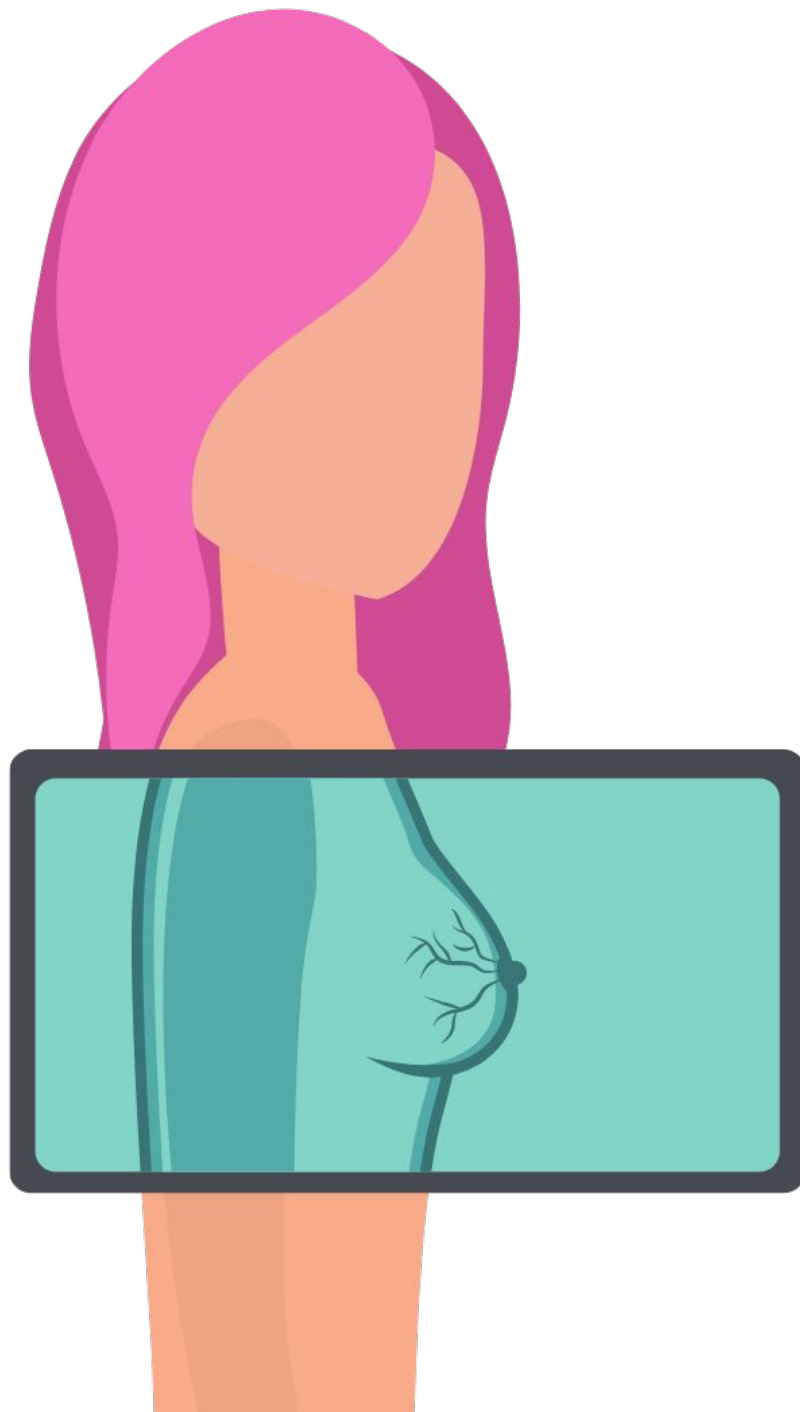


PLABABLE

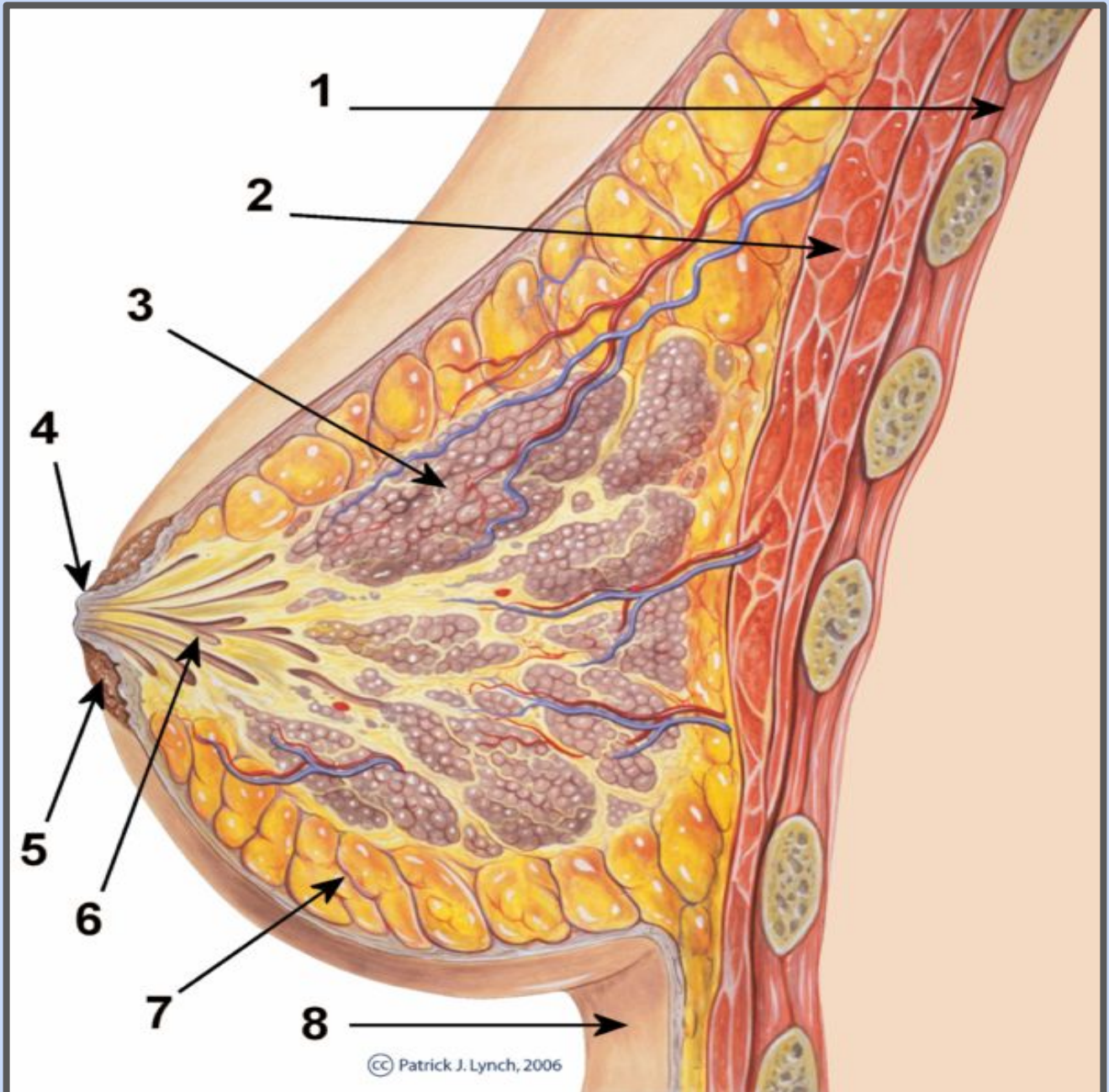
GEMS

VERSION 3.2

BREAST SURGERY

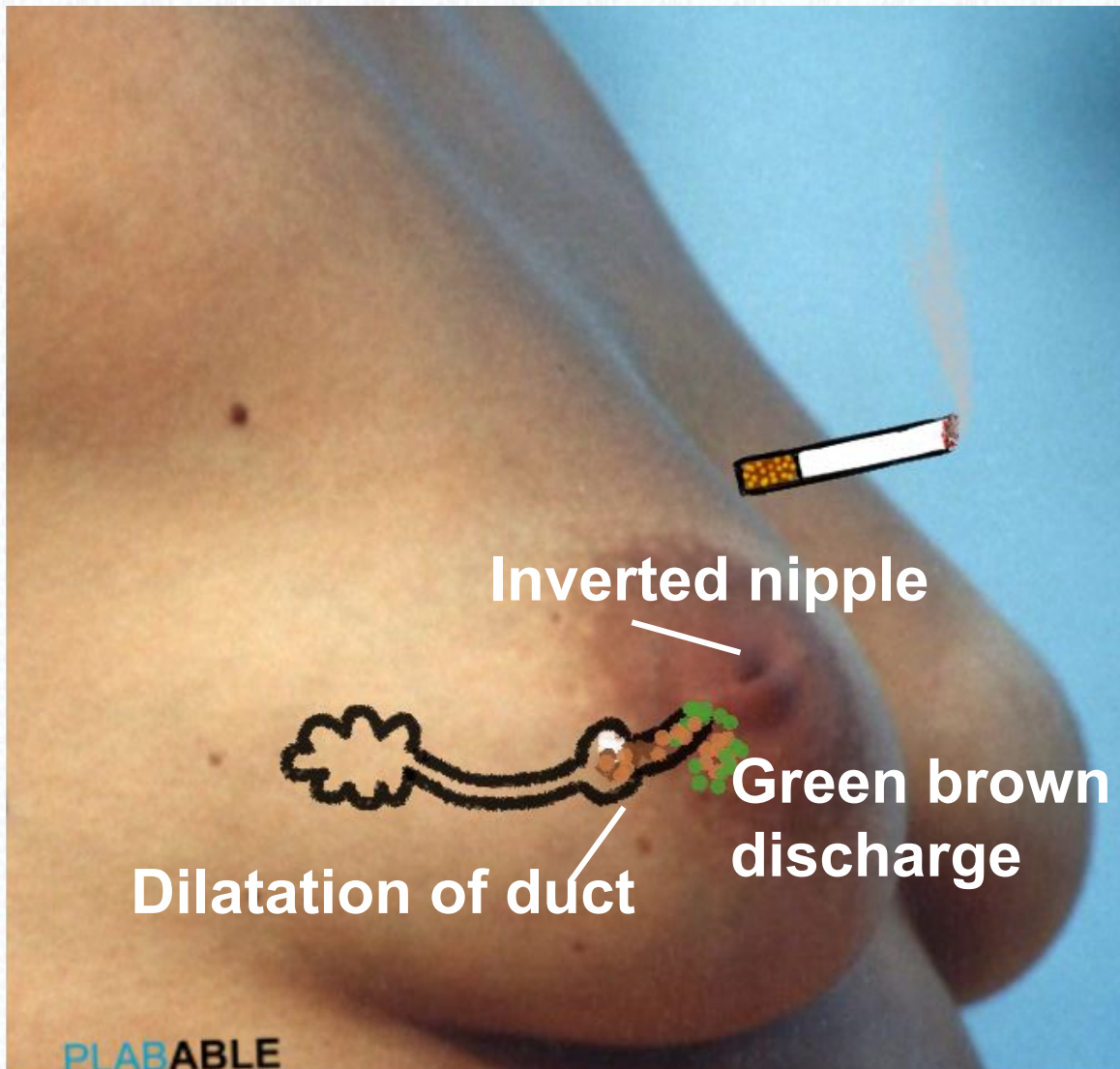


Breast Anatomy



1. Chest wall
2. Pectoralis muscles
3. Lobules
4. Nipple
5. Areola
6. Milk duct
7. Fatty tissue
8. Skin

Duct Ectasia



- **Green or brown nipple discharge**
- **Due to dilation of breast ducts**
- **Associated with smoking**
- **Most common in middle aged women**
- **Retracted nipple due to scarring**
- **Presents as a “subareolar mass”**

