma.*
- *Elongated and compressed ducts.*

Fibroadenoma of the Breast- LPF

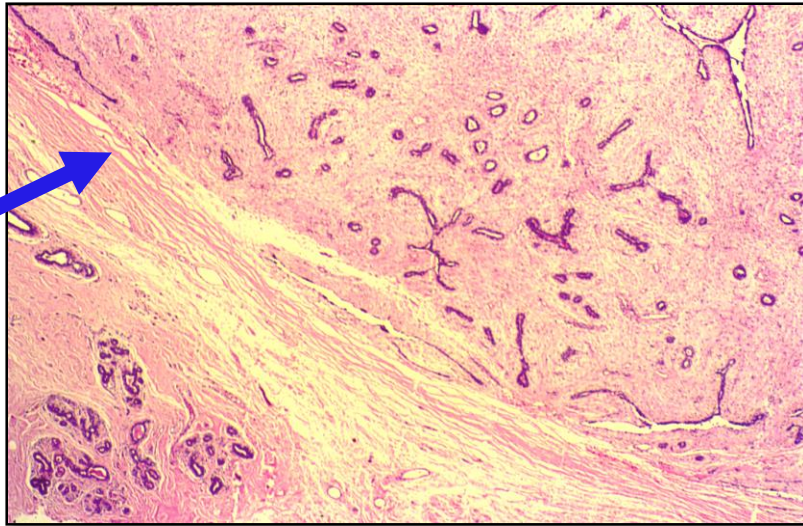


Phyllodes tumor :

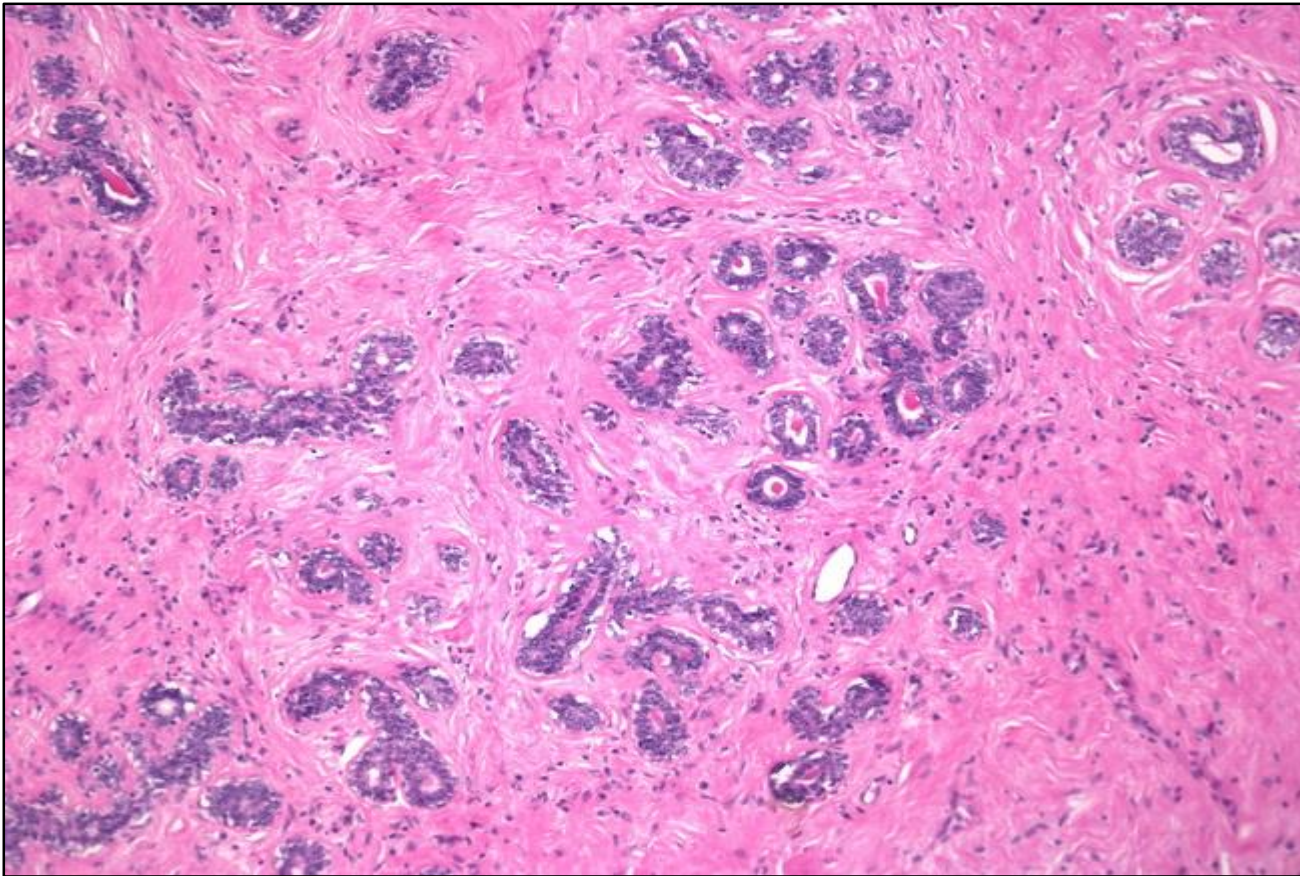
- *Increased stromal cellularity.*
- *Leaf-like epithelium lined projections*

