Current Management of Benign Breast Disease

Stuti J. Tambar, MD FACS
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Objectives

- Breast Density
- Benign disease
  - Simple Cysts
  - Breast Pain
  - Fibroadenoma
  - Fibrocystic disease
  - Nipple discharge
  - Mastitis and Breast Abscess
- High Risk lesions
- Hormone Replacement Therapy
- Screening Guidelines
- High Risk patients
- COVID and breast care
Breast Density

- A ratio of fat and breast tissue
- Dense breast = more breast tissue than fat
  - Common in young women
  - Common in lactating women
- Density typically decreases with age
- Harder to read on Mammogram and generally require more imaging modality to detect lesions (ultrasound + MRI)
- Some studies show higher risk of cancer in dense breast patients
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Breast Density

RADIologists CLASSIFY breast density using A FOUR LEVEL DENSITY SCALE:

- Almost Entirely Fatty
- Scattered Areas of Fibroglandular Density
- Heterogeneously Dense
- Extremely Dense
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Breast Pain

✓ Causes
  ✓ Menstrual cycle
  ✓ Fibrocystic breast
  ✓ Medications
    ✓ SSRI, Haldol, digoxin, spironolactone, methyldopa
  ✓ Caffeine
  ✓ Smoking
  ✓ Improperly fitted bra

✓ Treatment
  ✓ Avoid caffeine
  ✓ Avoid smoking
  ✓ Decrease sodium intake
  ✓ Low fat diet
  ✓ OTC vitamin E and evening primrose oil
  ✓ Bra fitting
  ✓ Diclofenac gel/cream for surface sensitivity
✓ One study in 1996 showed RR of 2.7 for breast cancer in patients with complaints of cyclic swelling and mastalgia

✓ Topical tamoxifen in clinical trials have shown to more efficacious than oral treatment arm in treating cyclical breast pain with low blood drug level indicating less risk of side effects.
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**Simple Cyst**

- Generally small, sac filled with fluid
  - Can grow large and cause discomfort
- Considered BIRADS-2
- May grow and shrink based on menstrual cycle
- Can cause breast asymmetry due to size
- Treatment
  - Generally none, unless painful
  - Aspiration first line treatment
  - If recurs, may choose to get another aspiration vs excision
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Simple Cyst
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Simple Cyst

- Needle in Cyst
- Cyst Aspiration
- Needle in place after Cyst Aspirated
- Needle in Cyst Before Aspiration
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Fibroadenoma

- Most common solid lump common in young women between ages 15-35
- Smooth, rubbery, mobile, well defined
- Usually painless

Treatment
- Monitoring for change in size
- Biopsy to confirm diagnosis if >2cm or growing rapidly (Could be phyllodes tumor)
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Fibroadenoma

✓ Types

✓ Complex – based on pathology result. Mix of more than one type

✓ Juvenile – in ages 10-18, may grow large, but most shrink and disappear over time

✓ Giant – larger than 5 cm

✓ Phyllodes – may be malignant or benign. Recommended to be removed
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Fibroadenoma
✓ Management

✓ Observe with short-term ultrasound to demonstrate stability

✓ Core needle biopsy if larger than 2cm

✓ Excise if rapid growth, >0.5cm in 6 months

✓ Generally not advised to remove any benign lesions in developing breast as it has high risk of permanent breast deformity
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Fibrocystic Breast

- Dense and irregular breast tissue
- Very important for patients to perform self breast exam to know what’s normal
- Generally harder to read Mammograms and require ultrasound
Nipple Discharge

- Could be spontaneous or non-spontaneous

- Bilateral or Unilateral
  - Bilateral generally due to systemic causes (medications, hormone imbalance etc.)

- Yellow, green, brown, thick and non-spontaneous
  - Physiologic and needs no treatment

- Clear, Bloody and spontaneous
  - Needs workup to rule out malignancy
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Nipple Discharge

- Causes
  - Cancer
  - Breast stimulation
  - Fibrocystic disease
  - Intraductal papilloma
  - Blocked duct
  - Medications

- Work up includes mammogram, ultrasound ± MRI

- Ductograms are painful and generally been abandoned

- Duct excision can be offered for symptomatic relief
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Mastitis and Breast Abscess

✓ Affects women between ages of 18-50
✓ Need to rule out inflammatory cancer
✓ Lactational or non-lactational
Lactational

- Usually caused by Staph Aureus, staph epidermidis or streptococcus
- Starts as a cracked nipple and bacteria infects poorly drained segments of the breast
- Common during first 6 weeks or weaning period
- Presents as erythema, swelling, tenderness
- Amoxicillin-clavulanate or erythromycin
- Breast-feeding should continue to promote drainage of the engorged segment
- Infant is not harmed by the milk or antibiotics
 ✓ Non-lactational
   ✓ Peri-areolar
     ✓ Most common
     ✓ Direct correlation to smoking
     ✓ Chronic periductal mastitis
     ✓ Experience recurrent episodes
     ✓ Aerobic and an-aerobic bacteria
     ✓ Treated with amoxicillin-clavulanic acid or flagyl+erythromycin
     ✓ May need removal of all affected ducts for long term treatment
     ✓ Need Mammogram performed after resolution to rule out cancer