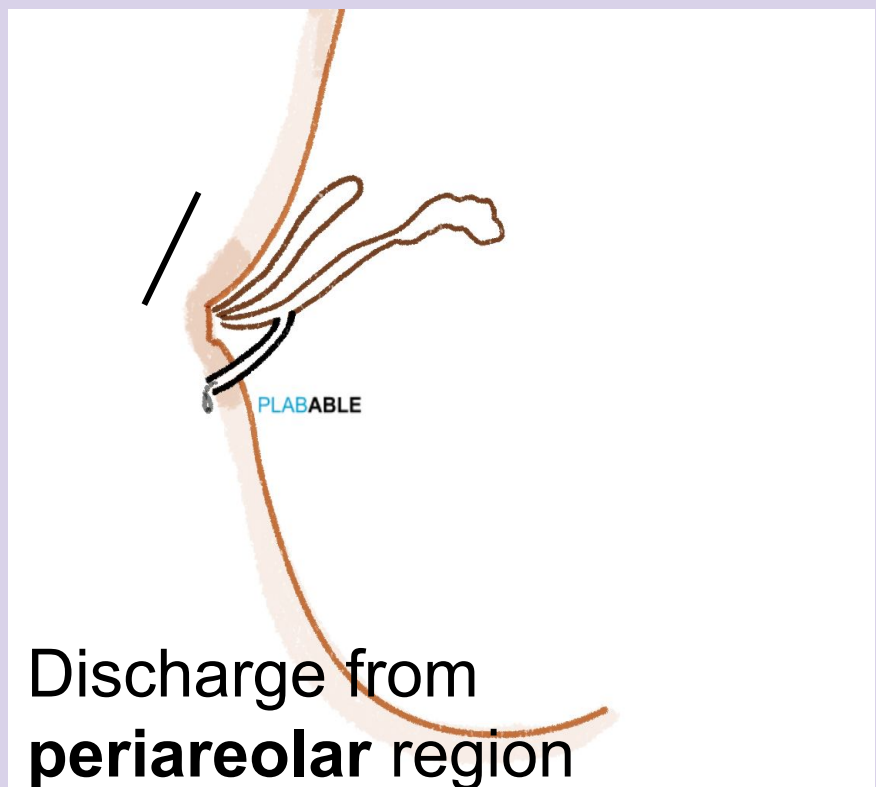
Galactogram can be performed

Duct (Mamillary) Fistula

It is a sequela or the end result of mammary duct associated inflammatory disease.

Presentation

- Pain around areola
- Swelling
- Redness
- Fever (may present)



- Can occur following spontaneous rupture of subareolar abscess or incision and drainage of a non-lactating abscess

Associated with

- Smoking
- Periductal mastitis

Treatment

Fistulectomy with antibiotics cover

Mastalgia

Cyclical

- Bilateral breast pain occurring in relation with menstruation
- Most common in younger age group
- Supportive measures

Non-cyclical

- Pain not related to menstrual cycle
 - Most common after 40 years of age
 - May be unilateral / bilateral
 - Supportive measures
- Supportive bra and NSAID help relieve the pain

Mastalgia + Discrete lump/family history of breast cancer → **Urgent referral needed**

