

Common Problem of the Breast

Breast Lumps, Nipple Discharge, and Pain

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圖片取自 Seidel HM, Ball JW, Dains JE, Benedict GW. (1999). Mosby's guide to physical examination. St. Louis, MO: Mosby.¹

The background of the slide features a warm, orange-toned image. At the top, a hand is shown holding a pen, poised to write on a document. Below the document, a portion of a computer keyboard is visible. The overall aesthetic is professional and focused on business or medical documentation.

Breast Lumps and Nipple Discharge

Breast lump



- Three most common
 - Fibroadenoma
 - 15~39 y/o
 - Fibrocystic breast changes
 - Heterogenous group of **nonproliferative** changes
 - Stroma/glandular elements of the breast tissue
 - Benign cysts, diffuse and localized nodularity, nipple discharge, and breast tenderness
 - 30~50 y/o, dominantly 20~30
 - Breast carcinoma
 - Increase risk after 50 (40~70)
- Others
 - Intraductal papilloma and ductal ectasia
 - 35~55 y/o

Characteristics of lumps



- Size, depth, contour, shape, fluctuation, firmness, mobility
- Cysts are frequently tender, especially premenstrually. Re-examination in 1 or 2 weeks will usually demonstrate cyclic hormonal change of the tissue, and lump size and tenderness will have changed
- A **single, firm, asymmetrical, immobile mass** in a postmenopausal woman will, when biopsied, proved to be **cancerous** 75% of the time

Malignant lesion



- Single, hard, painless lump
- **Unchanged by the cyclic hormonal milieu**
- More likely to be new lumps that show progressive increase in size
- Unilateral
- Residual masses after antibiotic therapy
- Nipple discharge with lump
 - Spontaneous
 - Single-duct discharge
- Perimenopause and postmenopause

Primary Risk Factors for *Breast Cancer*

Female Gender

Age

75% of all cases occur after age 50; no plateau effect with age

Personal History of Breast Cancer or Cancer In Situ

DCIS is a precursor of cancer and increases the risk for invasive breast cancer, usually in the same breast

Previous History of Breast Biopsies for Benign Breast Disease

Biopsy-proved proliferative changes or atypical epithelial hyperplasia; fibrocystic histological findings that increase the risk of breast cancer are moderate or severe hyperplasia (1.5-2 times the risk), atypical hyperplasia (5 times the risk), and **lobular carcinoma in situ (8-10 times the risk)**; **LCIS is a marker for cancer rather than a precursor**; the cancer may occur in either breast

Laboratory Evidence of Specific Genetic Mutation

Increase susceptibility to breast cancer, i.e., mutation in BRCA1 or BRCA2 gene

Personal History of Cancer

Ovarian, endometrial, colon, or thyroid cancers

Family History of Breast Cancer

In first-degree relatives (mother, sister, or daughter) or in two or more close relatives

Mastitis



- An inflammation of breast
- Related to lactation
- Common pathogen: coagulase positive *Staphylococcus aureus*.
- S/S
 - Sore or cracked nipples
 - Pierced nipples
 - Painful or hot breast
 - Fever

Nipple discharge



- Normal: milky and nonpurulent
- Greenish: papillomatosis and ductal ectasia
- Serosanguineous: Intraductal papilloma
- Purulent: mastitis, subareolar abscess, inflammatory breast cancer
- Bloody: benign or cancer

DIFFERENTIAL DIAGNOSIS OF *Common Causes of breast lumps and nipple discharge*

CONDITION	HISTORY	PHYSICAL FINDINGS	DIAGNOSTIC STUDIES
Single breast mass			
Cancer	Usually older than 35; unilateral new lump	Single, hard, nontender, fixed lump; borders irregular or not discrete; may be erythema, dimpling, increased vessel patterns; may have nipple discharge	Diagnostic mammogram; ultrasound; tissue biopsy
Cysts	Younger age, often younger than 35; often multiple	Round or elliptical; soft or fluctuant; mobile	Clinical examination; FNA: clear aspirate; mammogram; ultrasound: cyst (s)
Fibroadenoma	Common in adolescence	Single, sharply circumscribed, mobile lump	Diagnostic mammogram; ultrasound; biopsy
Abscess	History of mastitis	Single mass; irregular shape; chronic abscess may be nontender	Biopsy