Fibroadenoma:

Proliferation of both glandular tissue and fibrous tissue with intracanalicular and pericanalicular fibrous and ductular tissue growth pattern .



Pericanalicular Fibroadenoma of Breast



Pericanalicular Fibroadenoma: in histologic pattern, the glands maintain their round or oval profiles. There is no prognostic or clinical significance attached to the pericanalicular and intracanalicular patterns. Both may be seen within the same lesion



Carcinoma of the breast

Breast Cancer – Clinical Signs



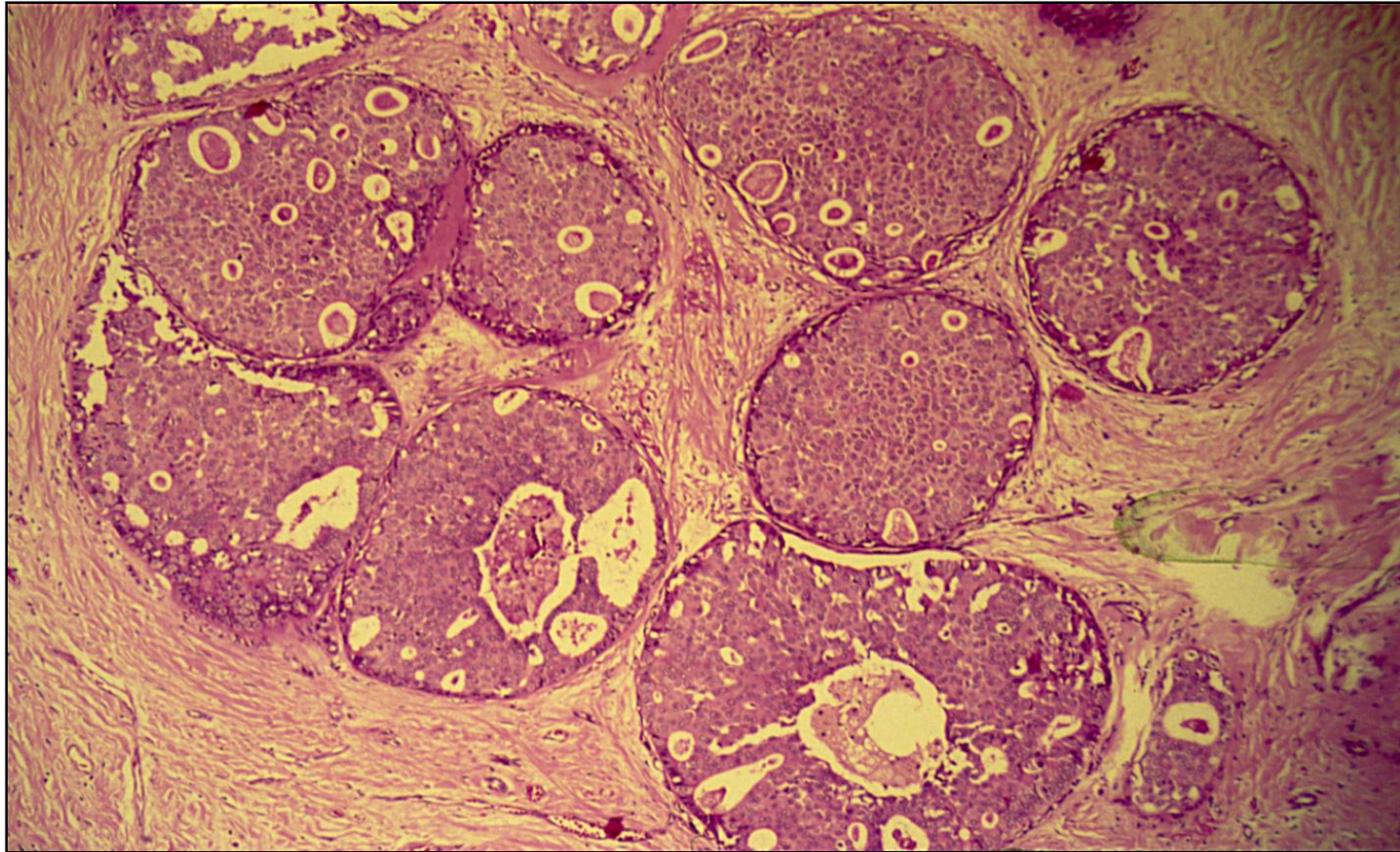
*Breast cancer showing an inverted nipple,
lump and skin dimpling*

