Management of Common Breast Complaints

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16% of women ages 40-69 sought advice from a physician related to a breast complaint.

23 visits per 1000 woman years.

Wide range of physicians may encounter breast complaints, but few “experts.”
Could this be breast cancer?

- Most common malignancy
- 2nd leading cause of cancer death
- US: 1 in 8 lifetime risk (12.5%)
Could this be breast cancer?

- Breast cancer identified in 11% of patients with “lump”, and 4% of women with any complaint.
- Between 50-70% of breast cancers are detected based on symptoms—not by screening.
- Failure to diagnose breast cancer is the #1 malpractice claim in the U.S.
Objectives

 Review common clinical cases in breast disease.
  • Breast Pain
  • Breast Mass
  • Nipple Discharge
  • Abnormal Mammogram Result
 Discuss evidence-based evaluation and management strategies.
Objectives

COMMON BREAST CASES

- Breast Pain
- Breast Mass
- Nipple Discharge
- Abnormal Screening Mammogram
- Breast Inflammation

EVALUATION TOOLS

- Risk Assessment
- Physical Exam
- Breast Imaging
- Diagnostic Procedures
M.J. is a 35 y/o woman, G2P2, who presents with worsening bilateral breast pain.

Pain becomes noticeable during the week prior to her menses and lasts for about 10 days.

Has been present for several years, but worse over the past 6-9 months.
Does this patient have breast cancer?

- A. High likelihood
- B. Intermediate
- C. Low likelihood
The goal of risk assessment is to characterize patient given clinical scenario as low, intermediate, or high risk for breast cancer.

Alternatively:

- Average age-based risk
- High risk
Tool 1: Risk Assessment

- AGE
  - 1 in 2000 women in their 20s.
  - 1 in 25 women in their 70s.
Reproductive Factors

- Elevated risk associated with:
  - Menarche: age < 12
  - Menopause: age > 55
  - Age of first birth ≥ 30
  - Nulliparity
  - Breastfeeding < 2 months
  - Hormone therapy after menopause?
Tool 1: Risk Assessment

Family History

- 1\textsuperscript{st}, 2\textsuperscript{nd}, 3\textsuperscript{rd} degree relatives with breast or ovarian cancer, others?

- Age at diagnosis of affected relatives
Tool #1: Risk Assessment

- FH that warrants genetics referral:
  - 2+ breast/ovarian/peritoneal CA in close relatives from the same side of the family (1\textsuperscript{st}, 2\textsuperscript{nd}, 3\textsuperscript{rd} degree)
  - Early onset breast cancer (< 45 yrs)
  - 2+ cancers in the same individual
  - Known familial mutation
  - Male breast cancer
  - Epithelial ovarian cancer?

NCCN 2009
Tool 1: Risk Assessment

Prior breast biopsies
- Non-proliferative—no increased risk
- Proliferative—slight increased risk
- Proliferative with atypia—ADH, ALH
  - >20% lifetime risk
- Lobular carcinoma in situ
  - >20% lifetime risk

History of therapeutic thoracic radiation
Breast cancer will often occur many years later and in a different location than the original lesion.
Tool 1: Risk Assessment

- Gail Model
  - http://www.cancer.gov/bcrisktool
Risk Assessment

- Age: 35
- Reproductive Factors
  - G2P2, first birth age 29
  - Breast fed x 2 children, 6 mo each
  - Menarche age 11
- Family History
  - Mom: breast CA age 44
- No prior breast biopsies
- No personal cancer history
How to Examine the Breasts:

- Visualize breasts for skin changes, symmetry.
- Palpate chest wall, breasts, and axillae.
- Assess for nipple discharge.
- Seated and supine positions.
- Consistent pattern. (Radial spokes, concentric circles, vertical strips)
- Boundaries.
- Time, time, time.
Position of Patient and Direction of Palpation for the Clinical Breast Examination

Palpation Technique

Levels of Pressure for Palpation of Breast Tissue Shown in a Cross-Sectional View of the Right Breast

Case 1: Breast Pain

- Physical Exam
  - Doughy irregular breasts bilaterally, without discrete masses.

