

2020 / 10 / 30

• (72) y/o Female patient, retired teacher. C/o

upper
outer
quadrant

- Small protruding (lump) in the superolateral aspect of the breast, below the areola, covered by skin.

- She appears normal, ? without pain

This state continued for two months, then, less than a month ago, appeared a redness of small area adjacent to the lump, otherwise she's normal.

She began to worry as she had a FH of cancer

✓ Brother → osteocarcinoma

✓ cousin → CA Breast

✓ Aunt → GIT cancer.

So, she need to out clinic ? after examining ?
investigation she was indeed diagnosed with CA Breast

(Invasive lobular carcinoma)
of Right Breast

TARGET POINTS ::

1. Signs & Symptoms of Breast Cancer
2. Important points in the examining
3. Different types of Breast cancer
4. How to diagnose Breast cancer.
5. Staging & prognosis
6. Treatment Modalities

A) Signs & Symptoms of Breast cancer

Five common presentations that warrant urgent attention:

- ① a new, discrete lump
- ② nipple discharge — Blood stained OR persistent.
- ③ nipple retraction or distortion of recent onset
- ④ altered breast contour or dimpling.
- ⑤ suspected Paget's disease.

• other common symptoms that require investigation include:

- persistent asymmetrical nodularity ~~is~~
- mastalgia (that interferes with the patient's life)
- FH of Breast cancer.

• DDX of Breast lump

- 95% of Breast lumps will be one of the following:

- ① carcinoma of Breast
 - ② cyst
 - ③ fibroadenoma
 - ④ fibrocystosis (fibrocystic changes)
- } common breast disease

AND

less common causes:

- ① Trauma: Fat necrosis
- ② other cysts
 - galactocele
 - abscess
 - cystadenoma
 - retention cyst of gland of Montgomery

③ other tumors:

- duct papilloma
- sarcoma (extremely rare)
- haematoma
- lipoma

B) Important points in the examination (Brauer's)

Commonest presentations

- 1. Painless lump
 - ① Carcinoma
 - ② Cyst
 - ③ Fibroadenoma
 - ④ Area of fibroadenosis

- 2. Painful lump
 - ① Area of fibroadenosis
 - ② Cyst
 - ③ Periductal mastitis
 - ④ Abscess
 - ⑤ occasionally carcinoma

3. Pain & tenderness w/o lump

- ① cyclical breast pain
- ② non-cyclical breast pain
- ③ very rarely carcinoma

4. Nipple Discharge

- ① Duct ectasia
- ② Intraductal papilloma
- ③ DCIS
- ④ Ass. with a cyst

5. changes in nipple are/or areola

- ① Duct ectasia
- ② carcinoma
- ③ Paget's
- ④ eczema

6. changes in Breast size / shape

- ① pregnancy
- ② carcinoma
- ③ Benign hypertrophy
- ④ Rare large tumour

Remember that LA is the only life-threatening condition
? can present in any way ~~or~~ or Asymptomatic

IMPORTANT POINTS IN HISTORY

1] Age

CA Breast is

- extremely rare in teenagers
- unusual in the twenties
- from 30s onwards there is ↑ in incidence

- PEAK → 50s

↳ the calculation remains common in OLD AGE

2] SYMPTOMS

As the breast is a SURFACE ORGAN it rarely presents with signs of mets, & the complaints often related to primary lesion &

e.g.

~ Painless lump

~ Axillary lump

~ Prickling sensation

~ nipple changes

~ Size & contour

OR any of these features

+ Bone pain (Backache) due to bone mets is a common symptom of advanced disseminated disease but uncommon as a presentation

However - a pathological fx may be the FIRST sign of the disease

POF

Systemic symptoms commonly associated with cancer such as Malaise & weight loss are NOT found in patients with breast cancer.

Even those with mets often feel well until final stages.

