Relative frequencies of presenting symptoms of breast cancer

- Lump: 76%
- Pain alone: 10%
- Nipple changes: 8%
- Breast asymmetry or skin dimpling: 4%
- Nipple discharge: 2%
A woman has a 1 in 8 risk of developing breast cancer in her lifetime.

Average of diagnosis 60 years.

Modifiable risk factors include alcohol, post menopausal obesity & Vitamin D.

> 50% of breast cancers found by the woman or her doctor.
CLINICAL FEATURES REQUIRING REFERRAL

- Distortion/tethering, with or without lump
- Persisting inflammation, oedema or diffuse induration of the breast compared to the contralateral breast
- Lump or asymmetrical thickening unexplained by radiology and pathology.
- Persisting spontaneous nipple discharge, often clear or blood –stained
- Changes to nipple – rash, recent inversion
1. Clinical – History and Examination

2. Breast imaging – Mammography/USS/MRI

3. Pathology – FNA/Core Biopsy
OUTCOMES FROM TRIPLE ASSESSMENT

- Triple test is negative if **ALL** components are negative
  - reassure, referral not required

- Triple test is positive if **ANY** component is suspicious or malignant
  - referral is essential

- All 3 components of triple test should correlate
Fig. 2.17  Percentage of patients in 10-year age groups with a discrete breast lump who have common benign conditions and breast cancer.
Case 1 – Mrs C

- Mrs C is a 32 year old teacher
- 6 months of intermittent left breast tenderness
- No family history
- Previously used OCP for 15 years
- Only child at 30, breast fed
- Pre menopausal, no significant PMH
On Examination

- Tender left breast UOQ
- No palpable masses
- No chest wall tenderness or costochondral tenderness

- What next?
- Differential diagnosis?
- Investigations?
Investigations

- **Ultrasound**: fibrocystic change with bilateral scattered sub-centimetre simple cysts slightly more marked in the left breast than the right. No solid lesions

- Diagnosis?
- Management?
Management: Benign Mastalgia

- Exclude significant pathology and reassure
- True breast pain very common (but differentiate from referred chest wall pain)
- Hormone aetiology common
- Cyclical vs. non-cyclical
- Pain chart may be useful
- Ultrasound plus Mammography in >35 yo
- Treatments available
  - Supporting bra
  - Lifestyle modifications (reduce caffeine in diet, stress)
  - Evening primrose oil 1g tds (60% respond)
Case 2 – Mrs I

- Mrs I is a 38 year old office worker
- Tender 2cm mass right breast, grown rapidly
- FH maternal aunt breast cancer at 55 yr
- First of 3 children at 23 yr, breast fed
- OCP previously for 5 years
- PMH appendicectomy, cholecystectomy
- Mirena IUD in situ
Examination

- Nil palpable left breast
- 23mm tender, smooth, well defined mass right UOQ

- Thoughts?
- Possible Diagnosis?
- Investigations?
Investigations

- **Mammogram** 50 – 75% parenchymal density
- 20 mm non calcified mass at site of palpable mass right UOQ plus 10mm non calcified mass left LIQ
- **Ultrasound** 18mm simple cyst right UOQ plus a 10mm solid lesion left LIQ
- Bilateral small scattered simple cysts
- What next?
Further Investigations and Management

1) Right breast: simple cyst. Offer aspiration if symptomatic

2) Left breast: all solid lesions require further assessment

FNA or core biopsy?

3) Scattered small cysts require no further assessment.
Diagnosis

- Right breast cyst aspiration to dryness for symptom relief with benign cyst contents
- Left breast core biopsy confirmed benign fibroadenoma left breast
- No need to follow up unless new symptoms
FIBROADENOMA

- Arise from hormone-dependant breast lobule
- Made up of connective tissue (stroma, of low cellularity) and proliferatory epithelium
- Most common at the time of greatest lobule development, i.e. late teens/early 20’s
- Natural history – most do not change in size, some get smaller or resolve, <5% increase significantly in size
- May be hormonally active, can change with pregnancy or HRT
- Consider excision if increasing in size or >3cm
PHYLLODES TUMOUR

- A fibro epithelial tumour composed of an epithelial and a cellular stromal component. *(Spectrum of sarcoma)*
- Can be mistaken for a fibroadenoma
- Benign or malignant
- Very fast growing, and can increase in size in just a few weeks.
- Occurrence is most common between the ages of 40 and 50.
- Require excision to exclude malignancy
- Malignant but rarely metastasize
- But local recurrence may be a problem (20%)
Case 3 – Mrs M

