Benign breast disease

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Introduction

- 90% presenting to breast clinic have normal breasts or benign breast disease.
- Increasing patient awareness
- Benign breast disease causes considerable morbidity and anxiety
- Effective treatment
  - accurate diagnosis
  - adequate explanation of the condition
  - Reassurance and discussion regarding options of management

Benign breast disease

Congenital abnormalities

Aberrations of normal breast development and involution (ANDI)

Secondary to extrinsic precipitatory factors (non-ANDI).

- Congenital abnormalities
  - Super-numerary nipples and accessory breast tissue
  - Breast hypoplasia
- Aberrations of normal breast
  - Fibroadenomas
  - Hamartoma
  - Phyllodes tumour
  - Nipple discharge
  - Mastalgia
  - Breast cysts
  - Sclerotic / fibrotic lesions
  - Diabetic mastopathy
  - Pseudoangiomatous stromal
  - hyperplasia of the breast
  - (PASH)
  - Fibromatosis

- Non-ANDI conditions
  - Breast infections
    - Lactational
    - Non-lactational
    - Post-surgical
    - HIV
    - Ganulomatous mastitis
    - Hidradenitis suppurativa
  - Montgomery's glands
  - Lipomas
  - Fat necrosis
  - Mondor's disease
  - Gynaecomastia
  - Post surgical complications
    - Breast augmentation
    - Breast reduction

Congenital abnormalities

- Accessory breast tissue
  - usually in the axilla
  - more prominent or obvious during pregnancy due to the absence of a duct system - symptoms of obstruction
  - Reassurance
  - Surgical excision - difficult to excise cosmetically & significant morbidity
- Supernumerary or *accessory* nipples
  - usually below the breast and above the umbilicus.
  - rudimentary nipple bud but can include glandular tissue (polymastia).
  - Excision only if problematic
- Both benign and malignant conditions can develop within accessory breast tissue.

Breast hypoplasia

- Failure of one or both (rarely) breasts to develop fully

- Congenital
  - Poland's syndrome
    - Absence / hypoplasia of the pectoralis major muscle and varying degrees of syndactyly.
    - Extremely rare and usually only partial in nature.

- Acquired
  - Iatrogenic trauma or radiotherapy.

Hypoplasia / asymmetry

ANDI

Age (y)	Normal Process	Aberration
< 25	Breast Development Stromal Lobular	 Juvenile Hypertrophy Fibroadenoma
25 - 40	Cyclical Activity	Cyclical Mastalgia Cyclical Nodularity (Diffuse or focal)
35 - 55	Involution Lobular Stromal Ductal	 Macrocysts Sclerosing Lesions Duct Ectasia

Hyperplasia / Macromastia

Hyperplasia / synmastia

Simple fibroadenomas

- Discrete, rubbery masses
- 'Breast mouse' - extremely mobile
- Late teens and early twenties
- solitary / multiple & Uni / bilateral
- 2 year observational study in women <40
  - No change in size - 55%
  - smaller or resolve - 37%
  - Increase in size - 8%
- Rapid growth is rare
  - adolescence (juvenile fibroadenoma)
  - perimenopausal age group.
- Giant fibroadenoma (>5cms)
  - more commonly seen in African countries.

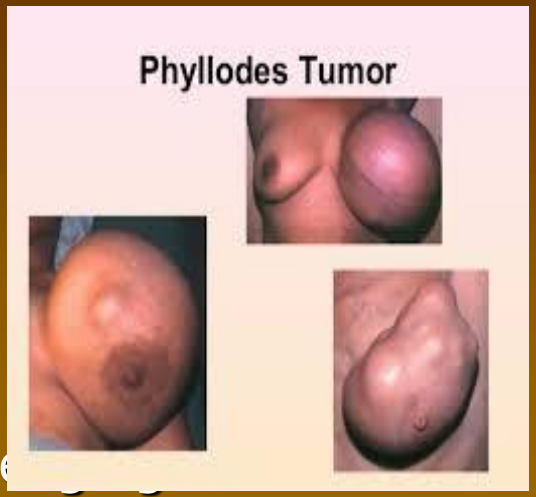
Managemement of FA

- Core biopsy (>25y) to confirm diagnosis
  - In multiple firoadenomata, biopsy from the largest
- Reassure and discharge
- Excision is recommended
  - >4cm in size
  - significant increase in size
  - significant distortion of the breast profile
  - any histological concern about stromal activity
  - patient choice
    - influenced by the manner in which the facts are presented.