③ FAMILY HISTORY

- 2% of ~~all~~ cases are BRCA +ve.
- FH of Breast or Ovarian cancer.
- declares itself before age of 40 yrs

④ PARITY

commonest in nulliparous
less increase in multiparous ? Breast feeding

+/- MENSTRUAL HISTORY



IMPORTANT POINTS IN EXAMINATION

① SITE

50% of all CA breast occur in upper, outer quadrant, including the axillary tail

② Tenderness

Most tumors are not tender but palpation may cause discomfort & the patient's anxiety

③ Temperature

only the VERY RARE inflammatory type feels warm

④ SHAPE

- carcinoma may grow into any shape
- may be multifocal

not unusual to find
two primary lesions (SYN)

5) SURFACE

- inelastic
- may be smooth mimicking cyst ? other benign lesion

6) COMPOSITION: all consistency

- solid ? feel firm or hard
 - Do NOT fluctuate, transilluminate nor have a fluid thrill.
 - some may be as soft as lipomas
- Do NOT attribute too much significance to composition/consistency

7) Relation to surrounding structures

POF
XX

- Fixation of a lump to skin is almost diagnostic & the only other condition is traumatic fat necrosis (& abscess)

- Pecan' storage

~ the tumor spreads along ligamentous septae (of raphe) & block associated lymphatics → orange

of underlying skin

hlt openings of the hair follicles

& sweat glands → pits

↳ Pecan' storage

8) Lymph drainage

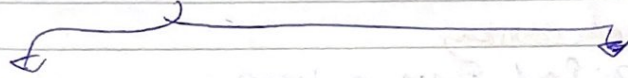
- Palpable not always pathological
 - Palpable & BIL → often normal
 - even impalpable → involves
- } - involve LNs may even be visible.

• Metastatic LNs → firm & discrete ? as they enlarge they coalesce (become matted together) & become adherent to nearby structures

• Glands may become adherent to chest wall particularly in the apex of the axilla, where there is ^{less} space for enlargement.

⑨ Nearby Tissues

- extensive (not always palpable) involvement of the axillary LNs may cause



Lymphadenopathy
of Axm

VENOUS thrombosis
} Edema of Axm

- contralateral breast for synchronous tumor which is more common than mets (Second Primary)

≠ never forget to examine both axilla (Breast

to
① compare

② detect isolated pathology

GENERAL RELATED TO BREAST

~ full examination is essential to detect signs of mets which are commonly found in

1] The Skeleton

- ~ esp. lumbar spine
- (Back pain, reduced spinal ROM, pathological fracture of long bone)
- ~ pathological Fr
- ~ paraplegia from cord compression

2] The Lung

- ~ pleural effusion
- ~ perilymphatic involvement (lymphangitis carcinomatosa) - diff diffuse lymphatic involvement causing [Severe dyspnea]

3] The Liver

- ~ Hepatomegaly
- ~ Jaundice
- ~ Ascites

4] The Skin

- ~ multiple nax nodules — Usually in the skin of the breast containing the cancer but may be seen on the neck, trunk, or further away.

5] The Brain

- ~ neurological sx

2] Different Types of Breast Cancer.

Benign

- Phyllodes Tumor aka Cystosarcoma Phyllodes or Sarcoytic Disease of Breast

- Intra-ductal papilloma

~ most common cause of bloody nipple discharge (P)

Malignant

↳ Primary

① Ductal CIS

② Invasive Ductal carcinoma

↳ most common non-invasive CA Breast **

↳ most common

③ Lobular CIS

④ Invasive lobular carcinoma

↳ most common type of Breast

cancer (P)