DIFFERENTIAL DIAGNOSIS OF *Common Causes of breast lumps and nipple discharge*

CONDITION	HISTORY	PHYSICAL FINDINGS	DIAGNOSTIC STUDIES
Single breast mass (cont)			
Fat necrosis	May have history of injury at site	Single, fixed, and often irregular tumor	Biopsy
Lipoma	May have others on arms, trunk, buttocks, or back; usually nontender	Single tumors; smooth, well-defined; fluctuant consistency	Biopsy
Tuberculosis	History of tuberculosis, positive PPD, or chest radiography; immunocompromised	Single; irregular shape; nontender	Biopsy
Ruptured implant	History of augmentation; change in size or shape of breast	Nodule palpated best when patient is sitting	Diagnostic mammogram; ultrasound; MRI

DIFFERENTIAL DIAGNOSIS OF *Common Causes of breast lumps and nipple discharge cont'd*

CONDITION	HISTORY	PHYSICAL FINDINGS	DIAGNOSTIC STUDIES
Inflammatory breast mass			
Mastitis and acute abscess	Primigravidas more often than gravidas; > 1 wk after delivery; breastfeeding; tender nipples	Red, warm, tender; usually unilateral, one fourth of breast, or one lobule; breast engorgement; fever; nipple discharge: pus	Culture positive for <i>S. aureus</i> , <i>escherichia coli</i> , <i>streptococcus</i> ; elevated WBCs
Inflammatory breast cancer	History of mastitis or inflammatory process of breast	Entire breast swollen; fever rarely present; axillary lymphadenopathy	Biopsy
Multiple or bilateral breast lumps			
Fibrocystic breast changes	Multiple breast lumps of both breasts; cyclic changes that worsen at time of menses	Bilateral nodularity, dominant lumps; tender, mobile	FNA; ultrasound; mammogram

DIFFERENTIAL DIAGNOSIS OF *Common Causes of breast lumps and nipple discharge cont'd*

CONDITION	HISTORY	PHYSICAL FINDINGS	DIAGNOSTIC STUDIES
Nipple discharge			
Intraductal papilloma	Bloody nipple discharge; usual age is 40-50 yr	Unilateral, subareolar	Diagnostic mammogram; ductogram
Fibrocystic breast changes	Milky nipple discharge; cyclic changes that worsen at time of menses	Spontaneous, clear or milky, bilateral, multiduct	Diagnostic mammogram; ductogram
Duct ectasia	Green nipple discharge	Greenish or brownish nipple discharge	Diagnostic mammogram; ductogram
Neonatal discharge (witch's milk)	Milky discharge 1-2 wk after birth	Enlarged breast tissue, milky discharge lasting 1-2 wk after birth	None

DIFFERENTIAL DIAGNOSIS OF *Common Causes of breast lumps and nipple discharge cont'd*

CONDITION	HISTORY	PHYSICAL FINDINGS	DIAGNOSTIC STUDIES
Hyperprolactinemia	Milky or clear nipple discharge; amenorrhea; history of medications: estrogenic, dopamine blockers, or dopamine depleters; hypothyroidism; pregnancy; postabortion; nipple stimulators; visual changes	Spontaneous, unilateral or bilateral, multiduct; clear or milky nipple discharge	Serum prolactin levels; MRI if indicated
Male breast disease			
Acute mastitis	History of clothing rubbing nipple (e.g., jogging); swelling or lump of chest wall ;tenderness of site	Red, warm, tender; usually unilateral, one fourth of breast, or one lobule; breast engorgement; fever; nipple discharge/pus	Culture: positive for <i>S. aureus</i> , <i>E. coli</i> , streptococcus, elevated WBCs
Cancer	Family history of male breast cancer; painless lump of chest wall	Induration, retraction of nipple or mass in nipple well; fixed, nontender; lymphadenopathy	Mammogram; FNA; tissue biopsy

