

Female Breast

Benign breast disease

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Acknowledgements

- Principles and Practice of Surgery – Garden and Parks, 7th edition
- Oxford Handbook of Surgery
- Google images

Is this an Interactive session



Yes. This is an interactive session. You will see yellow bands like this with questions. When the colour changes, you can pause the recording, try to answer the question and then proceed.

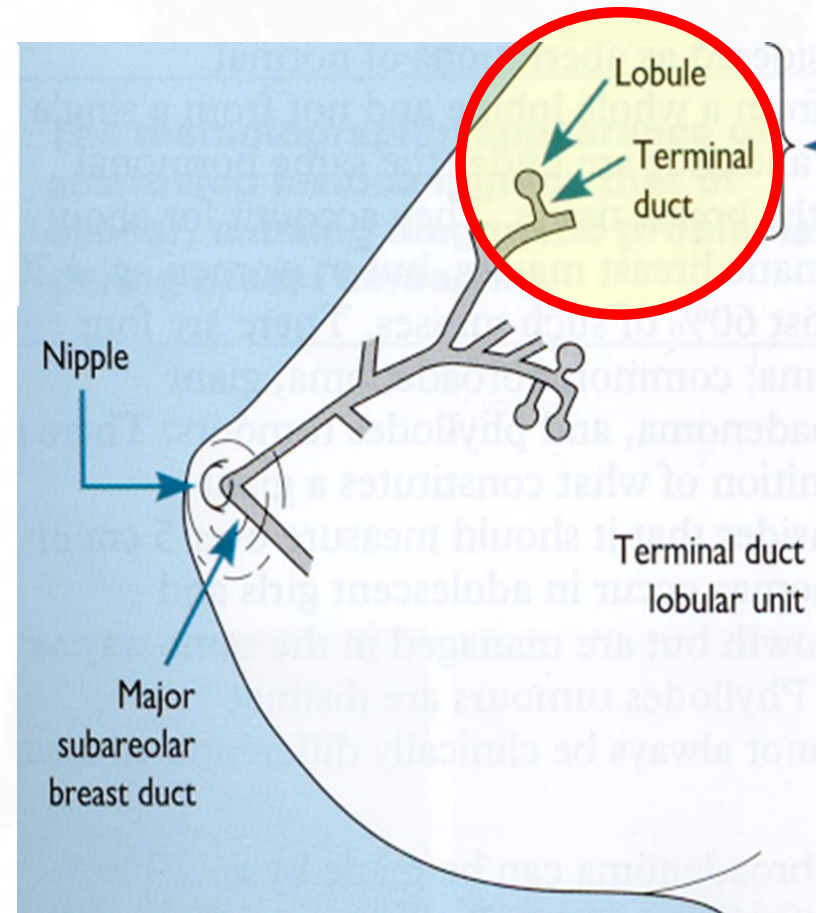
Teaching objectives

- Benign breast disease – we will discuss in turn
 - Breast development
 - Pathology
 - Aberrations of development
 - Clinical Points
 - Fibroadenoma
 - Cysts
 - Fibrocystic disease
 - Breast infections
 - Breast abscess
 - Traumatic fat necrosis

Breast development

Breast development

- Begins at 10 years
- Functional unit – Terminal Duct Lobular Unit (TDLU)
- Glandular tissue (lobules and ducts) is supported by fibrous stroma
- Most benign conditions (and almost all cancers) arise in the TDLU



Pathology

Pathology

- Most benign conditions arise as Aberrations of Normal breast Development and Involution (ANDI) which occur through 3 main periods:
 - Development
 - Reproductive life
 - Involution
- Others are related to infection and trauma

Aberrations of development

Aberration of development

Chest wall abnormalities

- Can you think of some?