Breast Cancer – Gross Biopsy



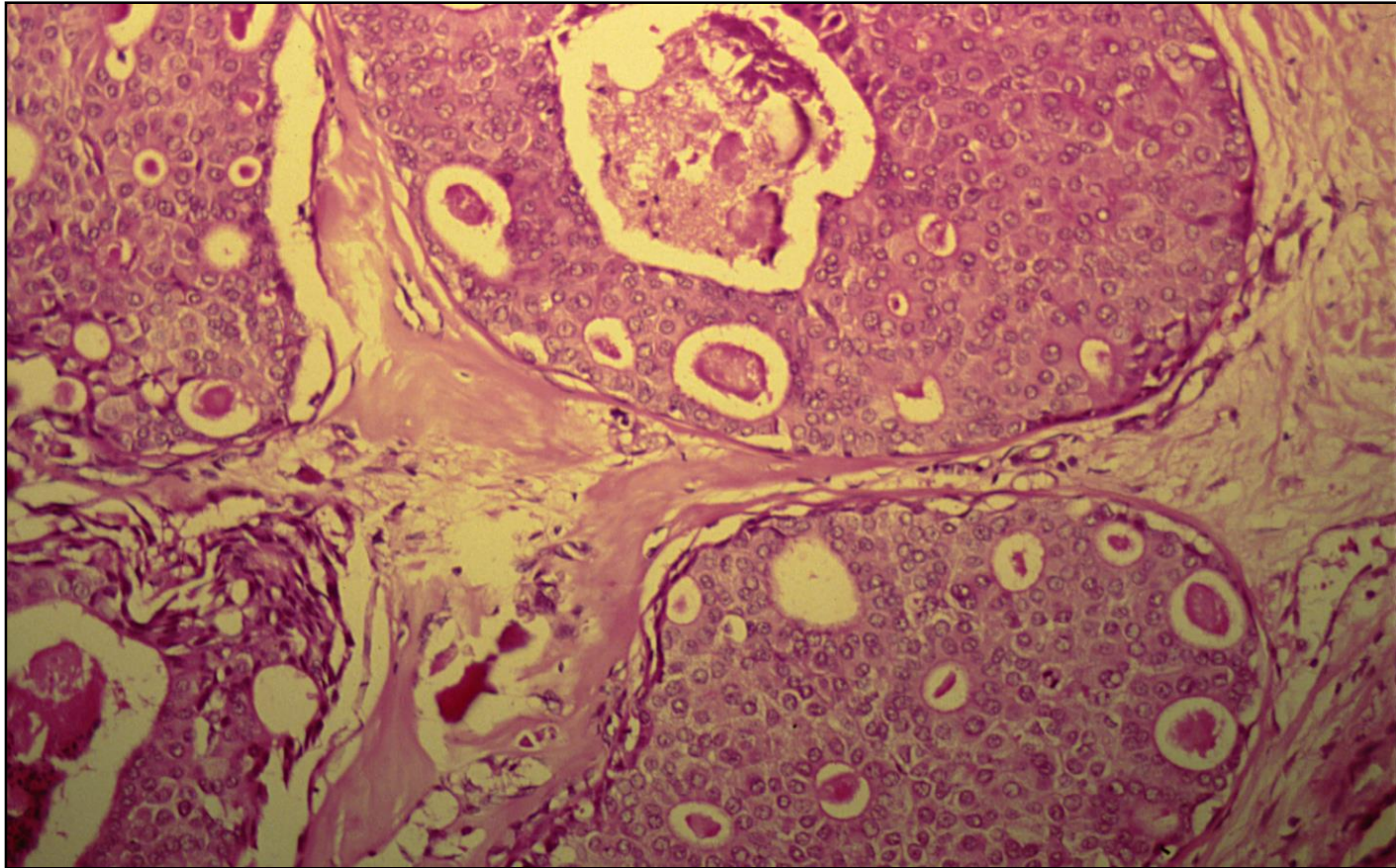
Ill-defined pale and firm nodule with overlying retracted nipple and surrounding skin .

