

## **Vesalius SCALpel™ : Benign breast disease (see also: breast folios)**

### **Breast cancer risk**

non-proliferative: only fibroadenoma may be associated with a slight risk of cancer

proliferative: moderate or florid hyperplasia, papilloma with fibrovascular core slight increased risk (1.5-2X)

proliferative with atypia: atypical ductal/lobular hyperplasia (ADH, ALH), 4-5X risk

### **Imaging**

mammography: breast imaging, reporting and data system (BI-RADS)

abnormal findings: mass, microcalcifications, asymmetric density, developing density, architectural distortion, dilated ducts, radial scar

classification:

0 incomplete

1 negative

2 benign, standard surveillance

3 probably benign, 4-6mo f/u mammo, most FCD, fibroadenoma

4 suspicious, biopsy recommended, 30% cancer, most DCIS

5 highly suspicious, biopsy recommended, most infiltrating ductal

benign calcifications: skin, vascular, coarse (popcorn, degenerating fibroadenoma), large rod-like, round, eggshell, milk of calcium

indeterminate calcifications: amorphous, indistinct

higher risk: pleomorphic (different shape, size)

US high sensitivity, low specificity, doesn't see microcalcifications

B (brightness mode)

benign characteristics: smooth distinct margins, homogeneous, width > height

through-transmission = posterior enhancement

MRI: young, dense, high risk, identify additional suspicious areas in patient with

mammographically identified lesion, guide extent of wide excision; high false positive ductography, ductoscopy (0.9mm scope) for unilateral, bloody discharge

### **Pain**

80% of women have some degree of fibrocystic disease, cyclical enhancement of pain with menses

chronic cystic mastitis: ductal blunting, papillomatosis, sclerosing adenosis, apocrine metaplasia

rarely a symptom of cancer (5-12%)

non-cyclical pain: increased estrogen and prolactin, decreased progesterone

caffeine: theory: methylxanthines interfere with degradation of ATP in breast

restricting caffeine may decrease nodularity, minimal effect on pain

essential fatty acid deficiency

primrose oil extract corrects?

2w anti-inflammatory, reassurance, 85% success

oral contraceptives may treat or initiate  
bromocryptine for hyperprolactinemia  
danazol: binds progesterone and androgen receptors (not estrogen recep.)  
very effective (70%) with cyclical pain  
prohibitive side effects: virilization, hirsutism, acne, lowered voice  
TAM: 98% effective for cyclical, 50% non-cyclical; 10mg/d X 6mo  
hot flashes in pre-menopausal  
postmenopausal pain  
r/o non-breast causes  
D/C hormones, consider progesterone alone (bloating side effect)  
bromocryptine ineffective  
most likely factor estrogen  
Mondor's disease: superficial thrombophlebitis lateral side of breast

### **Fibroadenoma**

median age 30y  
most common breast lesion in child  
excisional bx in growing breast can cause deformity, wait to late puberty  
US best imaging modality in dense young breast  
doubling time 6-12mo, max size usually < 3cm  
15% may show some regression  
may observe if proven benign, most get excised  
triple negative dx: clinical breast exam, imaging, biopsy (FNA, core)  
short term f/u if still uncertain  
periareolar less mobile

### **Giant fibroadenoma**

young (15-20), > 5cm, black and oriental higher incidence  
rapid enlargement over several weeks  
benign, not associated with malignant degeneration  
epithelial and connective tissue components  
can infarct, cause pain  
local excision, breast usually regains normal shape  
(differentiate from juvenile hypertrophy which is usually bilateral)

### **Phyllodes tumor**

difficult to differentiate from fibroadenoma  
peak 35-55  
local recurrence potential  
1 cm margin  
rarely (10%) transform to cancer, rarely metastasize  
areas of necrosis suspicious  
malignant do not spread to lymph nodes

in child 95% benign

## Cyst

10% incidence, late reproductive, peak 40-50  
involute after menopause if not on hormone replacement therapy (HRT)  
aspiration definitive Rx 90% of cases  
    bloody send for cytology  
    if residual mass after aspiration do Bx  
intraductile papillary cancer can present as cyst

## Discharge

unilateral, single duct, spontaneous, persistent = pathologic galactorrhea  
    bilateral in non-lactating usually due to mechanical stimulation of breast  
    seen in extremes of reproductive life  
colored discharge  
    duct ectasia common, excise subareolar ducts for persistent discharge if no plan for future breast feeding  
bloody discharge  
    15% underlying Ca  
    risk of malignancy increases with age  
    majority intraductile papilloma, most common cause  
        most papillomas within 2-3cm of nipple  
    if can localize do local duct excision, if not do general subareolar duct excision

## Infection

lactating breast infection  
    most < 1mo postpartum, staph aureus  
    aspirate, treat with antibiotics often successful  
        avoid chance of milk fistula  
        if doesn't resolve do I&D  
    breast feeding not contraindicated  
subareolar abscess/mammillary fistula (Zuska's disease)  
    recurrent subareolar abscess from intermittent duct obstruction  
    reproductive years  
    95% associated with tobacco use  
    mixed aerobic/anaerobic  
    excise involved ducts  
    recurrence common  
peripheral abscess  
    less common than subareolar  
    post menopausal  
    staph aureus

risks: diabetes, steroids  
drain (aspiration) and antibiotics (85% successful) or I&D

## **Gynecomastia**

3 peaks: neonatal, puberty, adult  
40% of 10-16yos,  
probably related to increased estrogen to androgen ratio  
if bilateral reassure  
unilateral probably local factor: hormone receptors or local hormone conversion  
decreased androgens: anorchia, Klinefelters, cryptorchidism, viral orchitis, bilateral torsion  
increased estrogens: testicular tumor, adrenal disease, advanced liver dis,  
hyperthyroidism, starvation, refeeding; ectopic HCG (lung, liver, kidney)  
majority resolve 6 mo  
3rd peak >60  
R/O cancer  
drugs:  
classes: hormones, antiestrogens, antibiotics, antiucler, chemotherapy (alkylating), cardiovascular, psychotropic, substance abuse  
examples: androgens, spironolaceone, digoxin, Ca++ channel blockers, marijuana, griseofulvine, ketaconazole, pheonthiazine, reserpine, tricyclics, cimetadine (& other H2 blockers), methyl dopa, INH, metocloprimide, chemotherapy agents, antihypertensive, Rogam  
trial TAM 10mg BID X 3mo, or excise  
if significant amt true breast tissue, liposuction helps contour periphery and minimize saucer-like defect  
pseudogynecomastia: fatty, diffuse

## **Pseudoangiomatous stromal hyperplasia**

non-neoplastic mass, thickening, may be incidental finding  
complex anastomotic patterns, resemble angiosarcoma  
endothelial markers distinguish angioSA  
mammo: round, oval, well circumscribed  
US hypoechoic with cystic spaces  
excise with margin, 7% recurrent  
ER/PR negative, etiology uncertain

## **Granulomatous mastitis**

ascending ductal infection (Tb, bartonella 3% in developing countries)  
autoimmune component  
lump, galactorrhea, inflammation, skin induration/ulceration  
nodules on mammo and US  
FNA for cytology and organisms

non-infectious complete excision plus oral steroids, anti-inflammatory or colchicine to complete remission; 50% recurrence