Diagnostic Reasoning: Focused Hx (Breast Lumps)



- **Is This Lump Likely to Be Malignant ?**
 - How long has the lump been present ?
 - Is the lump changing (e.g., getting bigger, worse, or more painful) ?
 - Is the lump in one breast only or are there lumps in both breasts ?
 - When was your last menstrual period ?
 - Is there any discharge from the nipple ?
 - Have you recently been treated for a breast infection ?
- **Does the Person Have Additional Risk Factors for Breast Cancer ?**
 - Have you ever had breast cancer ?
 - Do you have a family history of breast cancer (e.g., first-degree relative) ?
 - Have you ever had ovarian, endometrial, colon, or thyroid cancer ?
 - Do you have a family history of ovarian, endometrial, colon, or prostate cancer ?
 - Have you ever received radiation to the chest or had a malignancy in childhood ? ?

Diagnostic Reasoning: Focused Hx



- **Is This Condition More Likely to Be Benign ?**
- How old are you ?
- Have you had lumps before Do you have a history of cystic breast changes of lump breasts ?
- Does this lump feel like other lumps you have had ?
- Does this lumps come and go or change with your periods ?
- Have you ever had a mammogram or ultrasound ? Why was it done What were the results ?
- Have you ever had a lump drained or biopsied What was the diagnosis ?
- Have you had breast implants ?



- **Could This Lump Be Mastitis Related to Lactation ?**
 - Have you recently had a baby ?
 - Are you currently breastfeeding or breast suckling ?
 - Are your nipples sore or cracked ?
 - Have you had pierced nipples ?
 - Is your breast painful or hot Are there any areas of redness ?
 - Have you had a fever ?



■ Is This Normal Lactation ?

- When was your last menstrual period ? How frequent are your cycles ?
- Is it possible that you are pregnant ? What are you using for birth control ?
- When was your last delivery or miscarriage ? How long were you pregnant ?
- Did you breastfeed for how long ? When did you stop ?
- Is the nipple discharge clear or milky ?
- How long have you had the nipple discharge ?



- **Is the Discharge Related to High Prolactin Levels ?**
 - What medication are you taking ?
 - Do you jog or run If yes: Do you wear a sports bra? Do your nipple rub on your clothing ?
 - Are your breasts fondle, squeezed, or suckled during sexual activity ?
 - Do you have a thyroid condition ?
 - What medical condition or health problems do you have ?
 - If a newborn: has the discharge been present since birth ?