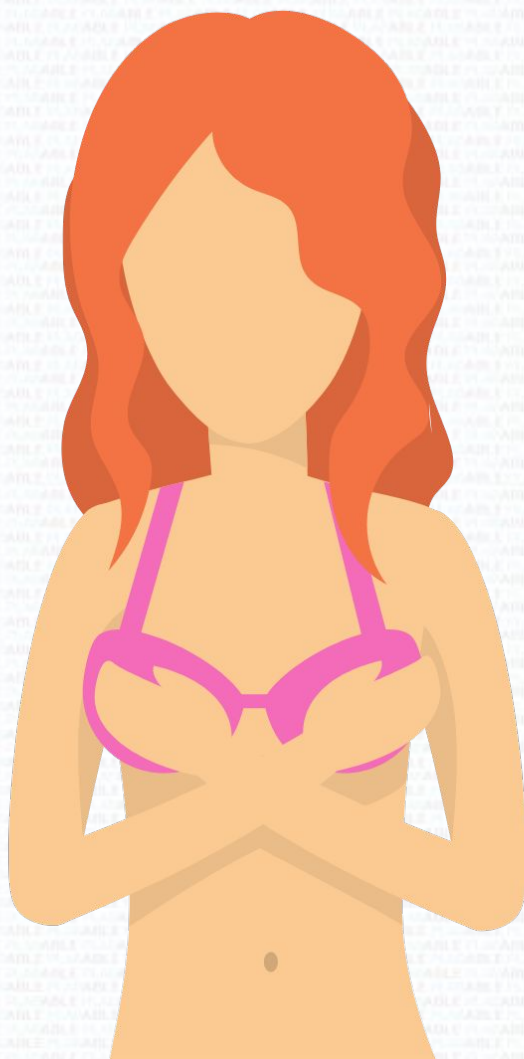
Cyclical Mastalgia

Treatments to recommended

- Oral paracetamol
- Oral ibuprofen or topical NSAIDS
- Better-fitting bra during the day
- Soft support bra at night

Treatments **NOT** to recommended

- Changing or stopping COCP
- Primrose oil
- Diets low in caffeine
- Antibiotics
- Pyridoxine
- Vitamin E



Mastitis & Breast Abscess

Mastitis

Inflammatory condition of the breast with or without infection

Breast abscess

Localised **collection of pus** within the breast

Severe complication of mastitis

Both entities present similarly

Presentation

- Painful breast
- Fever
- Swollen and tender hard area in the breast
- Area is usually wedge shaped (for abscess)
- Commonly associated with lactation
- Most common organism associated is *Staphylococcus aureus*

Management

Mastitis: Refer to next slide

Breast abscess:

- Refer to general surgeon for USG, drainage of abscess and culture of fluid from abscess
- Continue breastfeeding

Mastitis & Breast Abscess

Management of mastitis



General management :

- **Analgesics** (paracetamol or ibuprofen)
- **Warm compress**
- **Continue breastfeeding** and advice on proper breastfeeding techniques (if lactating)



Non lactating



Lactating



All non-lactational women →
Co-amoxiclav

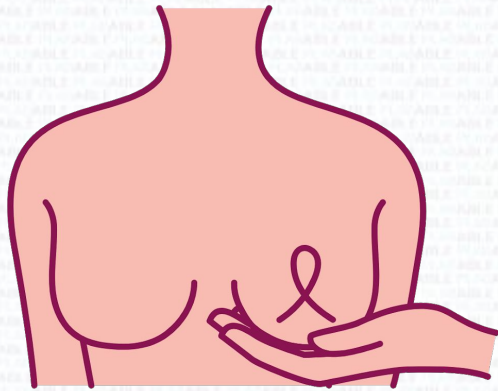
Penicillin allergy →
offer erythromycin/
clarithromycin plus
metronidazole



Infected nipple fissure,
worsening of symptoms or
positive breast milk culture
→ **Flucloxacillin**

Penicillin allergy → offer
erythromycin/clarithromycin

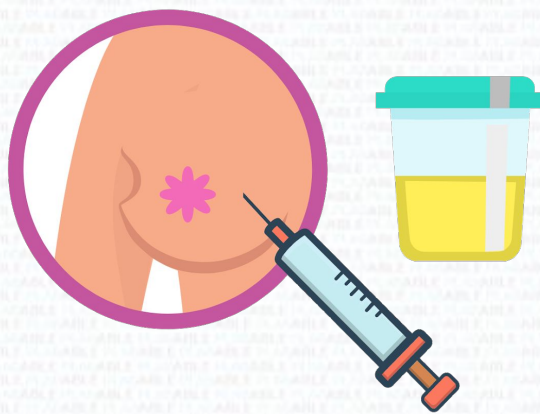
Triple Approach For Breast Disorders



Examination



Mammography
or USG



FNAC or trucut biopsy

USG : Women 35 years and younger

Mammography : Women older than 35 years

Mammogram

Every 3 years for all women between 50-70 years

Every 1 year for women with high risk

(F/H or BRCA +ve) between 40-70 years

Fibroadenoma

Benign!

