

Multiple choice questions

→ Investigations in breast cancer

1. Which of the following statements are true?

- A Five per cent of breast cancers are missed by population-based mammographic screening.
- B Ultrasound can also be used as a screening tool.
- C Magnetic resonance imaging (MRI) can be a useful imaging tool.
- D Fine-needle aspiration cytology (FNAC) and core biopsy are equally useful diagnostically.

→ Benign breast disease

2. Which of the following statements are false?

- A Benign breast disease is the most common cause of breast problems.
- B Lipoma is a common condition of the breast.
- C Traumatic fat necrosis can be mistaken for a carcinoma.
- D 30 per cent of breast cysts recur after aspiration.
- E Non-cyclical mastalgia is more common in postmenopausal women.

→ Breast cancer

3. Which of the following conditions have an increased risk of breast carcinoma?

- A Breast cyst
- B Duct ectasia
- C Florid hyperplasia
- D Atypical ductal or lobular hyperplasia
- E Fibroadenoma.

4. In a patient with nipple discharge which of the following statements are true?

- A Clear, serous discharge may be physiological.
- B Bloodstained discharge occurs in carcinoma, duct ectasia and duct papilloma.
- C Mammography is an important investigation.
- D Microdochectomy is the treatment once cancer has been excluded.
- E Paget's disease causes discharge from the surface.

5. In breast carcinoma, which one of the following statements is false?

- A Ductal carcinoma is the most common variant.
- B Lobular carcinoma occurs in 15 per cent.
- C There may be a combination of lobular and ductal features.
- D Colloid, medullary and tubular carcinomas carry a poor prognosis.
- E Paget's disease is a superficial manifestation of an underlying breast carcinoma.

6. In the treatment of breast cancer, which of the following statements are false?

- A There is a higher rate of local recurrence after conservative surgery and radiotherapy.
- B After mastectomy, radiotherapy to the chest wall is not indicated.
- C Sentinel lymph node biopsy should be done in clinically node-negative disease.
- D Besides treating the patient, the role of axillary surgery is to stage the patient accurately.

E Lymph node-positive women and higher-risk node-negative women should have adjuvant chemotherapy.

F There is no role for preoperative chemotherapy.

Extended matching questions

→ Benign breast disease

- A Fat necrosis
- B Breast abscess
- C Tuberculosis
- D Mondor's disease
- E Duct ectasia
- F Aberrations of normal development and involution (ANDI)
- G Breast cyst
- H Galactocele
- I Fibroadenoma
- J Phyllodes tumour

Choose and match the correct diagnosis with each of the scenarios given below:

- 1 A 42-year-old woman presents with a large irregular lump, about 12 cm in diameter, in her right breast, of 4 months' duration. The lump is very mobile and is stretching the skin and about to ulcerate.
- 2 A 25-year-old woman presents with a discrete lump in the left breast. She found it accidentally 3 weeks ago. She can move the lump about within the breast tissue.
- 3 A 40-year-old Asian woman, recently arrived in the UK, complains of a lump in her right breast of several months' duration. There is no pain. In her ipsilateral axilla she also has a discharging abscess, which tends to clear up and recur again.
- 4 A 45-year-old woman complains of pain in her left breast of 2 weeks' duration. On examination she has a tender string-like band with overlying prominent veins.
- 5 A 28-year-old lactating woman noticed a tender lump deep to her areola. The lump is cystic.
- 6 A 40-year-old woman complains of a lump in her right breast that she noticed accidentally 3 weeks ago. This has not changed since her period a week ago. It is mobile and tender.
- 7 A 50-year-old woman noticed a lump in her left breast 4 weeks ago. She has a firm, slightly tender lump which is not mobile. On questioning about trauma, she recalls having been hit on her breast by her grandchild at about the same time.
- 8 A 30-year-old woman complains of a tender, painful right breast with fever. She gave birth to her third child 2 weeks ago. On examination she feels hot with a red, tender, indurated and diffuse lump underlying the areola.
- 9 A 44-year-old woman complains of greenish nipple discharge on and off for 4 months. On examination she has an irregular, firm lump deep to the areola which looks indrawn.
- 10 A 38-year-old woman complains of painful breasts of some 6 months' duration. She noticed a lump in her right breast 6 weeks ago and feels that the size of the lump waxes and wanes with her periods, which are regular.

Answers: Multiple choice questions

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1. A, C

A normal mammogram does not exclude the presence of a carcinoma as 5 per cent of breast cancers are missed on population screening. In mammography, soft-tissue radiographs are taken by placing the breast in direct contact with ultrasensitive film and exposing it to low-voltage, high-amperage X-rays. The radiation dose is about 0.1 cGy. This investigation is more sensitive in the older age group as the breast becomes less dense. Digital mammography and tomo-mammography are being used as more advanced techniques.