Intraductal (In-situ) Carcinoma of the Breast- LPF



Cells are forming imperfect acini and shows a cribriform pattern. Small groups of cells in the center of many ducts are necrotic. No invasion of basement membrane of the ducts.

Intraductal Carcinoma of the Breast- HPF



Large ducts are distended by neoplastic epithelial cells which are pleomorphic with large hyperchromatic nuclei and mitosis.



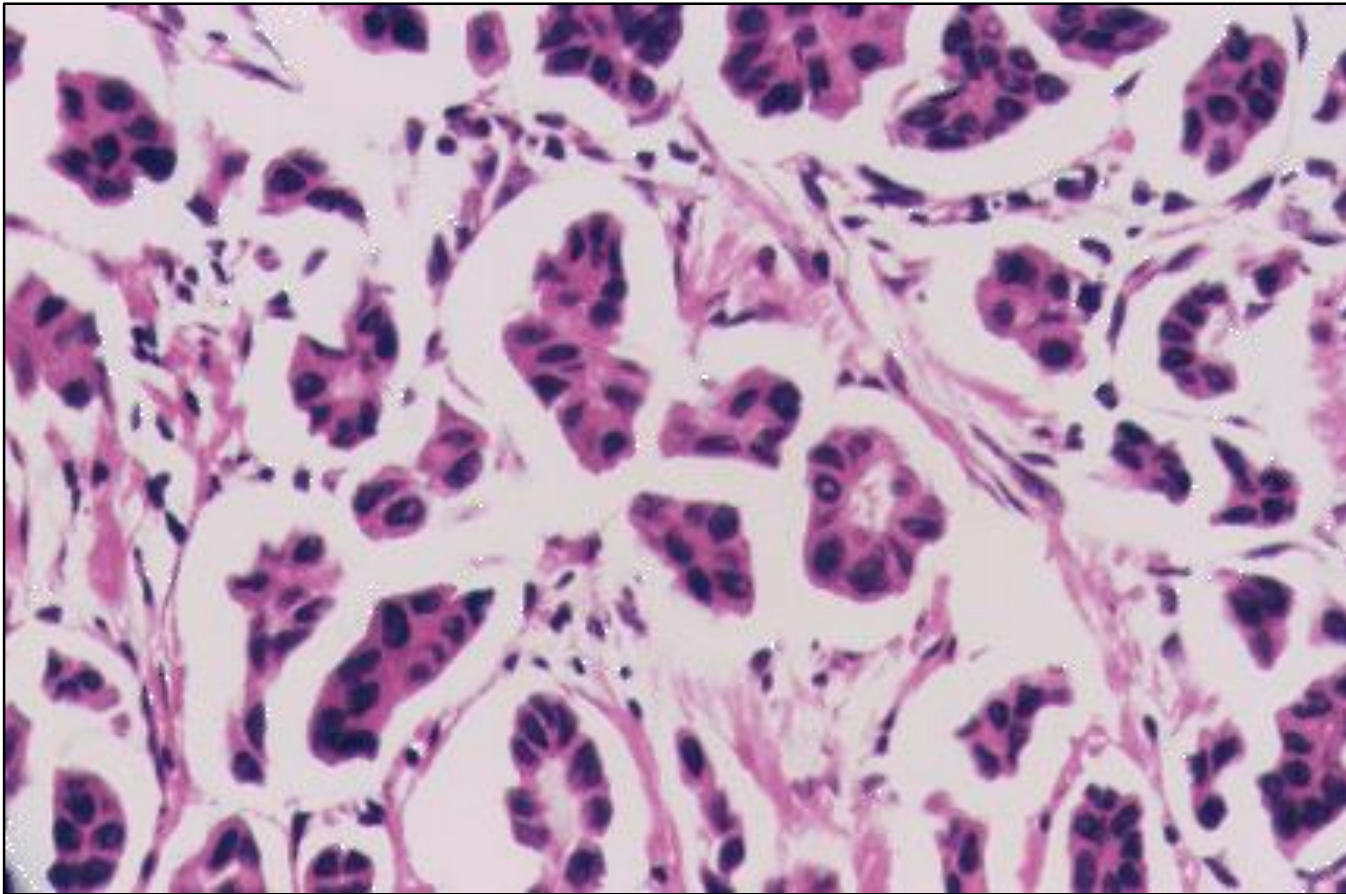
Invasive Ductal Carcinoma of the Breast

Invasive Ductal Carcinoma of Breast



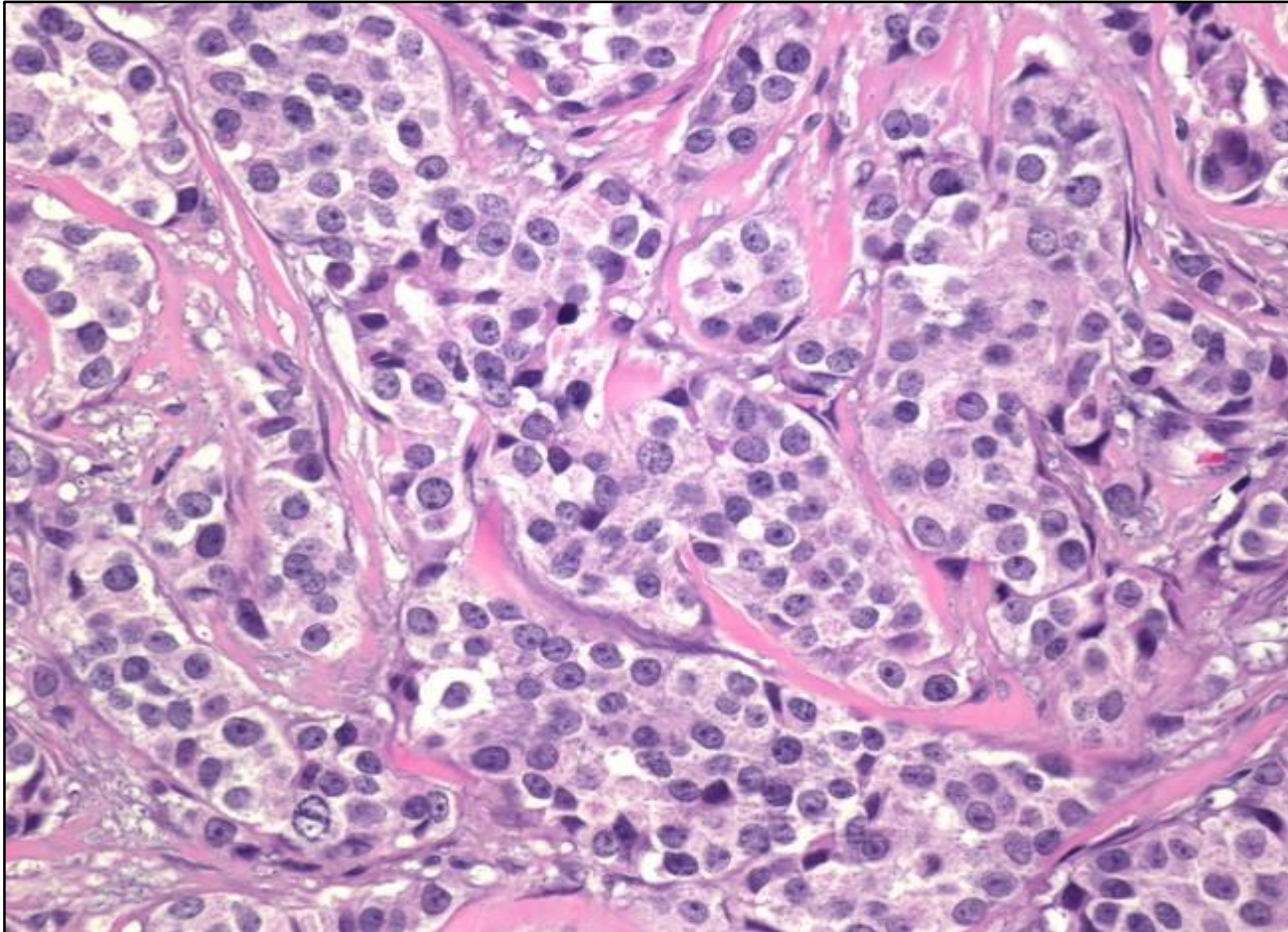
In a typical invasive ductal carcinoma, the tumor is firm and poorly circumscribed with a yellowish gray cut surface. It cuts with a gritty sensation. It may show strands radiating into the surrounding fat.