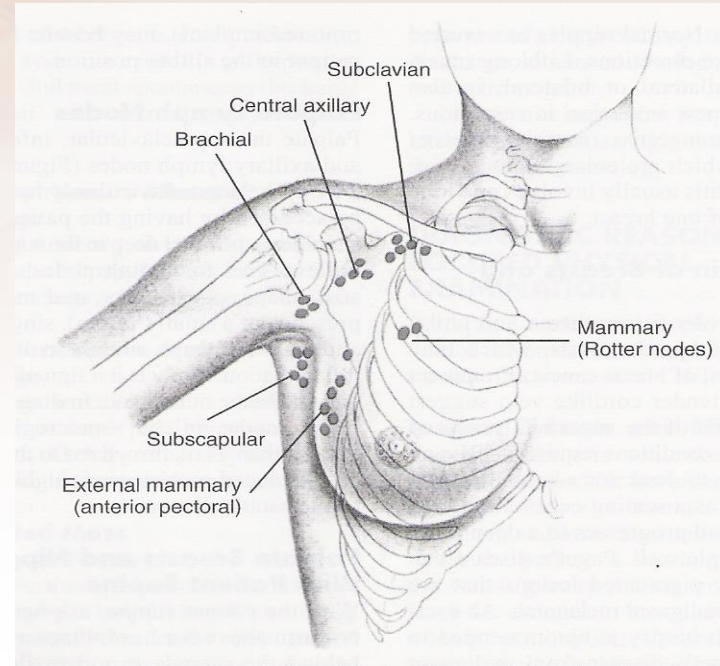
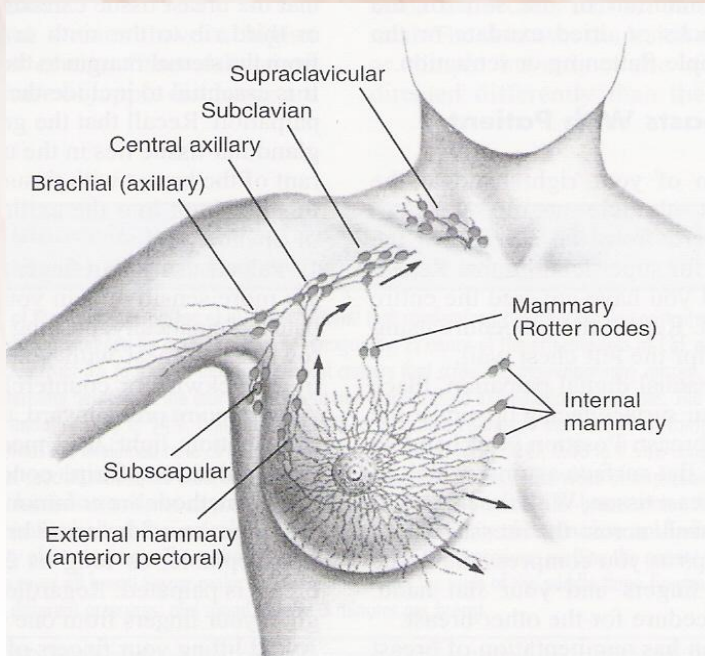
- **Can the Nipple Discharge Be a Sign of Malignancy ?**
 - Is the nipple discharge spontaneous or must it be expressed ?
 - Does it come from one or both nipples ?
 - Does it come from one or multiple nipple ducts ?
 - Do you also have a breast lump ?
 - Are you postmenopausal ?

Diagnostic Reasoning-Focused PE



- **Inspect Breast and Nipples**
- **Observe Skin of Breasts and Nipples**
- **Palpate Breasts With Patient sitting**
- **Palpate Lymph Nodes**
- **Palpate Breasts and Nipples With Patient Supine**
- **Assess Nipple Well**
- **Examine Nipple for Discharge**
- **Transilluminate Breast Masses**
- **Characterize Lumps**

Lymph drainage of the breast



- The presence of < 1 cm, single rubbery, and mobile lymph can be a sign of inflammation
- More than one lymph nodes in the same region that are > 1cm, firm, fixed to the chest wall or of a matted consistency is highly suggestive of metastatic disease

Lab and diagnostic studies



- **Ultrasound**
- **Mammography**
- **Magnetic Resonance Imaging (MRI)**
- **Fine-Needle Aspiration (FNA) and Cytological Examination**
- **Stereotactic or Needle Localization Biopsy**
- **Core-Needle Biopsy (CNB)**
- **Excisional Biopsy**
- **Microscopy**
- **Cytological Smear**
- **Ductography (Ductogram)**
- **Serum Prolactin Level**
- **Thyroid Function Testing**

Common Problem of the Breast

Breast Pain

Mastalgia



- Breast pain
- Cyclic
 - Related to fibrocystic change
 - Associated with menstration cycle and is premenopause
 - Heaviness, bilateral
- Noncyclic
 - May related to fibroadenoma, cyst
 - Postmenopause
 - Sharp and burning, unilateral

