Benign Breast Disease

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KEYWORDS

• Benign breast disease • Fibroadenoma • Breast cyst • Breast pain

KEY POINTS

- Approximately 50% of women have benign breast disease at some point in their lifetime.
- Risk of breast cancer increases with some types of benign breast disease.
- Diagnostic imaging varies based on clinical evaluation and age of patient.

INTRODUCTION

Approximately 50% of women have some type of benign breast disease (BBD) over the course of their lifetime.[1] With the increased emphasis on screening mammograms, the frequency of biopsies showing BBD has also risen. Although most nonproliferative benign breast lesions do not pose future risk for breast cancer, proliferative lesions without atypia and proliferative lesions with atypia do increase risk for future breast carcinoma. This risk increases substantially for women with a strong family history of breast cancer. This article reviews breast anatomy and diagnostic imaging techniques, and discusses the various types of BBD including cause, risk factors, management, and future risk of breast carcinoma.

BREAST ANATOMY AND DEVELOPMENT

The mature adult breast lies between the second and sixth ribs above the pectoralis muscle. Breast tissue also extends into the axilla as the tail of Spence. The breast is composed of skin; subcutaneous tissue; and mammillary tissue, which consists of epithelial and stromal components.[2,3]

The breast is made of 12 to 20 lobes, and each lobe is made of 20 to 40 smaller lobules. The lobules are in turn made of 10 to 100 milk-producing acini that drain into terminal ducts. These merge into small lactiferous ducts attached to each lobule, which branch together to form larger ducts. These larger ducts carry milk toward the nipple. Each of the major ducts widens to form an ampulla deep to the nipple, then narrows to form an individual opening in the nipple (**Fig. 1**). The ducts comprise the epithelial components of the breast. Most benign and malignant breast diseases originate in the acini and terminal duct structures.

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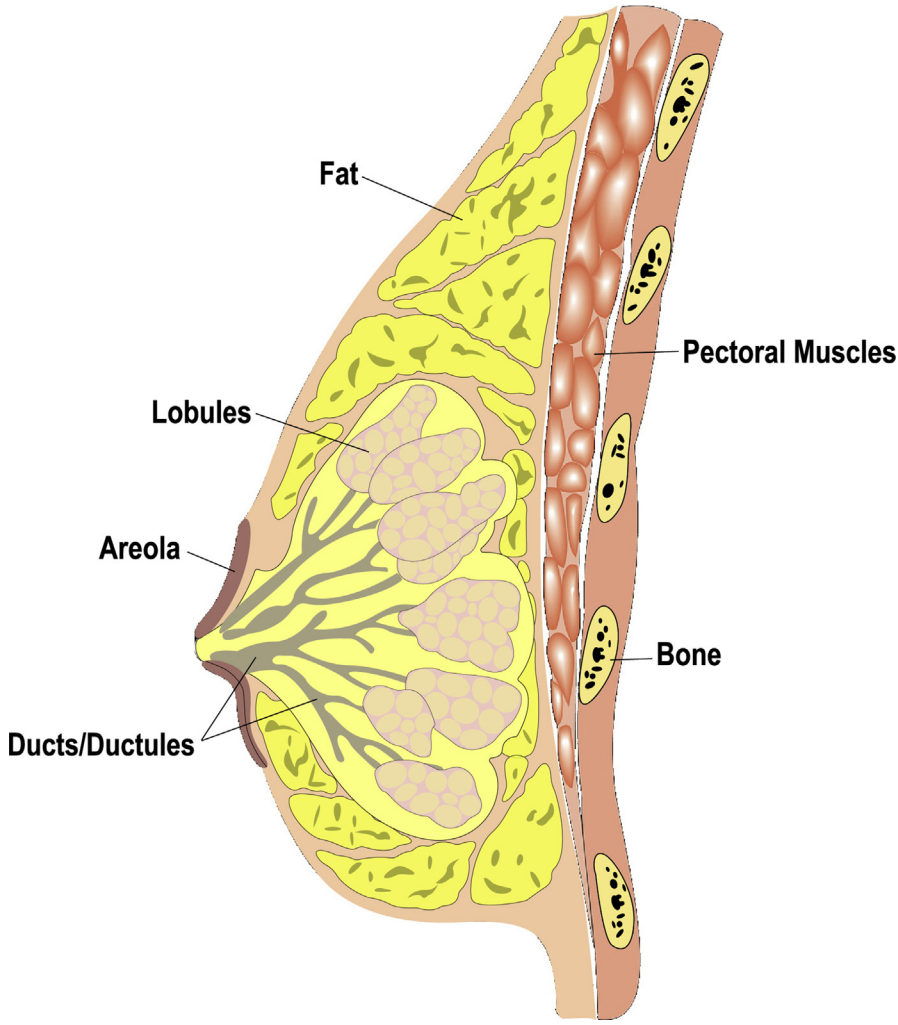

Fig. 1. Breast Anatomy.

The functional glandular tissue is surrounded by the breast stroma, which consists of adipose and fibrous connective tissue. Fibrous bands called Cooper ligaments connect the superficial and deep pectoral fascia surrounding the breast and are a natural support for the breast.

The skin of the breast contains hair follicles, sebaceous glands, and exocrine sweat glands. The areola is a circular pigmented zone measuring 15 to 60 mm in diameter. Morgagni tubercles are located on the areola, and are the openings to the ducts of the Montgomery glands, which are large sebaceous glands that provide lubrication for the nipple. The nipple has abundant nerve endings and smooth muscle tissue, which surrounds the lactiferous ducts.

The main blood supply of the breast stems from the internal mammary artery and the lateral thoracic arteries. Lymphatic drainage is superficial and deep, and flows toward the axillary, internal mammary, and clavicular lymph nodes.