Invasive Ductal Carcinoma of Breast



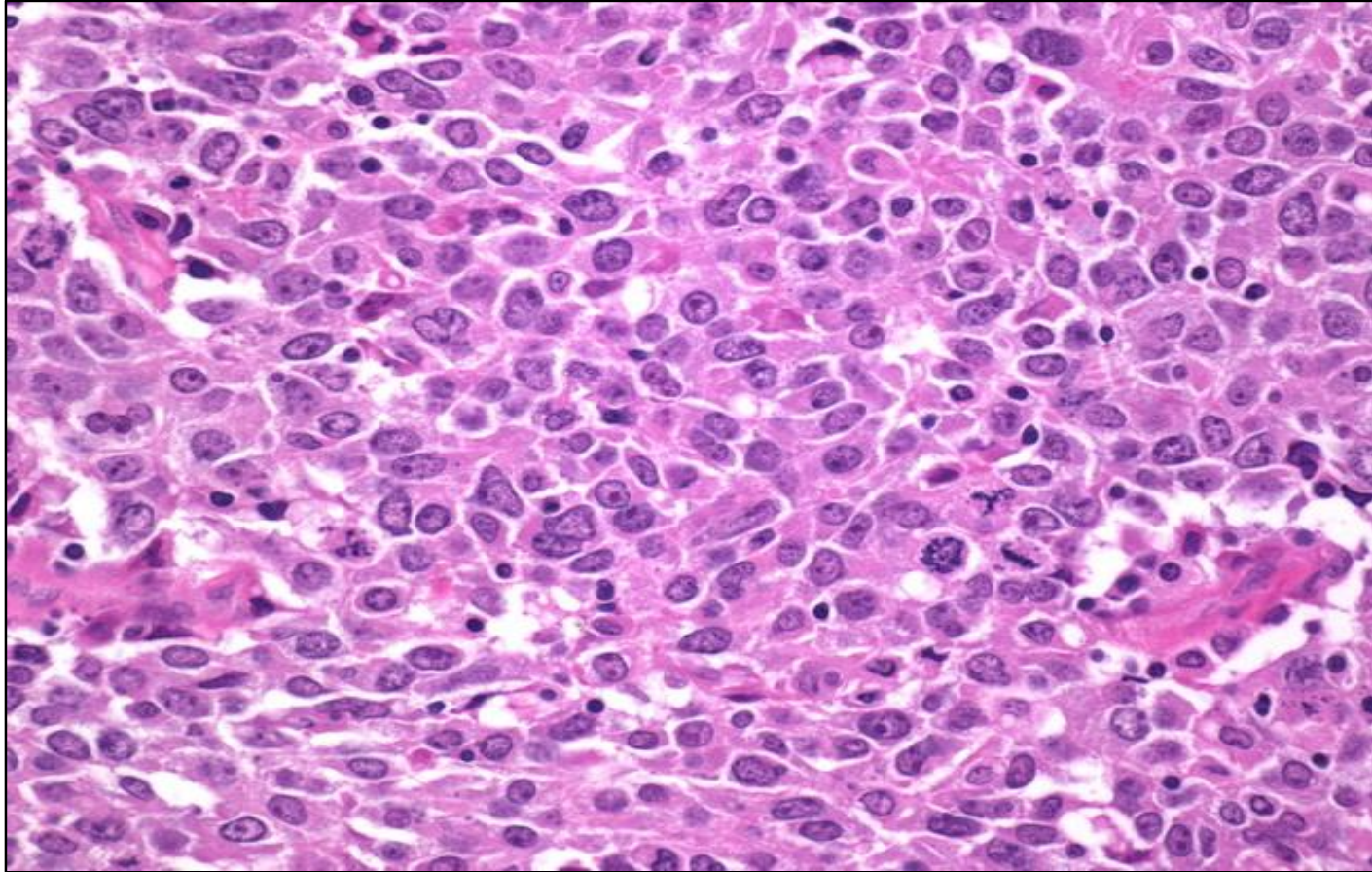
Microscopically , A well-differentiated ductal carcinoma made up of small acini and glands. Tumour cells are around to polygonal with deeply stained nuclei and occasional mitoses. Nuclear atypia is mild

Invasive Ductal Carcinoma of Breast



Cords, sheets and nests of tumour cells surrounded by dense fibrous tissue stroma containing scattered lymphocytes

