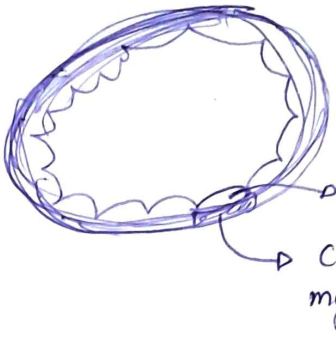
Breast Pathology

glandulars.
1. epithelial carcinoma – CK7 ⊕ – CK7- usually negative for sq. cells → CK5,6+
2. prostate also has luminal & myoepithelial.

luminal epithelial cell → CK7.

myoepithelial cells - markers
- CK 5, 6.
- P53
- SMA
- S100.



→ paget's is CK7+ even though it is in squamous cell layer?
y? cause paget's is glandular origin cells that happens to be in Sq. epithelial cell layer.

- that is why in breast, there is underlying Tx - usually ductal origin.
- hey, there is no underlying Tx in vulva, so where does it come from?
- sweat, sebaceous, apocrine glands from vulva.

- paget's = always glandular epithelial cells.

Inflammatory lesions.

① acute mastitis. - staph, strep
- via cracked nipples – bacteria from child's mouth.
- infection → ✓pus abscess → staph aureus. M/c
✓ cellulitis – strep.

Duct ectasia.
- ectasia = dilation. {telangiectasia}
- what? laciferous duct
* thick pasty creamy accumulations.
* discharge ✓
* m/c → FOAMY MACROPHAGES

③ lymphocytic mastitis

autommune = lymphocytosis

→ seen in SLE, sjorgen, hashimoto's
↳ lymphocytosis

④ Granulomatous mastitis.

- TB
- silicon Implants {foreign body}
- Sarcoidosis.

⑤ ZUSKA disease MCQ SMOKING ETIOLOGY

other names: Subareolar abscess

SMOLD – squamous metaplasia of lactiferous duct.

#. cuboidal ——→ squamous cells.

SMOKING causes SMOLD.

smoking is a risk factor for Breast ca.
↓
SMOLD.

- Keratin plugs → abscess formation.
  ↓
  we might confuse with ~~sepsis~~, staph infection

⑥ Fat Necrosis

→ trauma to Breast
↓
fat breaks down to → fatty acids.

Fatty acids attract calcium
Saponification – chalky white appearance.

Radiology
→ calcifications { But not breast cancer don't confuse.

lesions of Breast

		relative RR	absolute AR
• Non proliferative breast changes.	- mild hyperplasia ectasia, cysts, fibroadenoma without complexity.	1%	3%.
• proliferative Breast changes - without atypia.	- Radial scar. moderate hyperplasia. sclerosis adenosis. intraductal papilloma.	2% (1.5-2%)	6% (5-7%)
	FA with complex features.	4% (4-5%)	>12% (11-17%)
• proliferative diseases with atypia. → atypical ductal & lobular hyperplasia. ADH, ALH.		8% (8-10%)	>24% (25-30%)
• Carcinoma - insitu. {pre cancerous}			

Chromosome loss 16, 17 gain. INICET.

Intraductal papilloma → patient presents as.
→ Subareolar lump &
Nipple discharge.

Sequals.

ADH → DCIS → ductal carcinoma

ALH → LCIS → lobular carcinoma.

Fibrocystic disease

→ ① fibrosis
② cystic
③ adenosis

★ lumpy bumpy consistency.

★ cyclical pain

morphology

✓ fibrosis

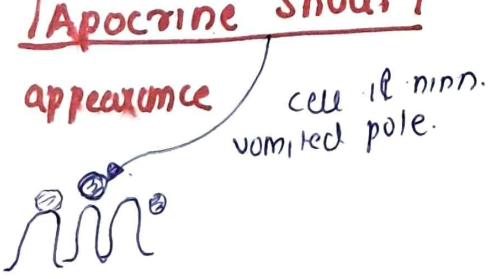
✓ cyst → fluid filled
↓
Blue coloured cyst
↓
BLUE DOME CYST

• while doing FNAC
↓
cyst will go... But
will come back

M/C

• cyst lining → apocrine metaplasia.

→ apocrine cells = MORE PINK CELLS
↑ eosinophilic cytoplasm.
↓ ↓
Apocrine snout appearance



"Adenosis" ✓

adenosis ⇒ ↑ acini per lobule.

↑ acini → gives that bumpy, bumpy...

Radial Scar. ★ MCQ

• whitish scar tissue in centre
↓ ↓
central stellate scar

Where else can u see central stellate scar?

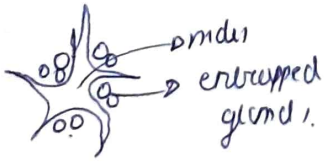
Breast — Radial Scar

Kidney — oncocytoma.
chromophobe RCC

Liver — focal nodular hyperplasia.
fibrolamellar HCC.

Pancreas — serous cystadenocarcinoma, pancreas.

"central nidus of entrapped glands in a hyalinyed stroma is surrounded by long radiating projections into stroma"



BREAST TX

Classification

Epithelial

Ductal – ductal carcinoma (DCIS) in situ → pre Ca.
- infiltrating ductal carcinoma (IDC) → malignant

lobular
- Lob Ca Insitu (LCIS) → pre malignant
- ILC

Stromal

Intralobular tumours.
- Fibroadenoma. (phy – filling tx inside duct)
- phyllodes.