- Mrs M is 52 year old secretary presented following screening mammogram
- **Mammogram** normal (dense breast tissue)
- Recalled with significant symptom
- **One year left spontaneous single duct clear/serous nipple discharge**
- FH breast cancer paternal aunt 63 yr
- Twins at 24, bottle fed, OCP for 5 years
- Post menopausal, HRT for 3 years
Examination

- No palpable masses
- Single duct serous discharge evident
- No blood staining visible

- Thoughts?
- Investigations?
- Diagnosis?
CAUSES OF NIPPLE DISCHARGE

- Physiological
- Galactorrhoea, exclude pituitary tumour-prolactinoma (v rare) ?drug related
- Duct ectasia-yellow/green
- Intraduct papilloma-single duct, bloody or serous
- Breast carcinoma (<5% of all nipple discharge)
Investigations

- Nipple discharge analysis (urine dipstick for blood): negative
- Nipple discharge cytology (air dried slide): negative, acellular
- Mammogram (if over 35) already done, normal
- Ultrasound: dilated retro-areolar ducts but no solid lesion seen
DISCHARGE CYTOLOGY

- If acellular (e.g., proteinaceous debris), & no other clinical or radiological features of concern, discharge is probably physiological.

- If duct epithelial cells present this is suggestive of intraductal proliferative lesion and may be benign or malignant. Surgical referral is recommended.
# Nipple Discharge

Probability (%) of cancer by age and nature of discharge

<table>
<thead>
<tr>
<th></th>
<th>Age &lt;60</th>
<th>Age &gt;60</th>
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</thead>
<tbody>
<tr>
<td>Serous</td>
<td>&lt;1%</td>
<td>3%</td>
</tr>
<tr>
<td>Bloody</td>
<td>3%</td>
<td>9%</td>
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</table>

Discharge cytology has a low sensitivity (45%) but is highly specific for cancer

*Spontaneous, unilateral, bloody or serous discharge from a single duct raises the possibility of cancer, especially in an older woman*
Multi-duct coloured discharged is common and it may be physiological or due to duct ectasia.

Single-duct bloody discharge is more likely to be associated with papilloma, epithelial hyperplasia or carcinoma.
Management

- Refer persistent spontaneous single duct nipple discharge for surgical assessment

**Microdochectomy** to exclude intraductal lesion and to resolve the troublesome discharge

Note: excisional biopsy recommended for all papillomas to exclude malignancy
Mrs F, 46 year old housewife with lumpy breasts requesting an MRI due to anxiety regarding breast cancer and difficulty examining her breasts.

Well lady, nulliparous, premenopausal, previously used OCP 10 years.

No significant PMH and no medications.

Last screening mammogram 12 months ago.
Family history

- Mother breast cancer at 47
- Maternal 1st cousin breast cancer at 52
- Paternal grandmother at 63
- No FH ovarian cancer

- Thoughts?
- Imaging?
- MRI?
DISPELLING SOME MYTHS

- The great majority of women with a family history of breast cancer do not fall into a high-risk group and do not develop breast cancer.

- In most populations, specific cancer susceptibility genes appear directly responsible for 5% or less of all breast cancers.
Assessing Risk & Useful Links

- Careful family history

- Multiple close relatives especially young age (early 30s) of close family relative or of ovarian cancer (especially under 50) raise suspicion of genetic aetiology

- Familial Risk Assessment – Breast and Ovarian Cancer (FRABOC)

- Risk management guidelines
  - www.eviQ.org.au
Familial Risk Assessment – Breast and Ovarian Cancer (FRABOC)
www.eviQ.org.au

Welcome to eviQ

Patient Information Project

We are undertaking a review of the eviQ patient information and would appreciate your help. Please select the link below to take a short survey.

eviQ Patient Information Project Clinicians Survey
# NBOCC family history breast cancer guidelines

## Categories of Risk

### 1. At or slightly above average risk

**Covers more than 95% of the female population**

*As a group, risk of breast cancer up to age 75 is between 1 in 11 and 1 in 8. This risk is no more than 1.5 times the population average.*

- No confirmed family history of breast cancer
- One 1° relative diagnosed with breast cancer at age 50 or older
- One 2° relative diagnosed with breast cancer at any age
- Two 2° relatives on the same side of the family diagnosed with breast cancer at age 50 or older
- Two 1° or 2° relatives diagnosed with breast cancer, at age 50 or older, but on different sides of the family (i.e. one on each side of the family).