 ✓ Peripheral
   ✓ Less common
   ✓ Associated with underlying diabetes, RA, steroid use and trauma
   ✓ Aerobic or an-aerobic
Abscess
- Readily visible on ultrasound
- Ultrasound-guided aspiration preferred over open incision and drainage
- Serial drainage and oral antibiotic course is usually effective at resolving abscess and is current treatment of choice
High Risk Lesions

- Associated with increase in future risk of cancer
- Up to 20% risk of adjacent cancer
- Generally requires active surveillance or excision
- May require other risk reduction strategies like estrogen blocking agent
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High Risk Lesions

- Atypical Ductal Hyperplasia (ADH)
- Atypical Lobular Hyperplasia (ALH)
- Lobular Carcinoma In-Situ (LCIS)
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High Risk Lesions

- Normal duct
- Ductal hyperplasia
- Atypical hyperplasia
- DCIS
- Invasive ductal carcinoma
 ✓ Other common lesions noted on core biopsies (without atypia)

 ✓ Radial scar – 1% upgrade rate
 ✓ Intraductal papilloma – 1.6% upgrade rate
 ✓ Flat epithelial atypia – 1.6% upgrade rate

 ✓ Do not need to be routinely removed
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Hormone replacement therapy

- Estrogen-Progesterone and Progesterone alone increases risk of breast cancer
- Estrogen alone has shown inconsistent results but are favorable
- Replacement after oophorectomy in premenopausal women is safe until age of 50 given no other risk factors are present
- Short term (a few months) use after menopause with clear plan to wean off
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Hormone replacement therapy

- For women taking 5 years of HRT after menopause around age 50
  - Progesterone alone – 1 cancer for every 50 users
  - Estrogen and progesterone – 1 cancer for every 70 users
  - Estrogen alone – 1 cancer for every 200 users
Screening Guidelines

- Women between 40 and 44
  - have the option to start screening with a mammogram every year.

- Women 45 to 54
  - should get mammograms every year.

- Women 55 and older
  - can switch to a mammogram every other year, or they can choose to continue yearly mammograms.

- Screening should continue as long as a woman is in good health and is expected to live 5-10 years or longer.

- Annual screening mammograms has the benefit of reducing breast-cancer associated mortality by 40% in average risk women.
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High risk patients

- Have a lifetime risk of breast cancer of about 20% to 25% or greater, according to risk assessment tools that are based mainly on family history.

- Have a known \textit{BRCA1} or \textit{BRCA2} gene mutation (based on having had genetic testing).

- Have a first-degree relative (parent, brother, sister, or child) with a \textit{BRCA1} or \textit{BRCA2} gene mutation, and have not had genetic testing themselves.

- Have Li-Fraumeni syndrome, Cowden syndrome, or Bannayan-Riley-Ruvalcaba syndrome, or have first-degree relatives with one of these syndrome.

- Had radiation therapy to the chest when they were between the ages of 10 and 30 years.
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High risk patients

✓ Should undergo annual enhanced screening protocol

✓ Mammogram and MRI

✓ 2 clinical breast exams annually

✓ Prophylactic risk-reducing mastectomy only offered to patients with BRCA mutation
  ✓ Only patients with prognostic benefit at this time
✓ Screening and surveillance studies were delayed secondary to COVID pandemic

✓ Biopsies were delayed in patients despite suspicious lesions

✓ Done to preserve medical resources including PPE, medications and avoid spread of the disease to medical personnel

✓ Lead to delay in cancer diagnosis and treatment

✓ Long term effects still to be seen
American Society of Breast Surgeon’s recommendations April 2020

✓ Priority categories created
  ✓ A
    ✓ Any delay would significantly alter prognosis
    ✓ Breast abscess, expanding hematoma with HD instability
  ✓ B
    ✓ Some delay will not alter prognosis, but longer delay would impact outcome
    ✓ Most common category for breast cancer patient
    ✓ Patients were offered NAC for Her2+ or TNBC, locally advanced BC
  ✓ C
    ✓ Elective reconstruction
    ✓ DCIS
    ✓ Benign disease
    ✓ Prophylactic mastectomy
    ✓ T1N0 ER+ Her2- disease offered neo-adjuvant hormonal blockade
Thank You.
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Questions


Type and timing of menopausal hormone therapy and breast cancer risk: individual participant meta-analysis of the worldwide epidemiological evidence. The lancet. Volume 394, issue 10204, p1159-1168, September 28, 2019
✓ American Cancer Society Recommendations for the Early Detection of Breast Cancer
✓ Impact of the COVID-19 Pandemic on a Population-Based Breast Cancer Screening Program
✓ Recommendations for prioritization, treatment, and triage of breast cancer patients during the COVID-19 pandemic. the COVID-19 pandemic breast cancer consortium
✓ COVID-19 Pandemic Breast Cancer Consortium’s Considerations for Re-entry. American Society of Breast Surgeons