⑤ Inflammatory carcinoma

⑥ Paget's Disease of Nipple

⑦ Sarcoma

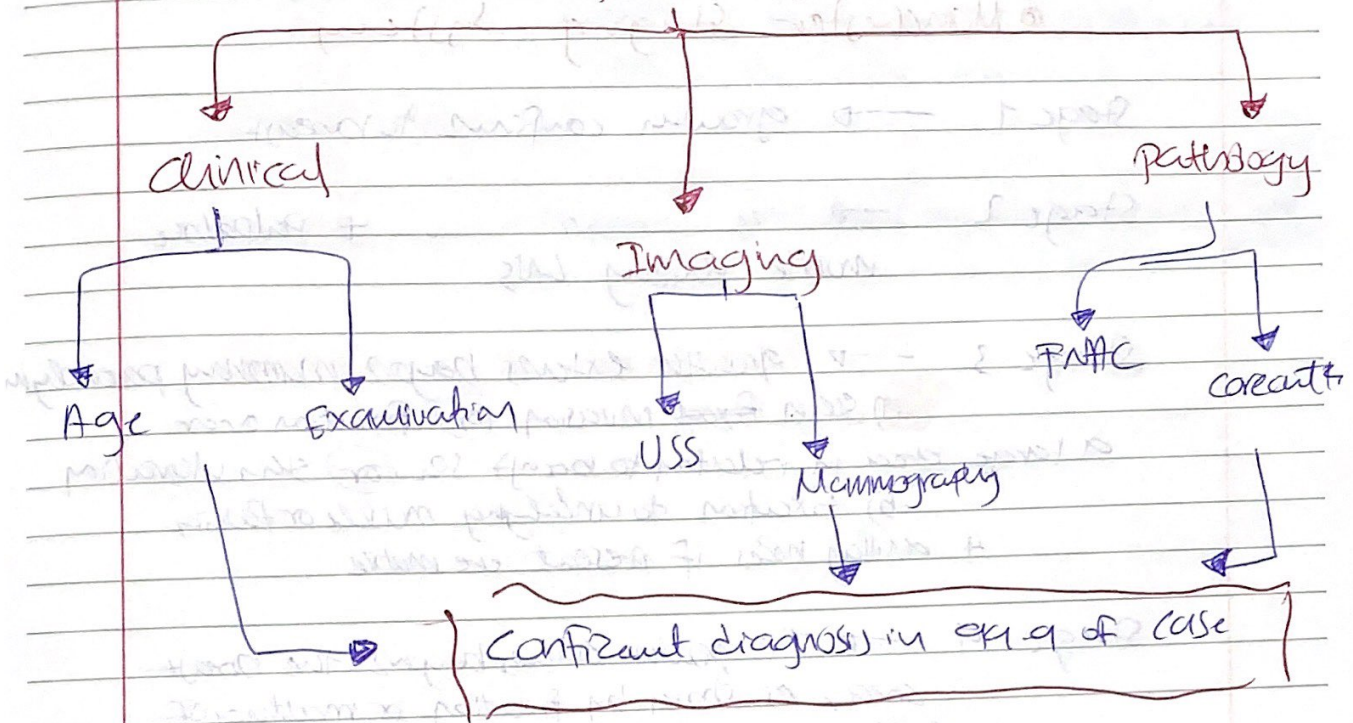
↳ Secondary

① Direct invasion from tumors of chest wall

② mets e.g. from Melanoma

D. How to diagnose Breast cancer

TRIPLE ASSESSMENT



☐ Staging & prognosis of Breast cancer

⊙ Manchester Staging System

Stage 1 → growth confined to breast

Stage 2 → " " " + Palpable mobile axillary LNs

Stage 3 → growth extends beyond mammary parenchyma
a) skin ~~fixed~~ invasion (or) fixation over a large area in relation to breast size (or) skin ulceration
b) fixation to underlying muscle or fascia
+ axillary nodes if present are mobile.

Stage 4 → The growth extends beyond the breast area, as shown by fixation or matting of axillary LNs, complete fixation of the tumor to the chest wall, deposits in supraclavicular LNs or the opposite breast or distant mets.