Invasive Ductal Carcinoma of Breast



High grade invasive ductal carcinoma, The tumor cells are highly pleomorphic and show frequent mitotic figures with minimal tubular formation



Paget's Disease of the Nipple

Paget's Disease of the Nipple - Gross



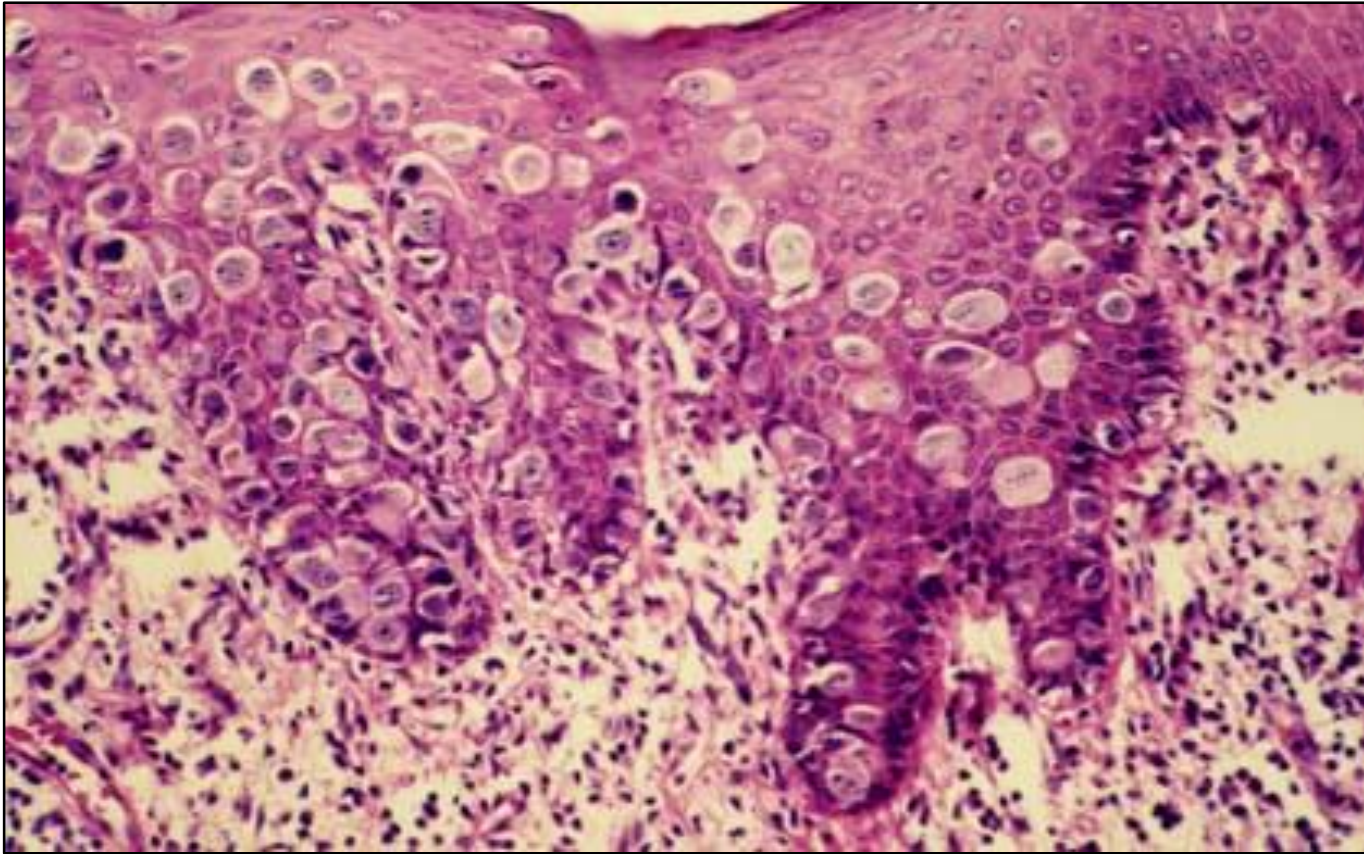
- Paget's disease is a nipple lesion associated with ***Invasive ductal carcinoma of the breast OR ductal carcinoma in situ***.
- ***Clinically***, the lesion is ***eczema-like*** with hyperemia and erosion of the epidermis. ***Initially may be treated by cortisol-containing cream.***