DIFFERENTIAL DIAGNOSIS OF *Common Causes of breast pain*

CONDITION	HISTORY	PHYSICAL FINDINGS	DIAGNOSTIC STUDIES
Cyclic breast pain	Corresponds to changes in menstrual cycle Bilateral pain often greatest in upper, outer breast quadrant Dull, heavy, and aching pain; radiates to axilla and arm; varying duration	Often no physical findings; breasts may be tender	None; history and clinical examination
Noncyclic breast pain	Women 40-50 years No relationship to menses Pain localized to specific area in breast; described as sharp, stabbing, burning, throbbing	Often no physical findings; breast may be more nodular; lump may be present	Mammogram / ultrasound
Mastitis/abscess	Sudden onset of swelling, tenderness, erythema, and heat, which is usually accompanied by chills, fever, and increased pulse rate Lactating women after milk is established, usually second to third week after delivery	Swelling, redness, tenderness Possible abscess formation with hardened mass, area of fluctuation, erythema, and heat Underlying pus-filled abscess may impart bluish tinge to skin	None; clinical examination

DIFFERENTIAL DIAGNOSIS OF *Common Causes of breast pain cont'd*

CONDITION	HISTORY	PHYSICAL FINDINGS	DIAGNOSTIC STUDIES
Mammary duct ectasia	Menopausal women Bilateral or unilateral pain, tenderness; periods of inflammation; nipple discharge	Often no physical findings Nipple retraction may occur; lump may be present	Mammogram; ultrasound
Pregnancy	Missed period; contraceptive use failure	Breast tenderness and swelling	Urine for h CG
Costochondritis	Pain in area of sternum and ribs; pain with deep inspiration	Tenderness on palpation, when moving rib cage, or when taking a deep breath	None; trial of NSAIDs
Klinefelter's syndrome	Adolescent boy with breast tenderness and enlargement	Testes prepubertal, gynecomastia, decreased body hair	Karyotyping

Diagnostic Reasoning: Focused Hx



- **Is This Cyclic or Noncyclic Mastalgia ?**
 - Are you still menstruating ?
 - What is the relationship of the pain to your menstrual cycle ?
 - When is the pain most severe ?
- **What Characteristics of the Pain Will Help Me With a Diagnosis ?**
 - Describe the pain ?
 - Is the pain in one breast or both Where in the breast(s) is it ?
 - Does the pain radiate ?

- **Could Age Help Explain the Cause ?**
 - How old are you ?
- **Is the Pain Associated With a Lump or Discharge ?**
 - Have you felt a lump ?
 - Do you have a history of cystic breast change or lumpy breast ?
 - Do the lumps com and go or change with your periods ?
 - Have you ever had a mammogram or ultrasound Why was it done What were the results ?
 - Have you ever had a lump drained or biopsied What was the Diagnosis ?
 - Do you have any nipple discharge ?

Diagnostic Reasoning: Focused Hx (cont)



- **What Else Could Be Causing the Pain ?**
 - When was your last period ? Have you missed any periods ? Could you be pregnant ?
 - Is your breast hot or red ?
 - Does the pain get worse with deep inspiration ?
 - What medications are you taking ?
 - Have you had any trauma to your chest ?
- **Could the Pain Be Related to Another System ?**
 - Have you ever had any chest pain or shortness of breath ?
 - Have you ever had any abdominal pain with this pain ?

Diagnostic Reasoning-Focused PE



- **Perform a Breast Examination**
- **Characterize Lumps**
- **Examine Chest Wall**
- **Examine the Genital Area in the Male**

Lab and diagnostic studies



- **Urine for Human Chorionic Gonadotropin (hCG)**
- **Mammography**
- **Ultrasound**
- **Fine-Needle Aspiration and Cytological Examination**
- **Karyotyping**

Q&A