Absence or hypoplasia of the breast, asymmetry

- may be associated with defect of pectoral muscles, e.g. Poland Syndrome

Extra nipples and breasts

- What percentage of women/men have them?
- develop along the milk line

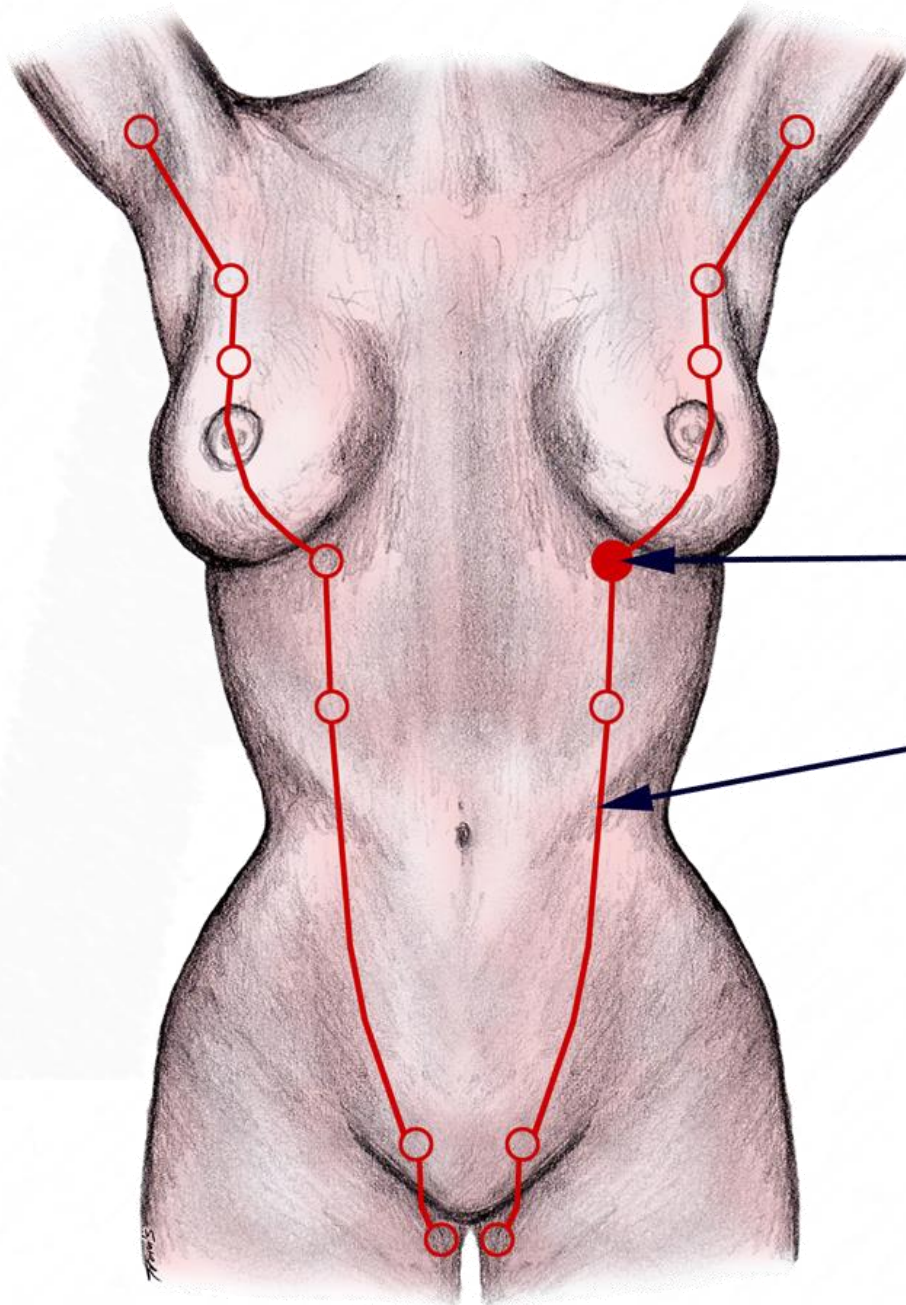
Juvenile hypertrophy (stromal proliferation)

- Prepubertal breast development

Poland syndrome



Milk lines



Polythelia
(third nipple)

Milk lines



Reproductive life

Conditions of reproductive life

- Cyclical mastalgia
- Cyclical nodularity
- Breast changes relating to pregnancy

