

BENIGN DISEASE OF THE BREAST
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GOALS

- Know the microscopic morphology of the normal breast.
- Understand the potential distribution of accessory breast tissue.
- Understand the presentation and gross appearance of fibrocystic disease. Know which component has the most serious implication re cancer risk.
- Understand the concepts of mammary hypertrophy and gynecomastia and the clinical setting for each.
- Be able to name and describe the two most common benign mammary neoplasms.

I. Anatomy and Physiology

- A. The distinguishing features of mammals, they are modified sweat glands
- B. May vary slightly in size, though usually are symmetrical in contour
- C. Breast tissue extends into the axilla to a variable degree
- D. Divided into 5-9 glands, 20 lobes made up of lobules. Lobules are lined in the resting glands by cuboidal epithelium. Secretions drain through ducts to lactiferous sinuses beneath the nipple.
- E. Fibrofatty stroma
- F. Cyclic physiologic changes
 - 1. Estrogen - stimulates epithelial proliferation
 - 2. Progesterone - stimulates stromal growth, edema, and leads to abortive secretory activity.
 - 3. With pregnancy, there is continued growth of glands and by the third trimester, secretory activity begins. Following lactation, there is regression and atrophy.

II. Anomalies

A. Accessory breast tissue

1. May occur as any combination of the three components of the breast: the glandular and ductal parenchyma, the areola, or the nipple.
2. Accessory breast tissue usually occurs along the milk lines.

B. Hypoplasia or aplasia - very rare

C. Inversion of the nipples

III. Inflammatory Disorders

A. Acute mastitis

1. Signs and symptoms of acute inflammation.
2. Associated with pregnancy and/or eczema
3. Etiology - Staphylococci, Streptococci
4. Treatment: surgical drainage of abscess, antibiotics
5. May result in a scar which can mimic carcinoma

B. Duct Ectasia

1. Clinically - a diffuse area of pain and induration located in the subareolar region
2. Grossly - ductal dilatation, sometimes with rupture, and inspissation of secretions
3. Microscopically - mixed inflammatory infiltrate, often with numerous plasma cells (plasma cell mastitis)

C. Traumatic Fat Necrosis - may produce a palpable mass or mimic carcinoma

D. Foreign Body Reaction - may be due to cosmetic injections, implants, etc.

IV. Hormone Related Disorders

A. Fibrocystic Disease

1. Etiology - thought to be an exaggeration of hormonal changes normally seen throughout the menstrual cycle
2. Morphologic components
 - a. Fibrosis
 - b. Cysts
 - c. Sclerosing adenosis
 - d. Duct epitheliosis (duct epithelial hyperplasia, duct papillomatosis)
3. Clinical Importance
 - a. The most common breast lesion
 - b. Accounts for a large number of operations due to clinical presentation as a mass
 - c. Duct epitheliosis is the component which has been linked to increased risk for carcinoma (4.5 - 12 times incidence of carcinoma)

B. Hypertrophy

1. Etiology - thought to be an abnormal sensitivity to ovarian hormones
2. May be unilateral

C. Gynecomastia

1. Etiology - a response to estrogen. Seen in puberty or in the aged with decrease of testicular androgens. Also associated with hepatic cirrhosis.
2. Ductal and stromal hyperplasia

V. Benign Neoplasms

- A. Fibroadenoma - the most common mammary neoplasm in women under 35
- B. Intraductal Papilloma
 - 1. May present at any age (usually 30-50) as small mass beneath the areola and/or a bloody nipple discharge
 - 2. If solitary, patient is probably not at increased risk for carcinoma. If multiple, is thought to signify an increased risk for breast cancer (about four times).
- C. Adenoma of the Nipple - looks like hidradenoma papilliferum. Is benign, cured by local excision.

Review Questions

1. Accessory breast tissue can consist of:
 - A. Ducts and lobules
 - B. Areola
 - C. Nipple
 - D. All of the above
2. Fibrocystic disease:
 - A. Is rare
 - B. Is confined to accessory breast tissue
 - C. Seen only in pubescent males
 - D. None of the above
3. Which of the following is a common breast neoplasm of young women?
 - A. Fibroadenoma
 - B. Intraductal papilloma
 - C. Papillary adenoma of the nipple
 - D. Leiomyoma of the nipple
 - E. None of the above

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