Cm 1 2 3 4 5 6 7 8 9 10 11

Phyllodes tumour

- Phyllodes - leaf-like
- Vs fibroadenomas
  - 40 times less common
- Tend to grow rapidly
  - marked distortion and cutaneous venous e
  - can lead to ulceration.
- The majority are benign in nature
- Excision/removal of all phyllodes tumors are sugested
- recur locally in approximately 20% patients.



Mastalgia

- Aim is to differentiate between true mastalgia (pain originating within the breast) and referred pain.
- Referred pain
  - Unilateral
  - associated with activity and reproduced by pressure on the chest wall
  - NSAIDs
- True mastalgia
  - associated with swelling and nodularity of the breasts.
  - resolves spontaneously in 20–40% of women but can recur.

Mastalgia

- Hormonal aetiology - Cyclical
- Cause is unknown
  - excess production of prolactin
  - excess estrogen / insufficient progesterone
- Exacerbating factors
  - perimenopausal state
  - the use of exogenous hormones (OCP or HRT)

Management of Mastalgia

- Assessment
  - History & examination
  - > 40 y - mammography
    - 5% of women with breast cancer complain of pain
    - 2.7% of women presenting with pain are diagnosed with breast cancer
- Treatment
  - Reassurance
  - Analgesia
  - Cessation of smoking and caffeine intake
  - Well fitting, firm bra worn 24 hours a day
  - gentle stretching exercise

Breast cysts

- Affect 7% of women
- Microcysts have no significance except their potential to grow.
- Macrocysts
  - usually multiple
  - present typically in the fifth decade

Imaging

- A must before “Blind” intervention
- Mammograms
  - characteristic haloes
- But ultrasound essential
  - Solid / cystic lesions
  - Simple / Complex cysts
  - information on the cyst lining and fluid consistency
  - Aids complete aspiration.
- Complex cysts
  - Can be malignant (rarely)
  - Reviewed with a follow-up scan several months later.
- If projections within cyst wall noted
  - Rule out intracystic papilloma or carcinoma
  - core biopsy is indicated.

Management of cysts

- Asymptomatic cysts - left alone.
- Large or painful cysts - aspirated to dryness.
  - If fluid is bloodstained - sent for cytology, otherwise discarded.
- If palpable mass is still present after aspiration, further imaging and biopsy are indicated.
- If the cyst recurs, then repeat aspiration can be performed.
- There is a slightly increased relative risk of developing breast cancer in women with cysts but not significant enough to warrant surveillance.

Nipple discharge

- 5% of referrals to breast clinic
- 5% of these caused by in situ or malignant disease
- Assessment
  - Uni or bilateral
  - Single or multiductal
  - Induced or spontaneous
    - Discharge can be elicited by squeezing around the nipple in 20% of women
  - Bloodstained ?
  - If associated with a lump
    - management is directed to the diagnosis of the lump.

Serosanguineous and/or bloody discharge from a single duct

- More likely to be papillomas, epithelial hyperplasia or carcinoma.

Surgery

- Microdochectomy
  - single duct removed
  - allows subsequent breast-feeding.
- Total duct excision (Hadfiled's) or division
  - Preferred option in women of non-childbearing age (>50 y)
  - more likely to result in a specific diagnosis and less likely to miss underlying malignancy than microdochectomy
  - can be used for multiple-duct discharge if copious and affecting quality of life

Thank you for your attention

Breast infections

- Lactational infections
  - approximately 5% of puerperal women
  - most common during the first month or during weaning as the baby's teeth develop
  - usually a history of a cracked nipple and/or problems with milk flow
  - Staphylococcus aureus
- Treat by promoting milk flow / continuing to breast-feed
- Appropriate antibiotics
  - Co-amoxiclav or flucloxacillin and erythromycin are the antibiotics of preference.
  - Tetracycline, ciprofloxacin and chloramphenicol should not be used - these drugs enter breast milk

Non-lactational infections

- Peri-areolar
  - young women
  - often secondary to periductal mastitis (associated with heavy cigarette smoking)
- Smoking
  - Toxic metabolites directly or indirectly damage the wall of subareolar ducts.
  - Inhibits growth of Gram-positive bacteria, leading to an overgrowth of Gram-negative bacteria.
  - Microvascular changes have also been recorded and may cause local ischaemia.

