Benign Breast Disease

Mr D Banerjee MS FRCSEd FRCS
Consultant Oncoplastic Breast Surgeon
Breast anatomy
TRIPLE ASSESSMENT

- Benign breast disease – large proportion of presentation to breast clinic

- Key point – TRIPLE ASSESSMENT
  - Clinical assessment
  - Imaging - U/S +/- mammography
  - Cytology / histology
    - FNAC, Core biopsy, punch biopsy
Congenital abnormalities

- **Extra nipples and breasts**
  - 1-5% of men and women have accessory nipples
  - Develop along the milk line

- **Absence or hypoplasia of the breast**
  - Associated with defect of pectoral muscles e.g. Poland syndrome

- **Chest wall abnormalities**
  - Pectus excavatum / scoliosis
Asymmetry
Breast development

- Growth begins at the age of 10
- Functional unit of the breast is the terminal duct lobular unit
- Glandular tissue (lobules & ducts) are supported by fibrous stroma
- Most benign conditions and almost all cancer arise in the terminal duct lobular unit
ANDI
Aberrations of Normal breast Development and Involution

- Most benign conditions arise on the basis of dynamic changes which occur in the breast through the three main periods of reproductive life
  - Development
  - Mature reproductive life
  - Involution
Aberration of Development

- Juvenile hypertrophy (stromal proliferation)
  - Prepubertal breast development

- Fibroadenoma (lobular aberration)
  - Develop from whole lobule
  - Account to 13% of all breast lumps
  - 60% of lumps in age <20 years
Involution

- The breast stroma is replaced by fat
  - Less radiodense
  - Softer
  - Ptotic

- The development of small breast cysts (microcysts)

- Focal areas of change in normal epithelium to sweat gland type epithelium (apocrine metaplasia)

- Increase in the number of glandular elements (adenosis)

- Increase in the number of cells lining the terminal duct lobular unit (hyperplasia)
Disorders of mature reproductive life

- Cyclical mastalgia
  - Regular changes in breast tissue in relation to the normal menstrual cycle

- Relating to pregnancy – doubling of breast weight at term

- Cyclical nodularity
ANDI
Aberrations of Normal breast Development and Involution

<table>
<thead>
<tr>
<th>Age</th>
<th>Normal process</th>
<th>Aberration</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;25</td>
<td>Breast development</td>
<td>Fibroadenoma</td>
</tr>
<tr>
<td></td>
<td>Lobular</td>
<td>Juvenile hypertrophy</td>
</tr>
<tr>
<td></td>
<td>Stromal</td>
<td></td>
</tr>
<tr>
<td>25-40</td>
<td>Cyclical activity</td>
<td>Cyclical mastalgia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cyclical nodularity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(diffuse or focal)</td>
</tr>
<tr>
<td>35-55</td>
<td>Involution:</td>
<td>Macrocysts</td>
</tr>
<tr>
<td></td>
<td>Lobular</td>
<td>Sclerosing lesions</td>
</tr>
<tr>
<td></td>
<td>Stromal</td>
<td>Ductectasia</td>
</tr>
<tr>
<td></td>
<td>Ductal</td>
<td></td>
</tr>
</tbody>
</table>
Fibroadenoma

- aberration rather than a neoplasm

Classification:
- common fibroadenoma
- giant fibroadenoma
- juvenile fibroadenoma
- phyllodes tumour
Management of fibroadenomas

- TRIPLE ASSESSMENT

- Natural history - 5% increase in size
  - 33% get smaller
  - remainder stay the same

- Management - Fully assess by triple assessment
  - Remove fibroadenomas if >3cm
  - Offer observation or excision

- Relationship to breast cancer
  - No increased risk
  - Complex fibroadenomas
Disorder of early reproductive life
fibroadenoma
Disorders of involution

- Breast involution begins by the age of 35
- Aberrations include:
  - Macrocyst formation
  - Sclerosis
  - Uneven involution
  - Epithelial hyperplasia
- 7% of women will have palpable breast cysts at some point in life
Breast cysts

- Palpable cysts = approx 15% of lumps presenting to breast clinic
- Cysts = distended and involuted lobules
- Most common in peri and post-menopausal women
- Characteristic “halo” appearance on mammogram and U/S
Management of cysts

- Triple assessment

- Diagnosis may be established by needle aspiration, and then pt re-examined

- 1-3% of patients presenting with cysts may have carcinomas but these are usually incidental findings on imaging
So far
Nipple discharge

Causes (in order of frequency)

- Physiological
- Duct papilloma
- Duct ectasia
- Periductal mastitis
- Cancer
- Galactorrhoea
Treatment algorithm for pathological nipple discharge

Spontaneous nipple discharge → Investigations:
- Mammography
- Clinical examination

Abnormal
- Investigate as for mammographic abnormality or mass lesion

* Bloodstained or persistent.

Single duct discharge
- Suspicious* or troublesome → Surgery
- Not suspicious or troublesome → Reassure

Multiple duct discharge
- Troublesome → Surgery
- Not troublesome → Reassure
Duct ectasia

- Disorder of involution
- Major subareolar ducts dilate and shorten during involution
- Contain cheesy, thick material
- Minimal inflammation
- Presents with nipple discharge, slit-like nipple retraction or a mass
- If troublesome discharge may benefit from total duct excision
Gynaecomastia
GYNAECOMASTIA

- Growth of breast tissue in males = benign and usually reversible
- Seen in 30-60% of pubertal boys aged 10-16 yrs
- Causes
  - Puberty
  - Senescent
  - Drugs (cimetidine, digoxin, spironolactone, statins)
  - Cirrhosis
  - Hypogonadism
  - Testicular tumours
  - Hyperthyroidism
Guiding principles

- Usually *Staph aureus* infection
- Give antibiotics early
- Confirm abscess by USS +/- aspiration
- I & D if multi-loculated, very large or skin necrosis
- If lesion is solid, need to rule out malignancy (triple assessment) - INFLAMM BREAST CA.
TRIPLE Assessment

Clinical

Radiological

Cytology (FNA)
Histology (Core Bx)

Early Breast Cancer

Advanced Breast Cancer

Surgery

Chemotherapy

Radiotherapy

Endocrine