Involution

Normal involution

- Begins at 35 years old
- Breast stroma is replaced by fat (softer, ptotic, radiolucent)
- Breast cysts (microcysts)
- Focal apocrine metaplasia
- Sclerosing adenosis (increase number of glandular elements)
- Hyperplasia of cells lining the TDLU

Aberrations of involution

- Macrocyst formation - distended, involuted lobules
- Uneven involution
- Epithelial hyperplasia
- Duct ectasia - distended, shortened ducts, discharge

Clinical points

Males - Gynaecomastia

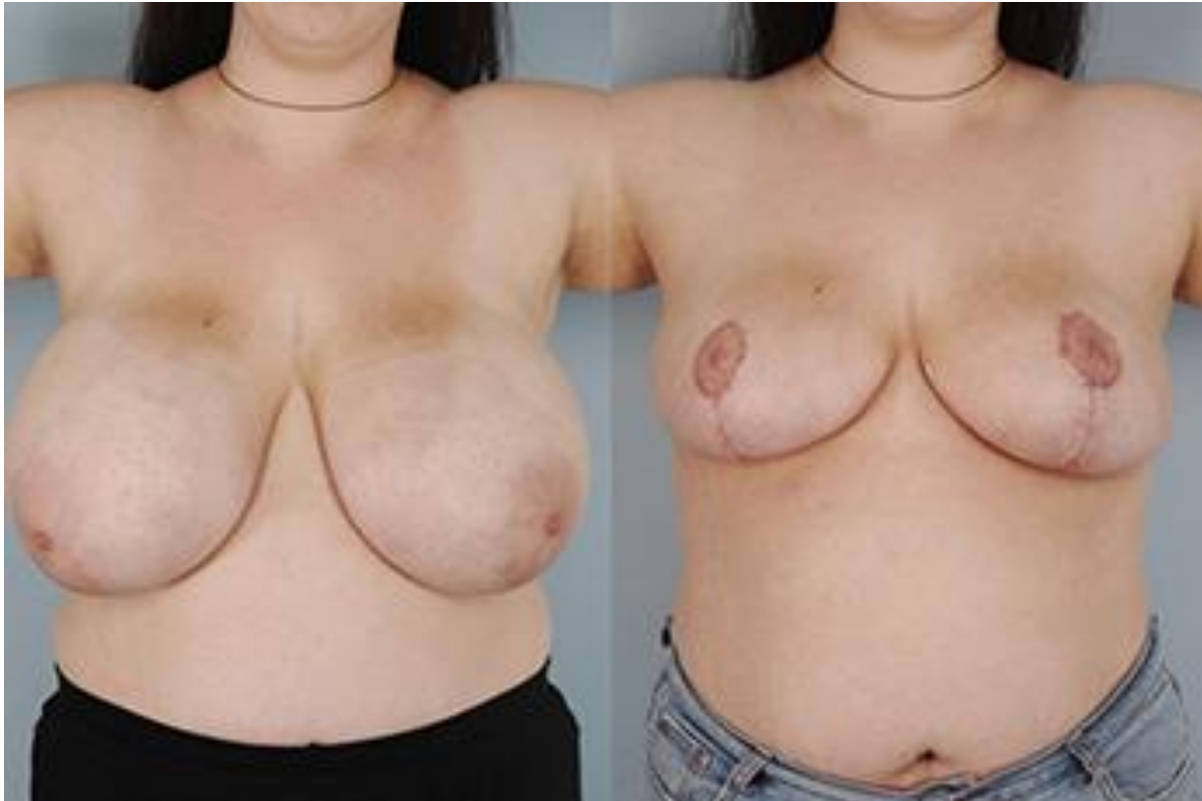
- Usually benign and reversible
- What is the percentage in boys?
- Can you think of predisposing or causative factors for all ages?