Interlobular
- lipoma.
- angiosarcoma.
- myofibroblastoma.
  - equal incidence in M F both male & female
  - rest – female predominance

Fibroadenoma

- radiology – Breast mouse.
- soft to firm but Completely mobile
- Slips
- radiology
- shows
- popcorn calcification
- molecular alterations – MED 12 – Robbins update.
- drug associated – Cyclosporine
  - eg: H/o transplantation

popcorn.
- Radiology
  - Calcification.
    - Fibroadenoma.
    - pulmonary hamartoma.
- pathology
  - R.S cells
    - Nodular lymphocyte predominant Hodgkin lymphoma.

MED-12
- Fibro adenoma.
- phyllodes Tx
- Fibroids (leiomyoma)

FNAC of fibroadenoma

* Staghorn cluster of cells
* Bare nuclei
  - "cytoplasm is absent"

Staghorn.

Calculus.
- Struvite stone made of triple phosphate.
- Blood vessel

hemangiopericytoma

Megakaryocyte

essential thrombocythemia.

FNAC
- fibroadenoma.

Histopathology

- Intracanalicular
- pericanalicular

I - closed ducts

P - open ducts.

- But prognosis same in both.

Complex F.A

- cyst formation >0.3cm
- papillary apocrine change.
- sclerosing adenosis.

Complex - 5

- need to keep patient in follow up.

PHYLLODES TUMOUR

* MED12
* TERT mutation
* 1q gain

- phyllodes can be.

✓ Benign
✓ Borderline
✓ Malignant → >10/10 hpf. mitosis.

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for Leiomyosarcoma too.

malignant cut off is >10/10 hpf.

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these are the only mitosis related question asked from here...

Both have cut off >10/10 hpf.

Breast Cancer Risk factor.

Sporadic

- age
- early menarche.
- Late menopause.
- Nulliparity.
- obesity / sedentary lifestyle / high fat diet.
- Smoking.
- genetics - P53 m/c

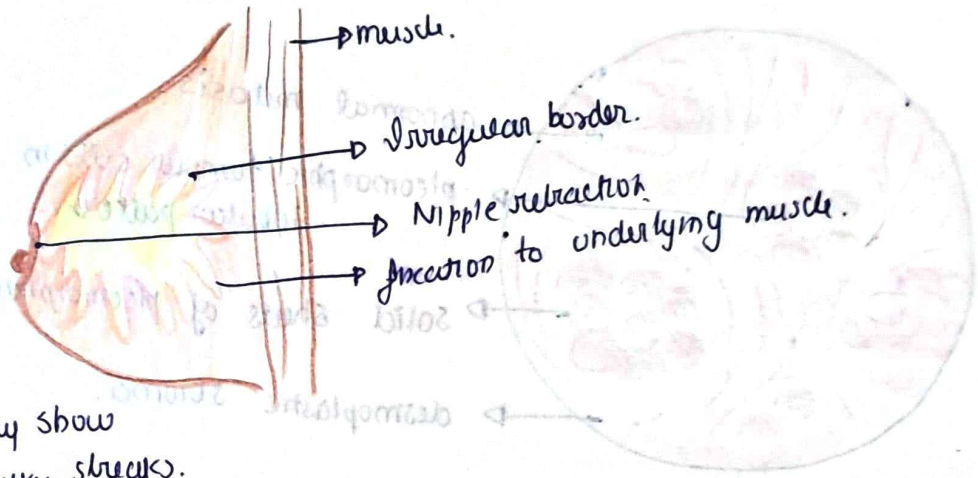
familial/Genetics

Carcinoma Breast - MORPHOLOGY.

I. Invasive Carcinoma - No special type.

GROSS :

- Irregular border.
- Hard mass.
- grating sound on cutting.
- Cut section → may show Chalky streaks.



- Large tumours → skin dimpling
  nipple retraction.
  fixation to chest wall.

MICROSCOPY

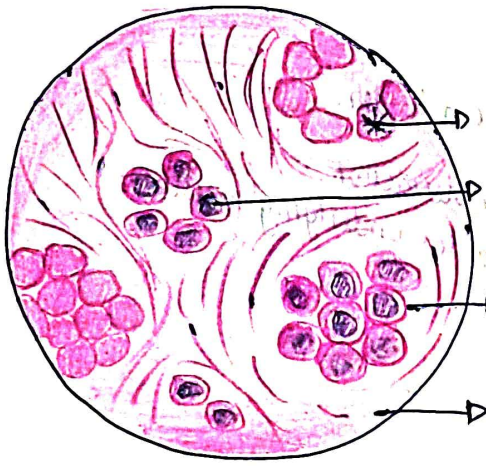
- Grading is by — NOTTINGHAM HISTOLOGICAL SCORE
  (Tubule formation
  nuclear pleomorphism.
  mitotic scale.)
  TNM

GRADE I : well differentiated : tumour cells forms tubules.
- small round nuclei
- rare mitotic figures.

GRADE II moderately differentiated : tubular pattern
solid cluster or single myoepithelial cell.
nuclear pleomorphism.
mitotic figures.

Grade III : poorly differentiated.

- nest or solid sheets of cells.
- irregular nuclei
- numerous mitotic figure.



II. Invasive lobular carcinoma.

GROSS : often ill defined.
may be difficult to detect.

MC : small, uniform, discohesive cell {loss of E-cadherin}

- arrangement : Indian file pattern.
- may show signet ring cells.
- target like pattern of arrangement around ducts can be seen.