- Breast Imaging?
Breast Imaging

- Not indicated if bilateral pain without abnormalities on physical exam.
- Screening imaging for appropriate women.
- Diagnostic imaging directed by physical exam findings.
Case 1: Breast Pain

2/3 CYCLIC

- Hormonally mediated breast changes
- Fibrocystic changes

1/3 NON-CYCLIC

- Large pendulous breasts
- Breast cancer
  - Mastalgia was the only symptom in 8% of cases.
- Caffeine, tobacco?
- Hormone therapy
- Duct ectasia
- Inflammatory

- Extramammary
  - Chest wall pain
  - Spinal/paraspinal disorders
Case 1: Assessment

- Cyclic, bilateral breast pain
- Normal physical exam

- Is it interfering with her life?
- Does she desire treatment?
Case 1: Breast Pain

- No treatment required

- Therapeutic options:
  - Supportive garments
  - NSAIDs (oral or topical)
  - Low fat diet (<10%)
  - Evening primrose oil (500 mg tid)
  - Evaluate hormonal therapies
  - Tamoxifen, danazol, bromocriptine

- Consider referral to genetic counselor.
Case 2: Breast Mass

- K.M. is a 40 y/o G0 who presents due to finding a lump in her right breast while showering.
- Slight tenderness in the area.
- No history of breast masses.
- Was told she had “fibrocyctic” breasts in the past.
Case 2: Breast Mass

Risk Assessment

- Age: 40
- Reproductive Factors
  - G0
  - Menarche age 11
  - Regular menses
- Family History
  - Aunt—breast cancer age 68
- No prior breast biopsies
- No personal cancer history
Physical Exam

- Right Breast:
  - Soft, smooth, mobile mass, \(~3\) cm in size, at the 10:00 position, 2 cm from areolar edge
  - No nipple discharge, adenopathy
  - No skin changes

- Left Breast:
  - No dominant or concerning masses, no discharge
Case 2: Breast Mass

Does this patient have breast cancer?
- A. High likelihood
- B. Intermediate
- C. Low likelihood

Differential?
Tool 3: Breast Imaging

- Mammography
  - Only modality used for routine screening.
  - Modality of choice in women ≥30 with breast complaints.
  - Detects calcifications and differences in density.
Tool 3: Breast Imaging

- **Ultrasound:**
  - Used as an adjunct to mammography.
  - Best 1st imaging study in women <30 with breast complaints.
  - Differentiate between cystic and solid lesions.
MRI

- Used as a screening modality in high risk women (>20% lifetime risk).
- More false positives.
- Not generally appropriate for evaluation of routine complaints.
BI-RADS Classification:

- 0: Incomplete, needs more imaging
- 1: Negative
- 2: Benign findings
- 3: Probably benign (≤2% likelihood)
  - Repeat imaging in 6 months x 1-2 yrs.
  - Clinical suspicion.
- 4: Suspicious abnormality (3-94% likelihood)
  - Consider biopsy
- 5: Highly suspicious (≥95% likelihood)
  - Biopsy indicated
- 6: Biopsy proven malignancy
Case 2: Breast Mass

- Order **diagnostic** mammogram +/- U/S
- Requisition should include clinical findings.
Breast Imaging Results:
- Mammogram:
  - 3 cm mass in UOQ right breast
- Ultrasound:
  - Simple cyst, 3 cm, correlates with mammographic mass
- Result:
  - BI-RADS 2—benign finding
Diagnosis:

- Simple Breast Cyst
  - Imaging and exam consistent!
  - BI-RADS 2—cytology/histology not required
Management:

