MODERN MEDICINE
CPD ARTICLE NUMBER TWO: 1 point

Investigating a woman with a breast lump

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Series editor

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Here we present authoritative advice on the investigation of a common clinical problem, specially written for family doctors by the Board of Continuing Medical Education of the Royal Australasian College of Physicians.

Investigating a woman with a breast lump is a common problem in general practice. It is important to investigate each case thoroughly, with the bottom line being not to miss breast cancer. This is axiomatic as early diagnosis is the most significant factor in reducing mortality. Generally, triple assessment of any breast lump is required: clinical, radiological and pathological (see the flowchart on page 36). The pathways described below can also be used to investigate other breast symptoms such as thickening, pain, asymmetry or nipple discharge.

Clinical assessment

History

Take a general history as well as the following:

- duration and characteristics of the lump
- change in lump size or character (eg feels tender or harder) in relation to menstruation
- previous personal or family history of breast or other cancers, particularly ovarian; a lump in a 30-year-old woman becomes much more suspicious if her mother has had breast cancer
- nipple discharge or distortion of breast shape.

Examination

Clinical examination correctly identifies 85% of breast cancer cases (sensitivity) and 80% of patients who do not have breast cancer (20% false positive rate).

Particular focus should be on inspecting and palpating the breast, looking not only for the presenting lump but any other masses. The axilla and supraclavicular fossa should be examined for lymphadenopathy. The other breast and axilla should also be examined carefully.

Examination can be difficult when a patient, usually premenopausal, presents with lumpy breasts. The lumpiness can be asymmetrical and can coexist with a discrete lump. If in doubt, investigate further.

Even in younger patients, clinical assessment alone is not sufficient to label a breast lesion as benign (usually a fibroadenoma). Therefore, imaging and cytological assessment are required.

Radiological assessment

The role of imaging is twofold: to provide clues about the nature of the lesion and exclude the presence of other lesions in the same, as well as opposite, breast. This includes not only possible second malignancies but field changes such as ductal carcinoma *in situ* (DCIS). Try to give all relevant information to the radiologist, so that particular care can be taken to define the area of clinical abnormality.

Remember that imaging does not substitute for clinical examination and it is well recognised that some palpable lesions will not be seen on a mammogram. A palpable lump with a negative mammogram must still be investigated.

Mammography

Mammographic abnormalities (Figures 1 and 2) correlate well with surgical diagnosis, particular-

Figure 1. Mammography of both breasts should follow clinical assessment when a woman presents with a breast lump.

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MODERN MEDICINE'S CPD JOURNAL PROGRAMME

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[CPD reference number B00112/3. Accredited by the SAMA Health Care/Policy and CPD Unit.]

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2. Fill in the appropriate circle completely, ie ● – do not use X or ✓ or any other mark.
3. Erase or white out mistakes fully.
4. Answer all the questions. **(There are three, four or five CPD articles per issue so in some issues it may not be necessary to complete blocks 4 and 5 on this page.)**

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Mark the month of **this** issue of MODERN MEDICINE

Jan ○	April ○	July ○	Oct ○
Feb ○	May ○	Aug ○	Nov ○
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Transfer the answers you wrote on the question pages to the blocks below.

CPD Article 1 *(true/false)*

	Part 1	Part 2	Part 3	Part 4
a	T F	T F	T F	T F
b	T F	T F	T F	T F
c	T F	T F	T F	T F
d	T F	T F	T F	T F
e	T F	T F	T F	T F

CPD Article 2 *(true/false)*

	Part 1	Part 2	Part 3	Part 4
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c	T F	T F	T F	T F
d	T F	T F	T F	T F
e	T F	T F	T F	T F

CPD Article 3 *(true/false)*

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b	T F	T F	T F	T F
c	T F	T F	T F	T F
d	T F	T F	T F	T F
e	T F	T F	T F	T F

CPD Article 4 *(true/false)*

	Part 1	Part 2	Part 3	Part 4
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b	T F	T F	T F	T F
c	T F	T F	T F	T F
d	T F	T F	T F	T F
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- Make an accurate and clear photocopy of this answer form for your records.
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c	T F	T F
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The CPD articles have been selected for their relevance to general practice. They are clearly identified in the Table of Contents and on their respective title pages. The questions appear at the end of each of the CPD articles.

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A tear-out answer form is bound into this issue. Completed answer forms must reach our offices by the date specified on the question pages in the journal. Answer forms received after the due date will not be processed.

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Generally, triple assessment of any breast lump is required: clinical, radiological and pathological.