Non-lactational infections

- Periareolar inflammation
  - Can present as mass or abscess.
  - The organisms are usually mixed, including anaerobes.
  - has a high rate of recurrence.
- Very rarely infection is related to underlying comedo necrosis in DCIS
  - Mammogram in >35 y after resolution of inflammation
- Peripheral non-lactational breast abscesses
  - 3 times more common in premenopausal than in menopausal or postmenopausal women.
  - Aetiology unclear but some are associated with diabetes, rheumatoid arthritis, steroid treatment and trauma.
  - The usual organism responsible is S. aureus.

Postsurgical infection

- Patients having surgery for periductal mastitis are at increased risk of postoperative infection
  - should have intraoperative and postoperative antibiotics
- 'Seromas' can become infected during aspiration or due to reduced resistance during chemotherapy
- Radiotherapy interferes with both the blood and lymphatic flow to the breast and reduces resistance to infection in the treated area
- Delayed infections after breast-conserving surgery or mastectomy are not uncommon (especially after radiotherapy)
- If an implant becomes infected, usually the prosthesis has to be removed.
- It is not uncommon for implants to become infected after a minor surgical intervention (such as dental work) or during chemotherapy given as adjuvant therapy or as treatment for metastatic disease
- Prophylactic antibiotics should be considered for patients with implants undergoing major dental work.

Treatment of Breast infections

- Broad-spectrum antibiotics
- Predicting the presence of pus within an inflamed breast is difficult
  - ultrasound with or without aspiration should be performed
- Very few breast abscesses - incision and drainage under GA
- Effectively treated by repeated aspirations
- Mammary duct fistula
  - one-third of patients after I & D of a periareolar abscess
  - complete excision of tract (plus the affected ducts under nipple)
  - ideally primary closure with antibiotic cover
  - high risk of recurrence in the presence of postop wound infection.
  - Laying open the fistula is effective but leaves an ugly scar across the nipple.

Fat necrosis / Mondor's disease

- Fat necrosis
  - Caused by trauma or surgery to the breast
  - similar on palpation and imaging to breast carcinoma
  - Onlu histology can give definitive diagnosis
  - May have underlying carcinomas that are only evident following (usual trivial) trauma.
  - The symptoms of fat necrosis tend to settle within a couple of months.
- Mondor's disease
  - spontaneous superficial thrombophlebitis of a breast vein
  - Painful / thickened palpable cord with associated erythema
  - self-limiting condition

Gynaecomastia

- Commonest condition affecting the male breast.
  - In at least 35% of men at some time.
- True gynaecomastia
  - hyperplasia of the stromal and ductal tissue of the male breast.
- Pseudogynaecomastia
  - excess adipose tissue with no increase in stromal or ductal tissue
- Causes
  - Physiological
  - Pathological
  - drug induced (medicinal and recreational)
  - idiopathic.

Investigations of gynaecomastia

In secondary care:

- Exclude primary breast carcinoma or a secondary pathological cause.
- Imaging (with mammography and/or ultrasound)
- Core biopsy