- Advise risk is similar to that of the general population
- Reassure that 9 out of 10 women in this group will not develop breast cancer
- Inform that breast cancer risk increases with age (see Table 1)
- BreastScreen Australia provides free screening mammograms every two years from age 40. Call 13 20 50 for an appointment
- Encourage all women to be aware of the normal look and feel of their breasts and promptly report persistent or unusual changes to their GP
- Investigate women with symptoms using the Triple Test.

### 2. Moderately increased risk

**Covers less than 4% of the female population**

*As a group, risk of breast cancer up to age 75 is between 1 in 8 and 1 in 4. This risk is 1.5 to 3 times the population average.*

- One 1° relative diagnosed with breast cancer before the age of 50 (without the additional features of the potentially high-risk group – see category 3)
- Two 1° relatives, on the same side of the family, diagnosed with breast cancer (without the additional features of the potentially high-risk group – see category 3)
- Two 2° relatives, on the same side of the family, diagnosed with breast cancer, at least one before the age of 50, (without the additional features of the potentially high-risk group – see category 3).


- Advise that there is a moderately increased risk of developing breast cancer
- Reassure that most of the women in this group will not develop breast cancer
- Advise the woman to attend BreastScreen for regular screening mammograms
- Advise that a more precise risk assessment and management plan is available from a family cancer clinic or specialist cancer clinic.

**Additional surveillance**

- Annual mammograms from age 40 may be recommended if the woman has a first degree relative < 50 years diagnosed with breast cancer
- Referral to a family cancer clinic may be appropriate
- Annual mammograms are not recommended for women with a single relative diagnosed > 50 years, as there is no clear evidence of benefit
- In women over 35 years of age, consider the use of medication, such as tamoxifen or raloxifene, to reduce risk of developing breast cancer
- This requires careful assessment of risk and benefits in the individual case by an experienced medical professional
- Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer


- Encourage all women to be aware of the normal look and feel of their breasts and promptly report persistent or unusual changes to their GP
- Investigate women with symptoms using the Triple Test.

### 3. Potentially high risk

**Covers less than 1% of the female population**

*As a group, risk of breast cancer up to age 75 is between 1 in 4 and 1 in 2. Risk may be more than 3 times the population average. Individual risk may be higher or lower if genetic test results are known.*

- Women who are at potentially high risk of ovarian cancer (See page 3)
- Two 1° or 2° relatives on one side of the family diagnosed with breast or ovarian cancer plus one or more of the following on the same side of the family:
  - additional relative(s) with breast or ovarian cancer
  - breast cancer diagnosed before the age of 40
  - bilateral breast cancer
  - breast and ovarian cancer in the same woman
  - Jewish ancestry
  - breast cancer in a male relative.
- One 1° or 2° relative diagnosed with breast cancer at age 45 or younger plus another 1° or 2° relative on the same side of the family with sarcoma (bone/soft tissue) at age 45 or younger
- Members of a family in which the presence of a high-risk breast cancer gene mutation has been established.


- Advise that although there is a high or potentially high risk of developing breast cancer, and perhaps other cancers, many women in this group will not develop breast cancer
- Advise referral to a family cancer clinic for risk assessment, possible genetic testing and management plan.

**Discuss risk reduction strategies which may include:**

- Risk-reducing surgery
- Consideration of the use of medication, such as tamoxifen or raloxifene, to reduce risk of developing breast cancer.

**Ongoing surveillance strategies which may include:**

- Regular clinical breast examination
- Annual breast imaging with mammography, MRI or ultrasound
- Consideration of ovarian cancer risk (see page 3).
- Discuss possible participation in a relevant clinical trial for risk reduction/prevention of breast cancer
- Encourage all women to be aware of the normal look and feel of their breasts and promptly report persistent or unusual changes to their GP
- Investigate women with symptoms using the Triple Test.
POTENTIALLY HIGH RISK

- Lifetime risk between 25 and 50%
- Less than 1% female population
- Two or more 1st or 2nd degree relatives on same side of family diagnosed with breast or ovarian cancer plus one of:
  - Additional relative with breast or ovarian cancer
  - Breast cancer diagnosed before 40 years old
  - Bilateral breast cancer
  - Breast and ovarian cancer in same woman
  - Ashkenazi Jewish ancestry
  - Breast cancer in male relative
- One 1st or 2nd degree relative with breast cancer at 45 years or younger plus further relative with sarcoma at 45 years or younger
- Member of family with high risk gene mutation
Mrs F, 46 year old housewife with lumpy breasts requesting MRI due to anxiety regarding breast cancer and difficulty examining her breasts