BEWARE - Male breast cancer

Mammoplastia

- Females - Requesting breast reduction



Benign breast conditions

Clinical relevance

- GP referrals with a 'Breast' symptom must be seen within 14 days
- 85-90% of out-patient clinic patients have benign conditions

Triple Assessment

- What does triple assessment involve?
-
-
- If triple assessment on one visit - one-stop clinic

Breast imaging

Ultrasound - useful for all ages

Classic appearance of cystic/solid lesions



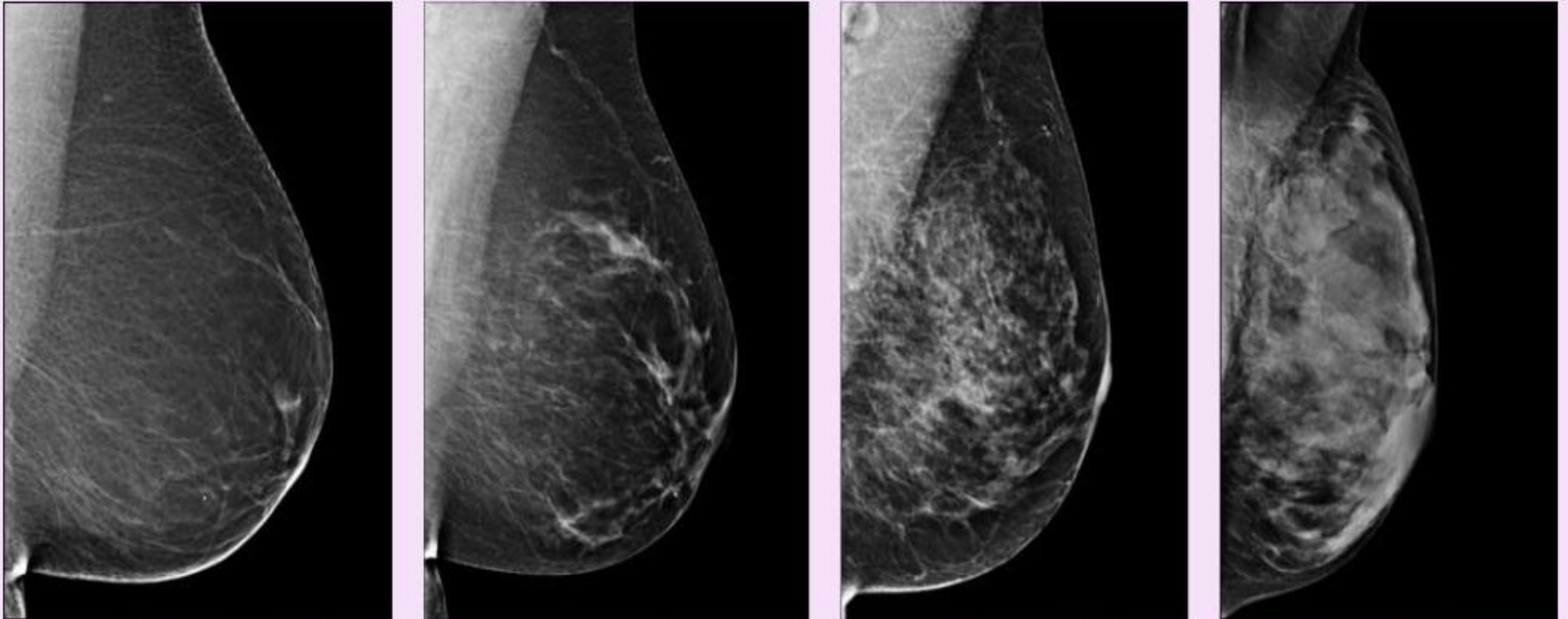
cyst



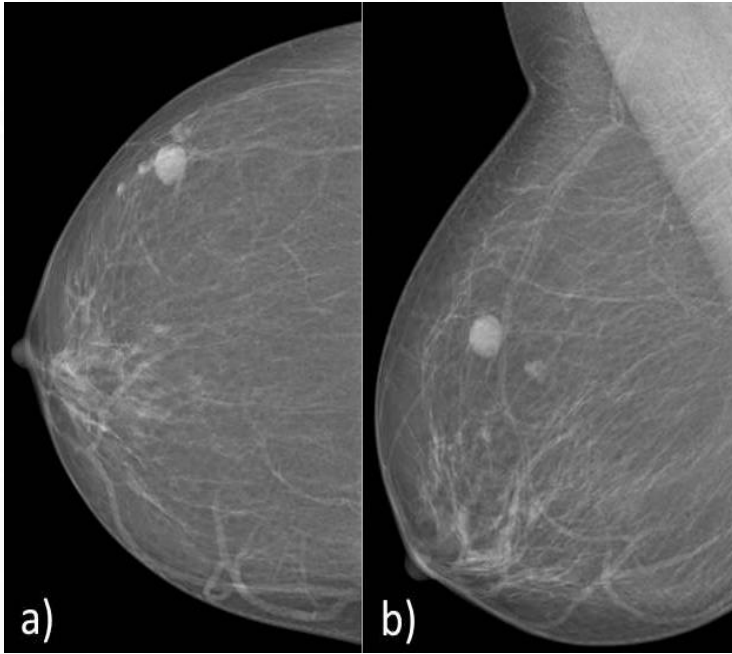
cancer

Breast imaging

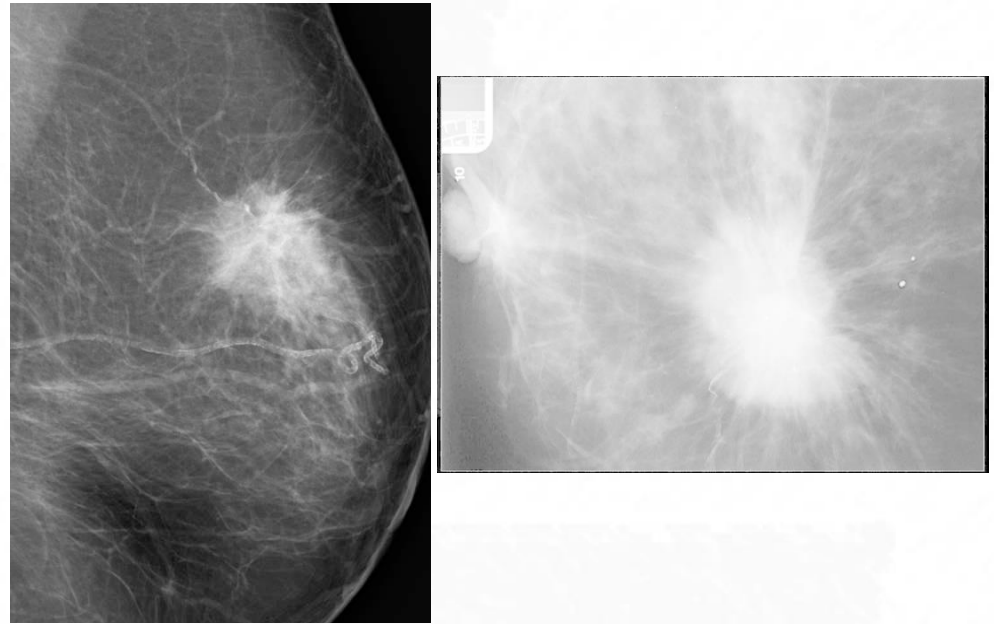
Mammography - only helpful if patient >35 years old