- Patient reassurance
- Cyst aspiration for patient comfort
  - Fluid may be discarded
- Alternatively, observation.
  - Will likely fluctuate over time.
M.G. is a 30 y/o woman, G1P1, who felt a lump in her right breast about 3 months ago.
- Not tender or painful.
- She thought it might go away, but it has not—even seems a little bigger.
- No prior breast problems.
Risk Assessment

- Age: 30
- Reproductive Factors
  - G1P1, first birth at age 25
  - Menarche age 13
  - Regular menses on OCPs
- Family History
  - Maternal Aunt—breast cancer age 40
  - Maternal GM—breast cancer age 61
- No prior breast biopsies
- No personal cancer history
Physical Exam

- Right Breast:
  - Firm, mobile mass, ~2-3 cm in size, at the 7:00 position, 1 cm from areolar edge
  - No nipple discharge, adenopathy
  - No skin changes

- Left Breast:
  - No dominant or concerning masses, no discharge
Does this patient have breast cancer?

- A. High likelihood
- B. Intermediate
- C. Low likelihood

Workup?
Breast Imaging Results:

- **Ultrasound:**
  - Solid, well circumscribed mass, 2.5 cm, in area of palpable finding, c/w probable fibroadenoma
- **Mammogram**
  - Well circumscribed mass
- **Result:**
  - BI-RADS 4-- Suspicious finding
Case 3: Breast Mass

- Is more evaluation required?
  - A. Yes
  - B. No
  - C. Not sure
Tool 4: Diagnostic Procedures

- Fine Needle Aspiration
- Core Needle Biopsy
- Excisional Biopsy
  - with or without wire localization
Fine needle aspiration

- Performed with a 22-24 gauge needle.
- May aspirate with syringe.
- Suspend cells in cytologic fluid (like liquid-based pap).
- Cytopathologist with expertise in breast cytology needed!
- Preferred for young, low risk women.
Tool 4: Diagnostic Procedures

- **Triple diagnosis**
  - Using exam, imaging, and FNA:
    - 0.7% with cancer if all three suggest benign disease
    - 99.4% with cancer if all three suggest malignancy.
  - If there is discordance between the three steps, open biopsy or core needle biopsy should be done.
Core needle biopsy

- Performed with a 14-18 gauge needle, generally using U/S or stereotactic mammography.
- May be performed with palpation.
- Histologic specimen obtained.
- Correlates with open biopsy 94% of the time, with less cost and better cosmetic result.
- Gold standard for histologic diagnosis.
Excisional Biopsy

- When core biopsy is non-diagnostic.
- When image-guided core biopsy is not possible due to location of lesion, imaging characteristics, patient characteristics.
- When mass does not have an imaging correlate.
- When high risk lesion identified on core biopsy
  - ADH, ALH, LCIS, radial scar
- Wire localization allows for excision of non-palpable imaging abnormalities.
Case 3: Breast Mass

- Image-guided Core Needle Biopsy performed.

- Pathology:
  - Benign fibroadenoma, no atypia

- Treatment?
Patient reassured by benign diagnosis.

Options:
- Follow conservatively with exam for changes.
- Remove lesion >2 cm or for patient desire.

Fibroadenomas are the most common solid masses identified in young women.
- Occur in 10-20% of women.
- Multiple fibroadenomas in 15-20% of cases.
Management of Breast Mass

Patient c/o Breast Mass

Clinical Exam: No Mass
- Repeat Clinical Breast Exam 2-3 months

Clinical Exam: Probable Benign Mass or Asymmetry
- Age <30: Ultrasound
- Age ≥30: Mammogram +/- Ultrasound

Clinical Exam: Suspicious Mass
- Mammogram +/- Ultrasound + Biopsy

BI-RADS 1: Negative
- Repeat Exam, Consider Biopsy

BI-RADS 2: Benign
- Routine Follow-up if c/w Exam

BI-RADS 3: Probable Benign
- Repeat Imaging in 6 months (preferred)