Ultrasound is not useful as a screening tool and is highly operator-dependent. It is particularly useful in young women with dense breasts to distinguish between a cyst and a solid lesion. This technique is also being used to look for and biopsy impalpable axillary lymph nodes. MRI is an extremely useful imaging modality to distinguish scar tissue from recurrence in a patient who has had breast conservation carried out. It is the best imaging technique for breasts which have had implants inserted.

Fine-needle aspiration cytology is the least invasive technique of obtaining a cytological diagnosis; the accuracy increases with the experience of the operator and cytologist. However, false-negatives do occur. A core biopsy gives far more information: it gives a definitive preoperative diagnosis, differentiates between ductal carcinoma in situ and invasive cancer, and allows the receptor status to be determined to help in neoadjuvant chemotherapy.

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2. B, E

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3. C, D

4. A, B, D, E

5. D

6. B, F

After mastectomy, radiotherapy to the chest wall is indicated in patients in whom the risks of local recurrence are high, such as those with large tumours, patients with large numbers of positive nodes and extensive lymphovascular invasion.

Primary neoadjuvant chemotherapy is used for large operable tumours, the aim being to shrink the tumour to enable breast-conserving surgery to be carried out. This approach is successful in up to 80 per cent of cases.

Answers: Extended matching questions

→ 1. Benign breast disease

1J

This lady has a Phylloides tumour, so called because it is leaf-like (Phylloides in Greek = leaf-like) in appearance. The size can vary. It has an irregular bosselated surface with the overlying skin stretched. The tumour is also called cystosarcoma phyllodes although it is neither cystic nor a sarcoma. Sir Benjamin Brodie (1783–1862, Surgeon, St George's Hospital, London) described it in 1840 as sero-cystic disease of breast. After triple assessment, it is treated by enucleation, wide local excision or simple mastectomy depending upon the size.

2I

This 25-year-old lady has a fibroadenoma – an incidental, mobile lump. After reassurance with triple assessment, it needs to be removed only in case of inconclusive cytology or if the patient wishes removal.

3C

Tuberculosis (TB) of the breast is usually associated with pulmonary TB or TB cervical adenitis. It is almost unknown in the indigenous British population but still common in developing countries. The discharging sinus in her axilla is from TB lymphadenitis. The diagnosis is confirmed by triple assessment. Treatment is antituberculous chemotherapy, while mastectomy is reserved for persistent residual infection.

4D

This patient suffers from thrombophlebitis of the superficial veins of the chest. The condition, called Mondor's disease (Henri Mondor, 1885–1962, a Parisian surgeon) is associated with a cord-like subcutaneous band made clinically obvious by stretching the skin on raising the arm. All diagnostic efforts must be made to exclude an underlying occult carcinoma causing lymphatic permeation.

5H

This lady has a galactocele – a rare condition; sub-areolar cystic lump which she dates from the start of her lactation. Confirmation is by aspiration of milk.

6G

This woman typically suffers from a breast cyst. It is essential to exclude malignancy by triple assessment. Aspiration of the cyst following which it completely disappears will give both physical and psychological relief.

7A

Traumatic fat necrosis usually occurs in middle-aged women after blunt trauma. A painless lump appears which may feel like a carcinoma. There may even be skin-tethering and nipple retraction. Just because there is a history of trauma, the diagnosis may not be fat necrosis, because the trauma might have drawn the patient's attention to the presence of the lump which is a carcinoma. The full triple assessment should be carried out to be sure of the diagnosis.

8B

A breast abscess is most often associated with lactation and usually caused by *Staphylococcus aureus*. A segment of the breast is inflamed, red, very painful, tender and indurated. In the early stage, cellulitis is present. An appropriate antibiotic is used after aspiration of pus. Under antibiotic cover, repeated aspirations with ultrasound guidance, good support to the breast and analgesia comprise the treatment of choice. Rarely, if the skin is thinned and the abscess is about to burst, a radial incision and drainage are carried out. If antibiotic is used without drainage of the pus, an 'antibioma' – a sterile, brawny, oedematous swelling – may form which can take weeks to resolve.

9E

This patient has the typical features of duct ectasia – nipple discharge (not bloodstained), deformed nipple with retraction, and a subareolar indurated mass which may mimic carcinoma. The condition is caused by dilatation and inflammation of the ducts, leading to periductal mastitis. A carcinoma must be excluded by triple assessment. Treatment is by surgical removal of all terminal ducts.

10F

The Cardiff Breast Clinic described a condition called aberrations of normal development and involution (ANDI). The symptoms are generalised lumpiness of breasts, less often confined to one quadrant; changes being cyclical with the periods; and sometimes a discrete lump, which may be a cyst or a fibroadenoma. Mastalgia may be quite disabling and the pain should be distinguished from that referred from the chest wall. The underlying pathological features are cyst formation, fibrosis, hyperplasia and papillomatosis. Triple assessment is done to exclude carcinoma. Examination at a different time of the menstrual cycle followed by reassurance supplemented by conservative measures is the overall management.