

## Benign Breast Disease: Review Questions

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### QUESTIONS

Choose the single best answer for each question.

- All of the following statements about amazia are true EXCEPT:**
  - Amazia is the absence of breast tissue.
  - Amazia is the absence of the nipple.
  - Amazia is often a result of surgical intervention.
  - Amazia may be caused by radiation therapy.
  - A patient with amazia usually has a history of a mass or chest abscess.
- The diagnostic triplet for breast disease consists of which three techniques?**
  - Clinical examination, mammography, and sestamibi scan
  - Mammography, fine-needle aspiration, and sestamibi scan
  - Clinical examination, fine-needle aspiration, and sestamibi scan
  - Clinical examination, mammography, and fine-needle aspiration
- All of the following techniques are used as invasive diagnostic tools for breast disease EXCEPT:**
  - Fine-needle aspiration
  - Stereotactic core biopsy
  - Mammotome
  - Advanced breast biopsy instrument
  - Infrared spectral analysis
- Which of the following statements is TRUE regarding solid tumors?**
  - Solid tumors are almost always well circumscribed.
  - Solid tumors can be distinguished from cysts on mammography.
  - Solid tumors should almost always be biopsied.
  - Solid tumors are always seen on mammography.
  - When well circumscribed, solid tumors can always be observed.
- Which of the following statements best describes a phyllodes tumor?**
  - Usually small, irregular, and benign lesion
  - Usually malignant and requires mastectomy
  - Usually large and frequently benign but also has a malignant variant; excise with a 1- to 2-cm margin
  - Usually large, malignant and metastasizes widely; always requires mastectomy
- Which of the following are risk factors for the development of breast cancer?**
  - BRCA-1 gene carrier
  - Family history of breast cancer
  - Biopsy results that show atypical ductal hyperplasia
  - Biopsy results that show lobular carcinoma in situ (lobular neoplasia)
  - Biopsy results that show ductal carcinoma in situ
  - All of the above

*(turn page for answers)*

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EXPLANATION OF ANSWERS

1. **(B) Amazia is the absence of the nipple (FALSE).**

Amazia is a condition wherein breast tissue is absent but the nipple is present. Amazia usually results from an iatrogenic etiology such as radiation, excision of a misdiagnosed infantile or childhood mass that actually represented breast buds, or incision and drainage of a suspected abscess. Amazia is in contradistinction to agenesis (amastia), a very rare disorder in which no growth of breast or nipple occurs. More than 90% of cases of amastia are associated with hypoplasia of the thorax and pectoral muscles as well as with syndactyly (Poland's syndrome) or brachydactyly. Absence of the nipple is termed *athelia*.

2. **(D) Clinical examination, mammography, and fine-needle aspiration.** The accuracy of breast self-examination is approximately 30% to 40%, whereas the accuracy of a physician's clinical breast examination is 60% to 70% and mammography is 85% to 90%. All three methods in combination have an accuracy rate of 90% to 95%. When the clinical examination, mammography, and fine-needle aspiration are combined, this trio, called the *diagnostic triplet*, has an accuracy rate of 95% to 99%. Recently, modifications have been made in the diagnostic triplet exchanging mammography for sonography, especially in younger females. This change to the use of sonography retains the 95% to 99% accuracy rate.

3. **(E) Infrared spectral analysis.** In an effort to reduce the frequency, cost, and mental and physical trauma of "open" biopsy, minimally invasive methods have been developed for diagnosing breast cancer. These methods are fine-needle aspiration, stereotactic core biopsy, mammotome breast biopsy, and the advanced breast biopsy instrument (ABBI). The latter three methods utilize stereotactic radiographic technology to localize and identify lesions. The stereotactic core biopsy, using a 10- or 14-gauge needle is gaining popularity, followed closely by mammotome and ABBI total extractions method.

4. **(C) Solid tumors should almost always be biopsied.** Solid breast masses are always candidates for tissue sampling, which can be performed by open methods or minimally invasive methods (core biopsy, mammotome, or ABBI). Tissue sampling is necessary because approximately 5% to 10% of well-defined masses are malignant, and up to 25% of ill-defined masses are malignant. Stellate lesions are cancerous in 50% to 70% of cases. Various forms of ductal carcinoma in situ phyllodes tumors, juvenile papillomatosis medullary carcinoma, and tubular carcinoma present as solid well-defined and circumscribed nodules (mim-

icking benign lesions). For these reasons, if a nodule is to be watched, tissue samples of all solid nodules should always be considered in cases of long-term observation.

5. **(C) Usually large and frequently benign but also has a malignant variant; excise with a 1- to 2-cm margin.**

The phyllodes tumor, also termed *giant fibroadenoma of the breast*, may be small or exceedingly large and benign or malignant. Differentiation is usually only possible by pathologic assessment and has been decided mainly by number of mitotic figures per high-power field (ie, 0–4 = benign, 5–9 = borderline, 10 or more = malignant). Approximately 25% to 50% of all phyllodes tumors are malignant, and approximately 20% to 25% of these malignant tumors show local regional metastasis. The recurrence rate after removal is up to 20% and nodal metastases occur in 5% of malignant phyllodes tumors. Excisions for benign and borderline lesions should be performed with 2-cm margins. If margins are not able to be cleared, total mastectomy may be required for local control. No benefit is usually seen with radiation, chemotherapy, or hormonal therapy for malignant phyllodes tumors.

6. **(F) All of the above.** The risks for development of breast cancer are multifactorial; however, certain disorders markedly increase risk. Atypical ductal hyperplasia has a 4 to 6 times increased risk for cancer development, but in the presence of a positive family history, the same diagnosis increases the risk to 8 to 9 times. Atypical ductal hyperplasia is formed adjacent to breast carcinoma in up to 50% of cases. A prior personal history of cancer markedly and dramatically increases both ipsilateral and contralateral incidence of breast cancer. The presence of ductal carcinoma in situ or lobular carcinoma in situ (also termed *lobular neoplasia*) both produce an 8 to 10 times increased risk. Although BRCA-1 or BRCA-2 genes occur in only 5% to 10% of patients with breast cancer, the patients who are positive for these genes show an increased risk (a greater than 80% lifetime risk and a 65% chance of development of a second carcinoma by age 70 years). Age itself is probably the strongest risk factor because breast cancer incidence progressively increases its attack rate with longevity.

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*Adapted from Spence RK, Silich RJ, Davidson PG: Benign breast disease I: breast development and anatomy; diagnostic methods. Hospital Physician General Surgery Board Review Manual 1997: 3(1) and Spence RK, Silich RJ, Davidson PG: Benign breast disease II: specific disorders; cancer risk factors; gynecomastia. Hospital Physician General Surgery Board Review Manual 1998:3(2).*