BI-RADS 4-5: Suspicious
- Biopsy if clinically indicated
- Biopsy (Image Guided Core Preferred)

See text for detailed discussion.
S. K. is a 50 y/o woman who noticed staining of her bra with bloody fluid. On her self-exam, she was able to express bloody fluid from her left nipple. No pain or tenderness. No masses or other findings.
Risk Assessment

- Age: 50
- Reproductive Factors
  - G3P2, first birth at age 32
  - Menarche age 11
- Family History
  - No family history of cancer
- Prior breast biopsies
  - Excisional bx age 30--fibroadenoma
- No personal cancer history
Physical Exam:

• Left Breast:
  • No dominant or concerning masses
  • No skin changes or adenopathy
  • Expressed serosanguineous discharge from left nipple, single duct

• Right Breast:
  • No dominant or concerning masses
  • No skin changes, adenopathy, or discharge.
Causes of Nipple Discharge

- **Blood**
  - malignancy vs papilloma

- **Purulent**
  - infection

- **Milky**
  - after childbearing up to one year+
  - hypothyroidism, prolactinomas
  - medications: OCPs, tricyclic antidepressants, dopamine antagonists

- **Grey, brown, green, sticky**
  - Duct ectasia. Common 5th decade, with nipple tenderness and pain.
Nipple Discharge

- Spontaneous, bloody, unilateral, from one duct = more likely cancer
- Non-spontaneous, non-bloody, bilateral = less likely cancer
Does this patient have breast cancer?

A. High likelihood
B. Intermediate
C. Low likelihood
Case 4: Nipple Discharge

Breast Imaging:
- Diagnostic mammogram + ultrasound
- Requisition to describe physical findings
Breast Imaging Results:
  • Mammography + U/S
    • No abnormalities identified
  • Result:
    • BI-RADS 1—Negative

Now what?
Is more evaluation required?

- A: Yes
- B. No
- C. Not sure
Case 4: Nipple Discharge

- Always pursue diagnostic test when clinical assessment does not correlate with imaging results.
Case 4: Nipple Discharge

- **Ductography**
  - Affected duct cannulated and injected with dye.
  - Mammogram to identify, locate filling defect.

- **Subareolar duct excision**
  - Affected duct cannulated in the OR and removed to approximately 4-5 cm beneath nipple.
  - This is a necessary diagnostic step with suspicious discharge.
Case 4: Nipple Discharge

- Pathology results:
  - Benign intraductal papilloma.

- Routine clinical follow up.

- Even women with single, benign papilloma may be at increased future risk of breast cancer.
  - Screening consideration.
Management of Nipple Discharge

Patient c/o Nipple Discharge

History and Clinical Breast Exam

See text for detailed discussion

Mass Identified

Go To Figure 2: Management of Breast Mass

Spontaneous Unilateral Single Duct Reproducible on Exam

Mammogram + Ultrasound

BI-RADS 4-5

Biopsy of Imaging Abnormality

BI-RADS 1-3

Ductogram

Excision of Involved Duct

Expressed Only Multiduct Yellow, Green, Grey, or Black

Mammogram if age ≥40 and >1 year since last one

Observation and Avoid Nipple Stimulation

Symptoms bothersome to patient

Consider Duct Excision

Repeat exam in 3-4 months for stability

Pregnancy Test

If hCG negative, galactorrhea workup (review medications, check TSH, prolactin)

Medications associated with galactorrhea:
- Phenothiazines
- Other antipsychotics
- Metaclopramide
- Domperidone
- Methyldopa
- Reserpine
- Verapamil
- Oral contraceptive pills
Apply assessment tools to evaluation of breast complaints.

- Risk Assessment
- Physical Exam
- Breast Imaging
- Diagnostic Procedures

Compare clinical assessment with imaging and diagnostic results.

If above do not correlate, consider whether further workup is necessary.

When in doubt, close follow up is appropriate.