⊙ TNM Staging System

Primary Tumor

T ₀	no evidence of primary Tx
T _{is}	in situ (DCIS or LCIS or papilloma)
T ₁	< 2 cm
T ₂	> 2 & < 5 cm
T ₃	> 5 cm
T ₄	Any size + Direct extension to chest wall or skin

Regional LNs

N0

no palpable LNs

N1

met to Mardax Axilla N02

N2

met to Finner, Walter axillary LNs

N3

met to ipsilateral thoracic nodes

Distant mets

M0

M1

including ipsilateral supraclavicular LNs

29
*200

Stage X Survival



The TNM staging system

stage	Tu. size	L.N status	Dist. Met.	5-yr survival
stage 1	T1	N0	M0	93%
Stage 2a	T1	N1	M0	72%
	T2	N0	M0	
Stage 2b	T2	N1	M0	72%
	T1	N2	M0	
Stage 3a	T1	N2	M0	41%
	T2	N2	M0	
	T3	N1	M0	
	T3	N2	M0	
Stage 3b	T4	Any N	M0	41%
Stage 4	Any T	Any N	M1	18%

Prognostic factors

Routinely determined following surgery to predict the outcome & help plan systemic adjuvant therapy

① Axillary LN spread

••• ~ Best single determinant of prognosis

• The greater the number of ipsilateral nodes involved the worse the prognosis

② Tumor size

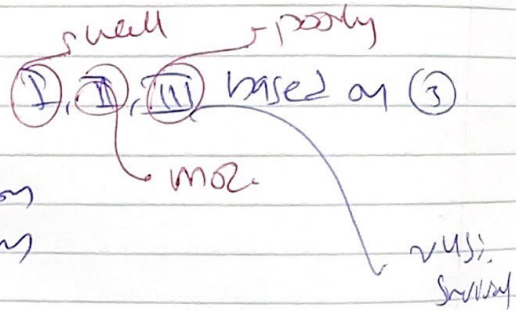
••• ~ the correlation with net potential

• larger → LNs more likely → worse prognosis

③ Tumor grade

- Histological differentiation based on 3 components

- ① tubular differentiation
- ② nuclear pleomorphism
- ③ mitotic rate



The Nottingham prognostic index

nodal status ⊕ tumor size ⊕ Histological grade = NPI

≠ estimating long-term (10yr) survival

$$NPI = 0.2 \otimes \text{tumor diameter (cm)} \oplus \text{grade} \oplus \text{Nodal status}$$

≠ NPI? 10 year survival Rate ↓

Table 35.1 Nottingham Prognostic Index (NPI) and 10 year survival

NPI	Prognostic group	10 year survival (surgery alone) (%)	10 year survival (surgery and adjuvant therapy) (%)
<2.4	Excellent	95	95
2.41-3.4	Good	85	90
3.41-4.4	Moderate 1	70	79
4.41-5.4	Moderate 2	50	71
>5.4	Poor	20	41

F) Treatment Modalities

- ADJ ① Hormone Therapy (estrogen receptor modulators)
- ADJ? ② Target Therapy (monoclonal antibodies)
- ADJ ③ Immunotherapy (Biological Therapy)
- ADJ ④ Chemotherapy
- ADJ ⑤ Radiotherapy
- ⑥ Surgery

SURGICAL Rx of LA BREAST

- ① Simple mastectomy
- x ② Radical mastectomy
- ✓ ③ Modified Radical mastectomy
- ④ BCS
- ⑤ Reconstruction surgery.

Simple mastectomy

- Resected
- ① all breast tissue
 - ② nipple-areolar complex
 - ③ skin

w/o dissection of axilla

Radical "Halsted" mastectomy

- Resected
- ① Breast tissue
 - ① nipple-areolar complex
 - ③ skin
 - *** ② Berg's level ① ② ? ③ of axillary LNs
 - ④ Pectoralis major & minor

[Sentinel LNs + Berg's levels] — indicators

Modified radical mastectomy

- Pararectal flap
- ① all Breast tissue
 - ② Wipple - axilla complex
 - ③ Skin
 - ④ Berg's level (I) & (II) w/o Pectoralis =

Breast conservation surgery (BCS)

- Lumpectomy — Benger
- Wide local excision —
- Quadrantectomy — removing the entire segment that contains the tumor/lump

Reconstructive Surgery

- Silicone gel or Silicone gel with saline implant
- Autogenous implant (microvascular flap)
 - ① LD Flap (latissimus dorsi)
 - ② TRAP (transverse abdominis muscle flap)