Paget's Disease of the Nipple - Gross



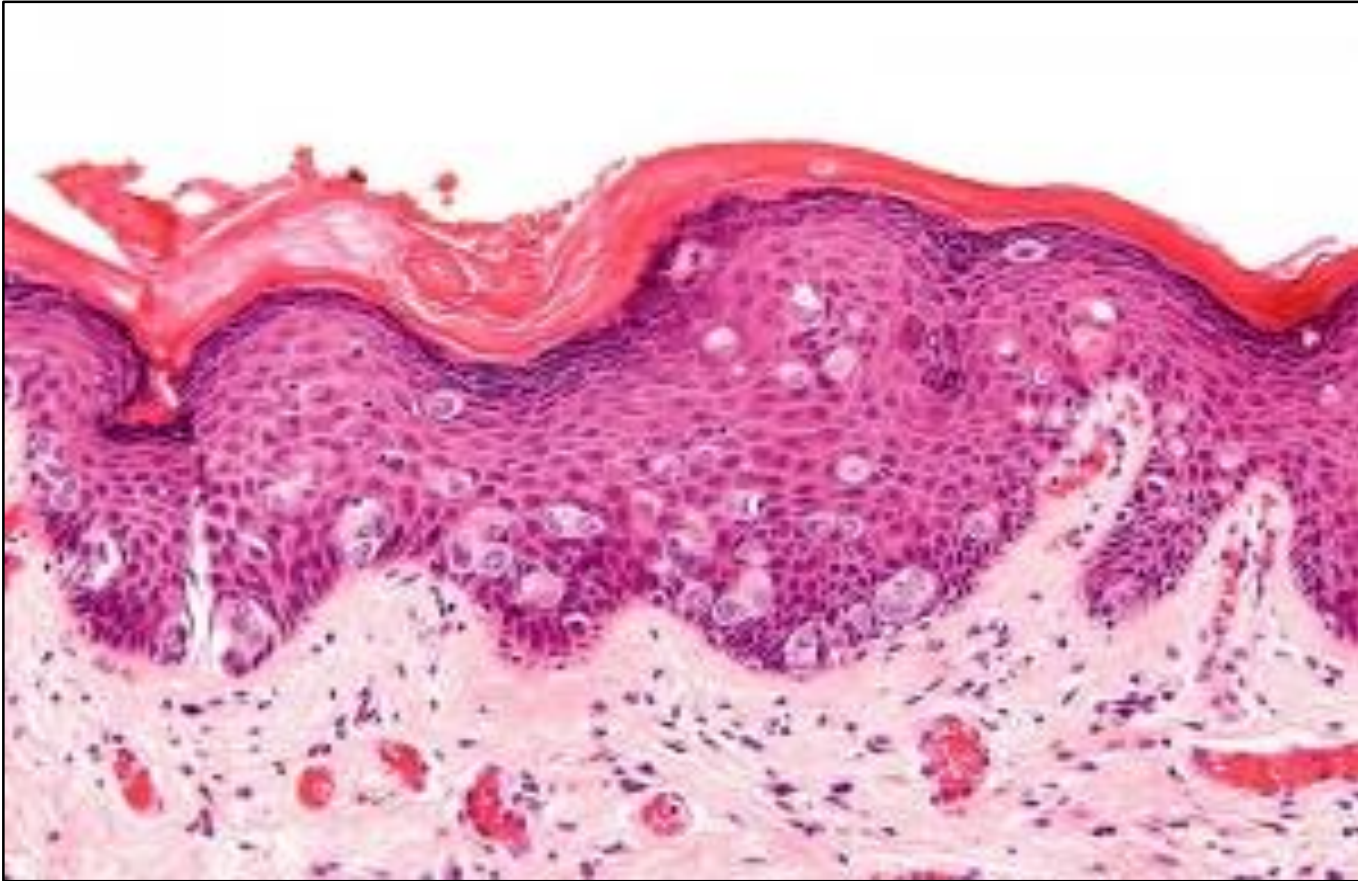
- *Erythema and redness of the nipple skin.*
- *Erosion of the epidermis.*

Paget's Disease of the Nipple- HPF



- *Epidermis is infiltrated by large, pale and vacuolated cells/Paget's cells.*
- *Most of the abnormal cells are seen in lower epidermis.*

Paget's Disease of the Nipple- HPF



Hyperkeratosis of epidermis and chronic inflammation in the dermis are common. Ulceration and invasion of epidermis by ductal carcinoma cells (Paget cells), present between basal cells in elongated rete pegs.



GOOD LUCK