Most common in **young**, adolescent age group

Develops from a breast lobule

- Firm, well circumscribed
- Non-tender
- Highly mobile (breast mice)
- Upper outer quadrant

Diagnosed with **triple approach**

- Clinical examination
- USG (most appropriate investigation)
- FNAC (if required)

We truly believe that the **histology** for **fibroadenoma** is important to know for the exam. So pay attention to it!

Histology

- Well circumscribed and unencapsulated with clear margins, separate from the surrounding fatty tissue
- Duct-like epithelium with fibrous bridging
- Overgrowth of fibrous and glandular tissue
- Low amounts of stromal cellularity

Histology of Benign Breast Conditions

When you hear these histology terms, think of benign breast diseases

Well circumscribed and
unencapsulated with
clear margins

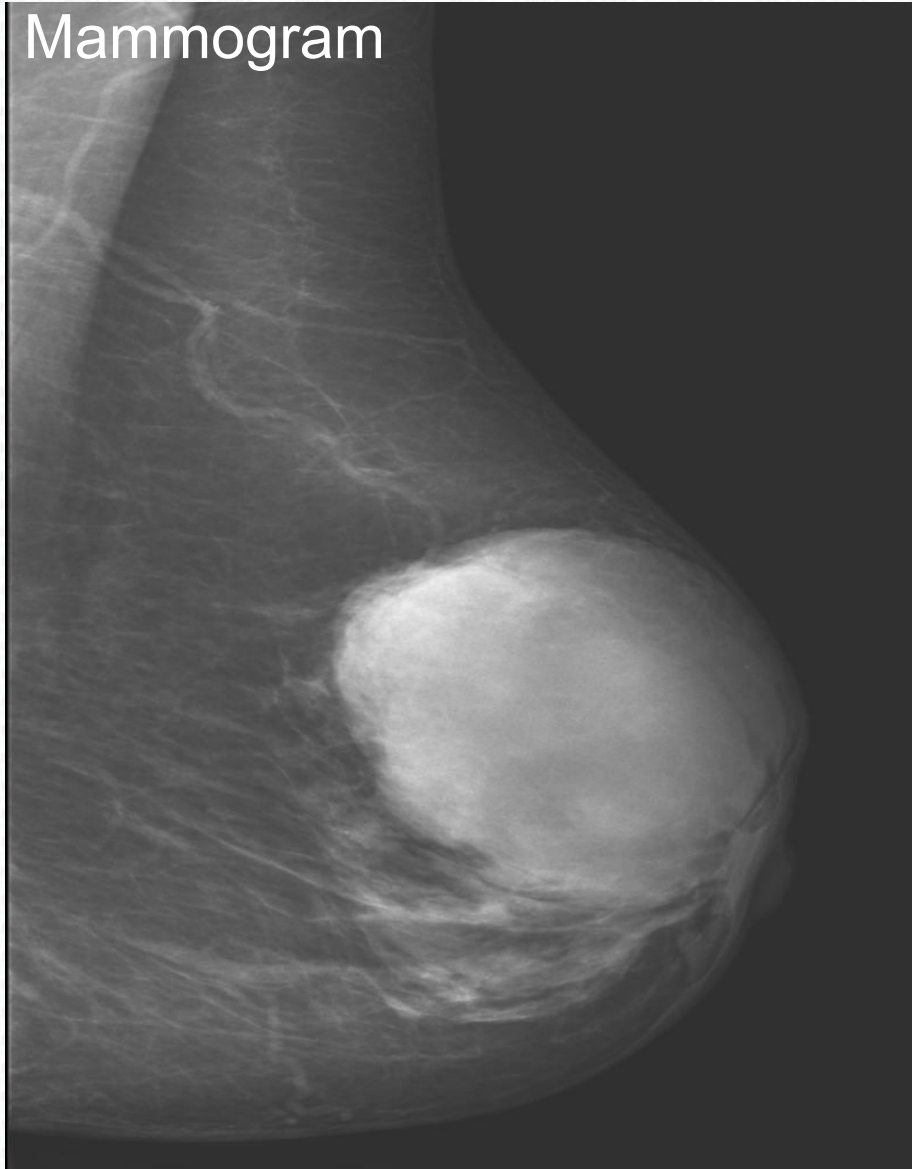
Columnar cell change

Columnar cell
hyperplasia

Fibrocystic changes

Phyllodes Tumour

Mammogram



- 40-50 year old females (pre-menopausal)
- Benign, fibro-epithelial tumour
- Fast growing
- Large size
- Painless