Breast imaging



Cysts



Spiculate mass

Most frequent conditions

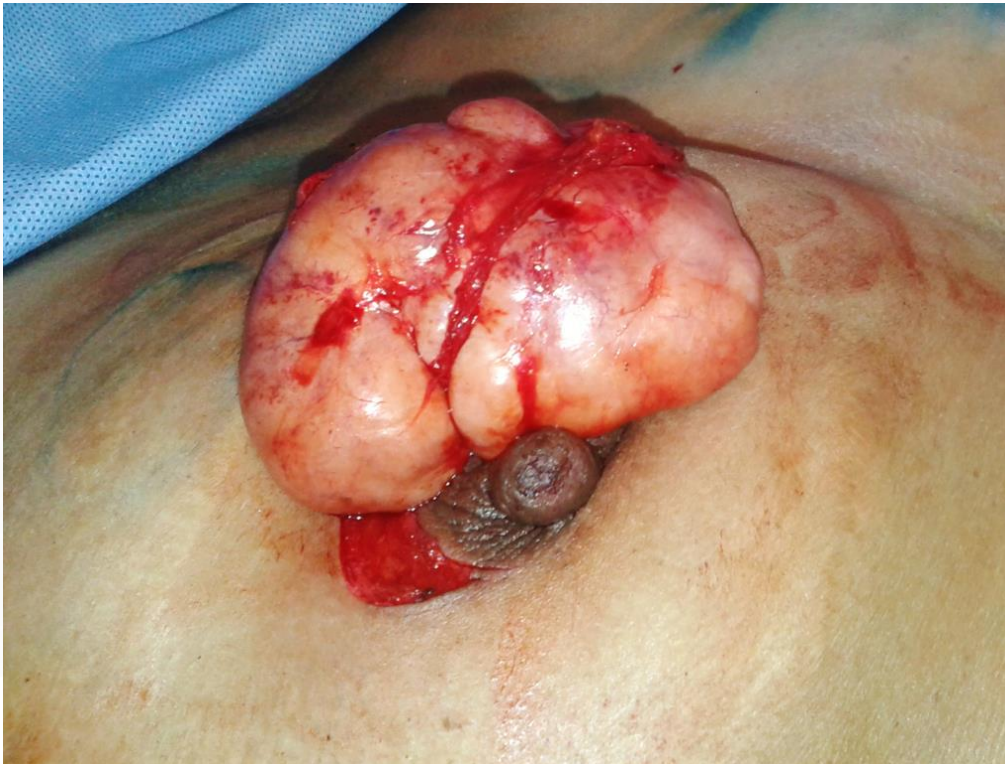
- **Fibroadenoma**
- **Cysts**
- **Fibrocystic disease**
- **Breast infections**
- **Breast abscess**
- **Traumatic fat necrosis**

Fibroadenoma

Fibroadenoma

- Benign overgrowth of one lobule of the breast
 - develops from whole lobule
- Accounts for 13-15% of all breast lumps
- Commonest under age 30
- 60% of lumps in <20 years of age
- Painless mobile discrete lump
- Investigation – Ultrasound scan usually conclusive
- Treatment – excision

Fibroadenoma



Breast cysts

Breast Cysts

Often associated with fibrocystic disease

- Almost always benign
- Filled with green-yellow fluid
- May be discrete or multiple – occasionally painful
- Diagnosis – aspiration and mammography to exclude malignancy
- Treatment – repeated aspirations, hormone manipulation occasionally in multiple recurrent cysts

Fibrocystic disease

Fibrocystic Disease

- Combination of localized fibrosis, inflammation, cyst formation and hormone driven breast pain
- Between menarche and menopause (15 – 55 years)
- Features – cyclical pain and swelling related to periods
- Diagnosis – Triple assessment to exclude malignancy
- Treatment – reassurance, anti-inflammatories, hormone or cellular manipulation (ibuprofen 400mg prn, γ -linoleic acid / evening primrose oil, danazol, combined oral contraceptive, occasionally tamoxifen, cyst aspiration)

Breast infections

Breast Infections

- **Breast infections**
 - Lactation mastitis – acute staphylococcal infection of mammary ducts – treat with oral antibiotics and drain abscess if present. No need to stop lactation.
- **Recurrent mastitis / mammary duct ectasia**
 - Dilated chronically inflamed subareolar mammary ducts
 - Associated with smoking
 - Presents with recurrent yellow-green nipple discharge or recurrent abscesses
 - Infection mixed anaerobic based – Treat with metronidazole and drainage of abscesses

Breast infections

Mastitis (lactating or non-lactating, abscess)



BEWARE -
inflammatory breast cancer



Breast abscess

Breast Abscess

- Acute severe localized breast pain
- Swelling, redness
- Occasionally purulent nipple discharge
- Most common in breastfeeding women
- Breast ultrasound (USS) may help
- How would you treat a breast abscess?

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Traumatic fat necrosis

Traumatic fat necrosis

- History of trauma often absent
- Fibrosis
- Organized local haematoma
- Occasionally calcification
- Triple assessment and excision biopsy

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Thank you