Well lady, nulliparous, premenopausal, previously used OCP 10 years

No significant PMH and no medications
Examination

- Bilaterally nodular breasts
- Right UOQ 15 mm area of discrete nodularity with benign characteristics

Investigations?
- Mammogram?
- US?
- MRI?
Investigations

- **Mammogram:**
  - 50% parenchymal density
  - Localised increased stroma left LIQ which dispersed on further views
  - Stable as compared to the previous year

- **Ultrasound:**
  - Scattered small cysts bilaterally, no solid lesion
  - 5mm simple cyst right UOQ in area of palpable abnormality

- **Happy? Further investigation? MRI?**
Failed Triple Assessment!

- 5mm cyst would not adequately explain a 15mm palpable lesion
- Needs pathology to complete the triple assessment
- dFNA: benign ductal cells
- MRI not indicated
- Discharge to BSWA for annual mammography (mother BC at 47)
Ms P, 29 year old presents with a tender, weeping, red periareolar area right breast present 3 weeks.

Past history of two similar episodes, settled with antibiotics

Nil trauma

No FH, nulliparous, smoker

PMH depression

Medications SSRI and OCP
Examination

- Right breast NAD
- Right breast periareolar region, 2cm reddened tender fluctuant area with small purulent discharge
- Nil other masses noted
- Afebrile
- Thoughts?
- Investigations?
Case 6 – Ms C

- Mrs C, 50 year old Malaysian woman, 3 to 4 week history of non cyclical left breast pain associated with a tender lump in left breast
- No FH
- First of 2 children at 27, breast fed
- No significant PMH, no medications
- No breast imaging
- dFNA benign ductal cells only
Examination

Right breast 20mm smooth well defined mobile mass in UOQ

Left breast 25mm irregular concerning mass in LOQ, no palpable LN

What next? Are you happy to accept the left breast FNA?
Investigations

- Mammogram and Ultrasound
- **Lesion 1)** Left LOQ 22mm stellate opacity, seen on US as solid and irregular.
- **Lesion 2)** Axillary LN possibly pathological
- **Lesion 3)** Right UOQ 20mm well defined solid mass with benign characteristics
- **Lesion 4)** Right UIQ 40mm widespread pleomorphic calcifications
- What next?
Further investigations and results

- **Core biopsy Left mass:** Grade 2 Invasive Duct Carcinoma
- **FNA LN:** benign lymphoid tissue
- **Core biopsy Right mass:** benign Fibroadenoma
- **Core biopsy Right calcifications:** low to intermediate grade Ductal carcinoma in situ (DCIS) without evidence of invasion
Management

- WLE vs Mastectomy, SNB vs ANC
- Left breast suitable for breast conserving surgery, lymph node sampling, followed by radiotherapy
- Right breast mastectomy required as 40mm and small breasts. Offered immediate reconstruction
- FA incidental benign finding
- Patient chose bilateral mastectomy without reconstruction.
Case 7 – Mrs V

- Mrs V 65 year old grandmother
- 6 month unresolved “bruise” right breast following accident whilst gardening
- More recently noted changes to her nipple and skin overlying her breast
- On closer questioning aware of palpable mass being evident “much longer”
History (cont)

- FH breast cancer sister at 70
- PMH: NIDDM, hypercholesterolaemia, hypertension, cholecystectomy, appendicectomy and depression
- Medications: Aspirin, Lipitor, Micardis and Zoloft
- Nil allergies
Examination

- Nil abnormality left breast
- Right breast tender to examination and almost totally involved with malignant change
- Nipple retraction and peau d’orange
- No ulceration
- Palpable LN
- Thoughts? What next?
Investigations

- **Mammogram**: only left could be performed due to pain. NAD
- **Ultrasound**: Left NAD. Right breast revealed multiple irregular masses involving the majority of the breast. The dominant mass measured in excess of 60 mm. Multiple pathological axillary LN. Nipple and skin involvement.
- **Core biopsy** for histology and receptor status plus FNA of LN
LOCALLY ADVANCED BREAST CANCER

- Locally advanced (large mass, lymphadenopathy)
- Staging investigations
  - Blood tests (FBC, U&E, Creat, LFTs, Ca)
  - CT chest/abdomen/pelvis
  - Bone scan
- Multidisciplinary management including surgery, medical and radiation oncology.
- Mrs V referred for neoadjuvant chemotherapy
Any Questions?

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