Prophylactic Mastectomy

Can be performed for patients with:

- Strong family history
- BRCA mutation positive
- H/O breast cancer in one breast
- Biopsy suggestive of lobular carcinoma in situ or atypical hyperplasia

Post mastectomy complications

- Upper limb **lymphoedema** → Due to removal of axillary lymph nodes
- Adhesive capsulitis of shoulder (**Frozen shoulder**) → Due to reduced shoulder movement
- Scar tissue **cording** in the armpit → Due to larger scars

Management

- Range of motion exercises
- Compression bandaging for lymphoedema
- Scar mobilisation for cording

Lymphoedema From Breast Surgery Or Angioedema

Example: If you have a patient that attends clinic with a left swollen arm

+ She has a history of left breast cancer requiring a left mastectomy with axillary lymph node clearance a few years ago

+ She has a recent history of an insect bite on the arm



What would you pick as the likely diagnosis?
Lymphoedema or Angioedema

1. Look at the time frame

If swelling 1 to 2 hours after insect bite → Think angioedema

Insect bites would usually cause an acute allergic angioedema (e.g. 1 to 2 hours after insect bite) and typically subside in 1 to 3 days

2. Look for evidence of urticaria

If evidence of urticaria → Think angioedema

Most insect bites that cause angioedema also cause urticaria

If time frame does not fit and no evidence of hives
→ Think lymphoedema

Paget's Disease

Features

- Blood stained nipple discharge
- Dry areolar skin causing itching
- Ulcerated nipple
- Inverted nipple due to scarring (long term)

Investigation

- Skin punch biopsy



Paget's Disease of the Breast

Brain trainer:

A woman presents with a left nipple which is itchy, dry, cracked and has a scaly erythematous area surrounding the nipple. What is the most likely diagnosis?

→ Paget's disease of the breast

Fat Necrosis

Brain trainer:

A 70 year old female presented to the clinic with a firm, round palpable lump on her left breast which appeared after a minor chest injury. On examination, the left breast shows redness and bruising. What is the single most likely diagnosis?

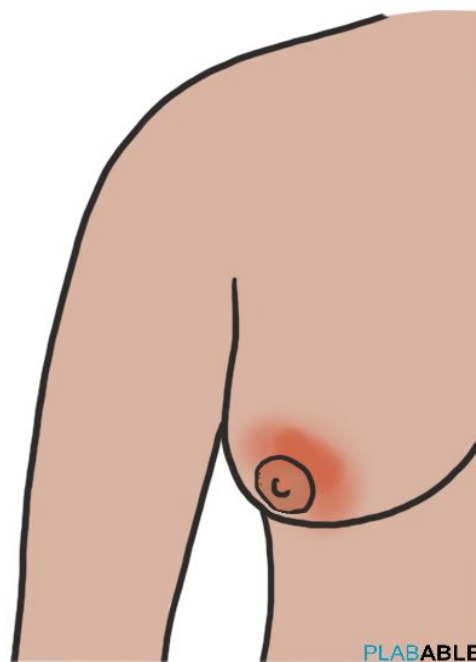
→ Fat necrosis

Periductal Mastitis

Inflamed and infected ducts under the nipple

Clinical features

- Hot, tender breast
- Periareolar redness
- Greenish discharge from nipple (or may be seen from aspirate)
- Can present as a lump felt around the nipple (peri-areolar)
- Nipple retraction



Periductal Mastitis

Management

- Antibiotics
- May need surgical intervention if abscess develops or if recurrent infections

Progression of Duct Ectasia

Duct Ectasia

Dilatation of one or more of the larger lactiferous ducts which is filled with stagnant green/brown secretions.

May progress to

Periductal Mastitis

Occurs when the secretions from duct ectasia irritate the surrounding tissue.

May progress to

Chronic induration forms beneath the areola, which is often mistaken for carcinoma.