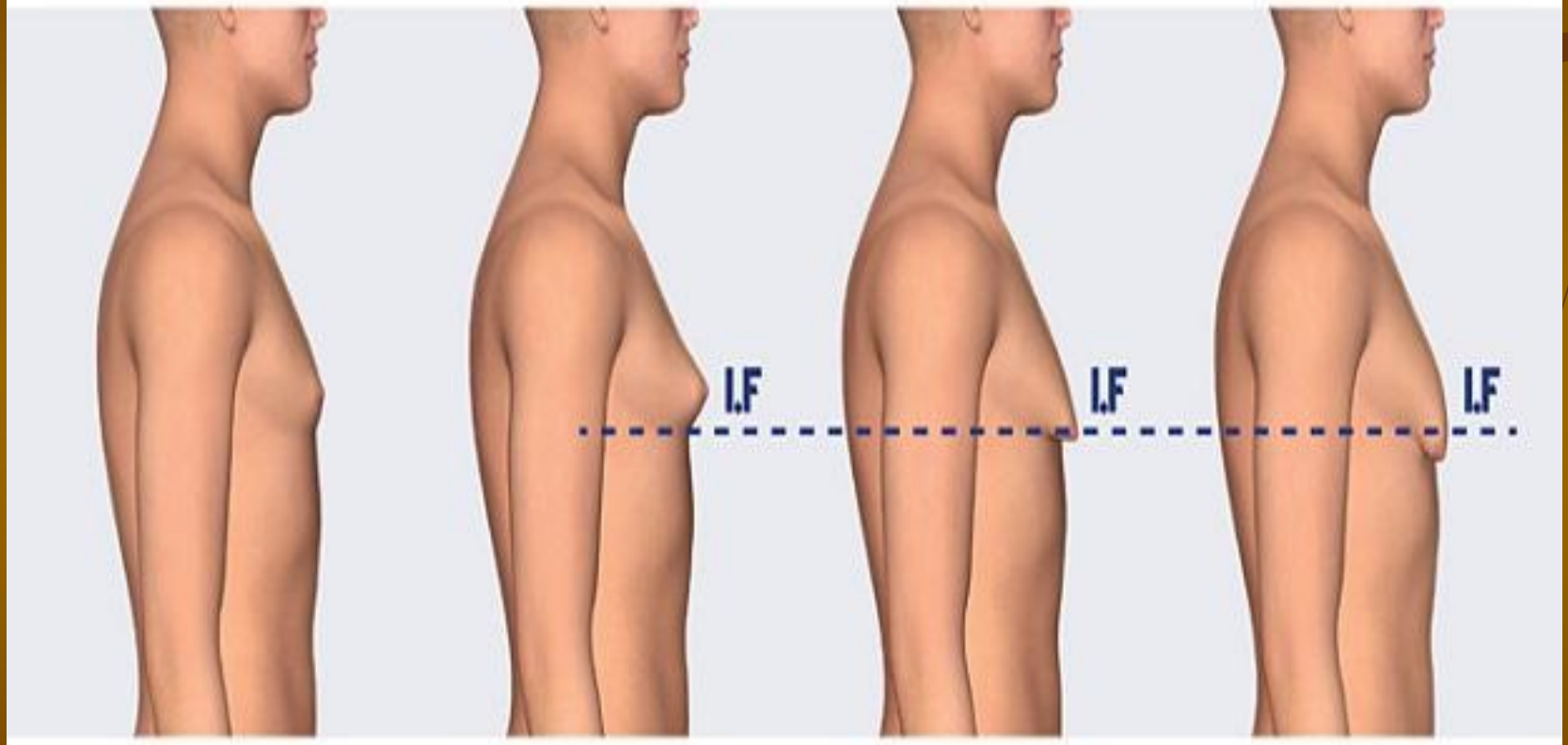
In primary care:

- Biochemical assessment only in rapid growth
- liver and renal function tests
- Prolactin, AFP, β-HCG and total testosterone

Classification of gynaecomastia

Grade	Clinical appearance
I	Small but visible breast development with little redundant skin
IIa	Moderate breast development with no redundant skin
IIb	Moderate breast development with redundant skin
III	Marked breast development with much redundant skin

Grades of Gynecomastia

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Treatment of gynaecomastia

- Reassurance
- Withdraw or change drug
- Medical treatment
  - Danazol
  - Tamoxifen
  - Clomifene
  - based on small non-randomised trials
  - does not include recurrence rates, optimum dose, length of treatment or associated long-term risks.

Treatment of gynaecomastia

- In the UK, only danazol is licensed
- A short 6-week course is recommended
  - 100mg b.d. for the first week
  - 100mg t.d.s. for the second to sixth weeks
  - Assess response at the eighth week.
- Tamoxifen 10mg/day produces excellent response
- Surgery not routinely funded on NHS
- Only after medical failure
- In extreme cases excess skin is removed
- The use of liposuction alone or combined with limited surgery or mammotomy