MULTIPLE CHOICE

BR BENIGN PATHOLOGY - PRACTICE SET - ANSWER KEY

1. Fibrocystic change of the breast is best described sonographically as:

A. A discrete oval hypoechoic mass with parallel orientation
B. A spiculated hypoechoic mass with posterior shadowing
C. Heterogeneous fibroglandular tissue with scattered small cysts and areas of increased echogenicity
D. A solitary anechoic thin-walled cyst with posterior enhancement

2. Which color Doppler finding is typical of an uncomplicated fibroadenoma?

A. Marked intralesional disorganized vascularity
B. Pulsatile arterial waveforms throughout the mass
C. Diffuse hyperemia of surrounding tissue
D. Absent or minimal peripheral vascularity

3. A cluster of tiny anechoic foci, each less than 2 to 3 mm, with thin intervening septations and no discrete solid component is identified in the breast. This finding is best described as:

A. Ductal ectasia
B. Clustered microcysts
C. Intraductal papilloma
D. Galactocele

4. A lactating woman presents with a painless palpable breast lump. Ultrasound shows a well-circumscribed mass with mixed cystic and hyperechoic components and possible fat-fluid level. The most likely diagnosis is:

A. Simple cyst
B. Galactocele
C. Abscess
D. Fibroadenoma

5. A 25-year-old presents with a palpable, mobile, painless breast mass. Ultrasound shows an oval, circumscribed, hypoechoic mass measuring 1.5 cm with parallel orientation. The most likely diagnosis is:

A. Fibroadenoma
B. Phyllodes tumor
C. Intraductal papilloma
D. Invasive ductal carcinoma

6. Which finding would prompt biopsy of a lesion otherwise resembling a fibroadenoma?

A. Oval shape with parallel orientation
B. Rapid interval growth
C. Mild posterior acoustic enhancement
D. Stable size over multiple years

7. A common pitfall in evaluating a small simple cyst on ultrasound is:

A. Internal echoes from slice thickness artifact mimicking a complicated cyst
B. Color flow within the lesion
C. Echogenic capsule mimicking a hamartoma
D. Posterior acoustic shadowing simulating a solid mass

8. Calcifications within a long-standing fibroadenoma are classically described mammographically as:

A. Linear branching calcifications
B. Rim calcifications around an oil cyst
C. Fine pleomorphic microcalcifications

D. Coarse popcorn-like calcifications

9. In which quadrant of the breast are normal intramammary lymph nodes most commonly identified?

A. Upper outer quadrant
B. Lower outer quadrant
C. Subareolar region
D. Lower inner quadrant

10. The most common cause of pathologic (spontaneous, unilateral, single-duct) bloody nipple discharge is:

A. Lactational mastitis
B. Fibroadenoma
C. Fibrocystic change
D. Intraductal papilloma

11. Which orientation of a solid breast mass is considered a benign feature?

A. Perpendicular to the skin (taller-than-wide)
B. Parallel to the skin (wider-than-tall)
C. Oblique to the chest wall
D. Vertical along the duct axis

12. Which best describes the typical sonographic appearance of an early postoperative hematoma in the breast?

A. Heterogeneous collection with internal echoes that evolves over time
B. A discrete oval mass with parallel orientation
C. Anechoic mass with posterior enhancement that remains unchanged
D. Hyperechoic solid mass with posterior shadowing

13. A 0.4 cm anechoic, well-circumscribed lesion with thin walls and posterior enhancement is identified in the breast. What is the most appropriate management?

A. Ultrasound-guided core needle biopsy
B. No further workup; this is a simple cyst (BI-RADS 2)
C. Six-month short-interval follow-up
D. Ultrasound-guided fine needle aspiration

14. Which feature of a breast lesion would shift its BI-RADS category from probably benign (BI-RADS 3) to suspicious (BI-RADS 4)?

A. Posterior acoustic enhancement
B. Stability of size on six-month follow-up
C. Development of a nonparallel orientation or irregular margins on follow-up
D. Mild lobulation of margins

15. In a patient with persistent symptoms of mastitis despite appropriate antibiotic therapy, the next best step is:

A. Continue antibiotics for an additional six weeks
B. Skin punch biopsy and tissue sampling to exclude inflammatory carcinoma
C. Reassurance and follow-up in one year
D. Mastectomy

16. Mastitis on ultrasound is most often characterized by:

A. Skin thickening, increased echogenicity of subcutaneous fat, and hyperemia on color Doppler
B. A discrete oval hypoechoic mass with parallel orientation
C. A circumscribed mass with internal fat-fluid level
D. Anechoic ducts without surrounding tissue changes

17. Which is the most common cause of unilateral, single-duct, spontaneous serous or bloody nipple discharge?

A. Fibrocystic change
B. Galactocele
C. Duct ectasia
D. Solitary intraductal papilloma

18. A patient who recently underwent breast surgery presents with a palpable lump at the surgical bed. Ultrasound shows an anechoic to hypoechoic collection with internal septations and no internal flow. The most likely diagnosis is:

A. Seroma

B. Recurrent tumor
C. Abscess
D. Hematoma

19. Which sonographic finding is most characteristic of a simple breast cyst?

A. Hyperechoic mass with central calcifications and distal attenuation
B. Anechoic, well-circumscribed, thin imperceptible wall, with posterior acoustic enhancement
C. Hypoechoic mass with posterior acoustic shadowing and angular margins
D. Heterogeneous mass with thick irregular walls and internal septations

20. Which sonographic feature best distinguishes true gynecomastia from pseudogynecomastia?

A. Cystic spaces in the retroareolar region
B. Predominantly fatty subcutaneous tissue without glandular proliferation
C. Hypoechoic glandular tissue in a retroareolar distribution
D. Calcified mass in the upper outer quadrant

21. A patient with a history of recent breast trauma or surgery presents with a palpable lump. Ultrasound shows an irregular, hyperechoic mass with posterior shadowing in the superficial subcutaneous tissue. The most likely diagnosis is:

A. Invasive ductal carcinoma
B. Fat necrosis
C. Lipoma
D. Hamartoma

22. Which patient population is at greatest risk for developing fat necrosis of the breast?

A. Postmenopausal women on hormone replacement
B. Patients with prior breast surgery, radiation, or trauma
C. Premenopausal women on oral contraceptives
D. Adolescent females with no prior history

23. Gynecomastia is most commonly associated with which clinical condition?

A. Hypercoagulable state
B. Hypocalcemia
C. Iron deficiency anemia
D. Hormonal imbalance with relative estrogen excess

24. A lactating woman presents with focal breast pain, erythema, and fever. Ultrasound shows a complex collection with thick irregular walls, internal debris, and surrounding hyperemia. The most likely diagnosis is:

A. Breast abscess
B. Complicated cyst
C. Galactocele
D. Invasive ductal carcinoma

25. Which feature distinguishes a complex cystic and solid mass from a complicated cyst?

A. Presence of a discrete solid component, thick wall, or thick septation
B. Anechoic appearance
C. Posterior acoustic enhancement
D. Mobile internal echoes on real-time imaging