Features - Subareolar mass, nipple retraction

Abscess

Features include fever and being unwell

Fistula

Discharge coming from periareolar area rather than nipple

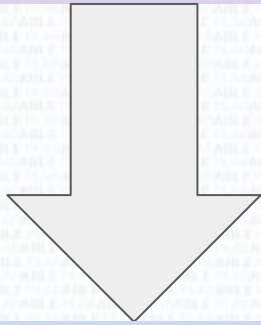
Histopathology of Breast Conditions

- **Fibroadenoma** →
Duct-like epithelium with fibrous bridging OR
Overgrowth of fibrous and glandular tissue
- **Fibrocystic changes** → Cystic formations with
mild epithelial hyperplasia
- **Hamartoma** → Encapsulated adipocytes within a
fibrotic stroma
- **Paget's disease** → In situ carcinoma of nipple
epidermis

Intraductal invasive carcinoma → Most common
breast cancer

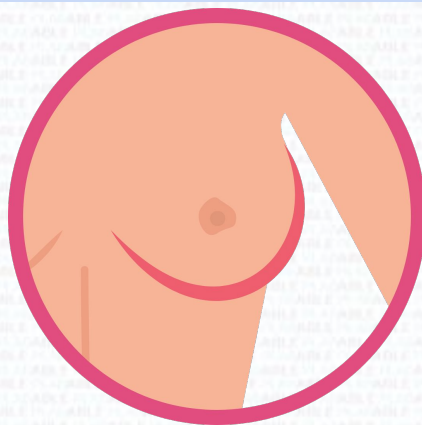
Breast Cancer

Women aged 30 years and over should be referred to the **breast clinic** using a **suspected cancer pathway referral (2-week wait referral)** if they have an unexplained breast lump.



Once in breast clinic, a decision can be made if US or mammogram is more appropriate.

- US < 35 years old
- Mammogram > 35 years old



Remember, patients with suspected breast cancer need to undergo a triple assessment:

- Clinical assessment → History and examination
- Imaging → Mammography or ultrasound (or both)
- Biopsy → Fine needle aspiration cytology (FNAC) or core biopsy

Adjuvant Therapy For Breast Cancer

Request the **oestrogen receptor (ER)**, **progesterone receptor (PR)** and **human epidermal growth receptor 2 (HER2)** status of all invasive breast cancer at the time of histopathology

ER positive breast cancer

- Premenopausal → Tamoxifen
- Postmenopausal → Aromatase inhibitors like anastrozole

HER2 - positive breast cancer

- Trastuzumab

Prophylactic Mastectomy

Brain trainer:

Under what circumstance may we offer a prophylactic mastectomy?

- ➔ Strong family history of breast cancer
- ➔ Presence of inherited mutations in one of two breast cancer susceptibility genes (BRCA1 and BRCA2)
- ➔ Previous cancer in one breast
- ➔ Biopsies showing lobular carcinoma in situ and/or atypical hyperplasia of the breast

Bisphosphonates

Brain trainer:

A woman is being treated for breast cancer with tamoxifen. What medication should be added?

➔ **Bisphosphonates**

Some studies show that bisphosphonates may reduce the risk of bone metastasis in breast cancers

PodsForDocs

Check out our Podcast episode '*An Approach To Breast Lumps and Bumps*' to further solidify your knowledge on the topic.

Click on the image below to head to our PodsForDocs podcast page to subscribe. Enjoy!



Image Attributions

https://en.wikipedia.org/wiki/Breast#/media/File:Breast_anatomy_normal_scheme.png
Patric J Lynch CC BY-SA 3.0

<https://commons.wikimedia.org/w/index.php?curid=33678535>
Karin4758 CC BY-SA 3.0

https://en.wikipedia.org/wiki/Phyllodes_tumor#/media/File:Phylloidestumor_der_Mamma_-_Mammographie.jpg
Hellerhoff CC BY-SA 3.0

https://en.m.wikipedia.org/wiki/Paget%27s_disease_of_the_breast#/media/File%3APaget_Disease_of_the_Nipple.jpg
Lily Chu, National Naval Medical Center Bethesda Public domain