Figure 2. Mammogram showing increased density in the upper left aspect of the left breast, with architectural disturbance and microcalcification. This lesion is strongly suspicious of malignancy and should be biopsied.

ly with recent advances in technology and technique. It is important to consider that mammography in a patient with a symptom/sign (ie breast lump) has different connotations from screening mammography (ie of asymptomatic women). In symptomatic patients, mammography has a 90% sensitivity (true positivity) and a 73% specificity.

Ultrasound

Ultrasound is useful, particularly in younger women in whom dense breast tissue may make mammograms difficult to interpret.

Ultrasound has a lower false positive rate than mammography and is recommended by the NHMRC National Breast Cancer Centre (NBCC) as the preferred diagnostic imaging test for women under the age of 35 years. The most important feature to demonstrate is whether the lesion has any solid component. Ultrasound-guided aspiration of a cystic lesion will also define if any residual tissue remains, which would then require further investigation.

Pathological assessment

The ease and accuracy of fine needle aspiration cytology (FNAC) as a diagnostic technique has meant that almost all lesions undergo pathological assessment. In the case of a fluid-filled cyst, this may also be therapeutic. If the fluid is mucoid, bloodstained (from an atraumatic tap) or not the usual straw-to-dark greenish colour, send the entire sample for cytological examination.

For a solid lesion, the advantage of making the diagnosis before surgery is that the appropriate procedure can be performed,

TABLE
Types and features of breast lesions

Lesion	Important features		
	Clinical	Radiological	Cytological
Cyst	Smooth, mobile Accounts for 15% of breast lumps. Often seen in perimenopausal women	Cystic on ultrasound Refer if residual lump after aspiration or rapid or frequent reaccumulation	Examine fluid if bloodstained or mucoid
Fibroadenoma	Median age of diagnosis is 30 years Feels discrete, rubbery, smooth Accounts for 13% of breast lumps (60% in women <20 years)	Macrocalcification, false capsule	Benign diagnosis on FNAC or core biopsy needed before observation
Carcinoma	Incidence increases with age. Familial cancers present at a younger age	Suspicious features include micro-calcification, spiculated/irregular outline	FNAC sensitivity 87%, specificity 76%. False negative rate for cancer 1-2% (≥35 years)
DCIS	Incidence increases with age. May present as a lump	Microcalcification	May need hookwire localisation and biopsy if no discrete lump is palpable

FNAC = fine needle aspiration cytology; DCIS = ductal carcinoma in situ

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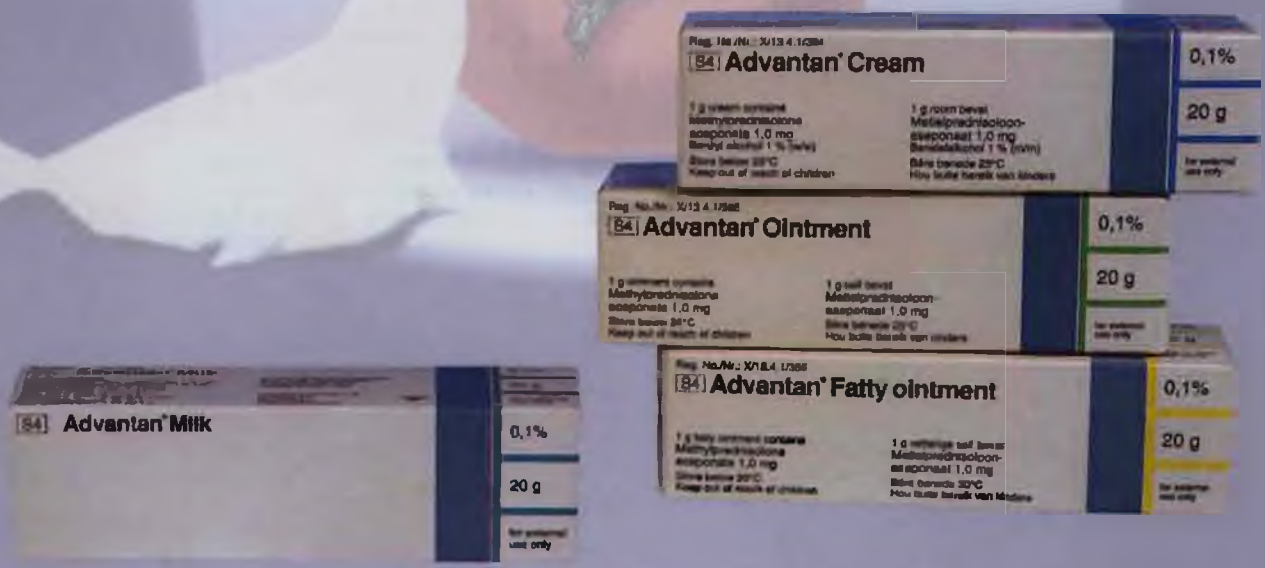

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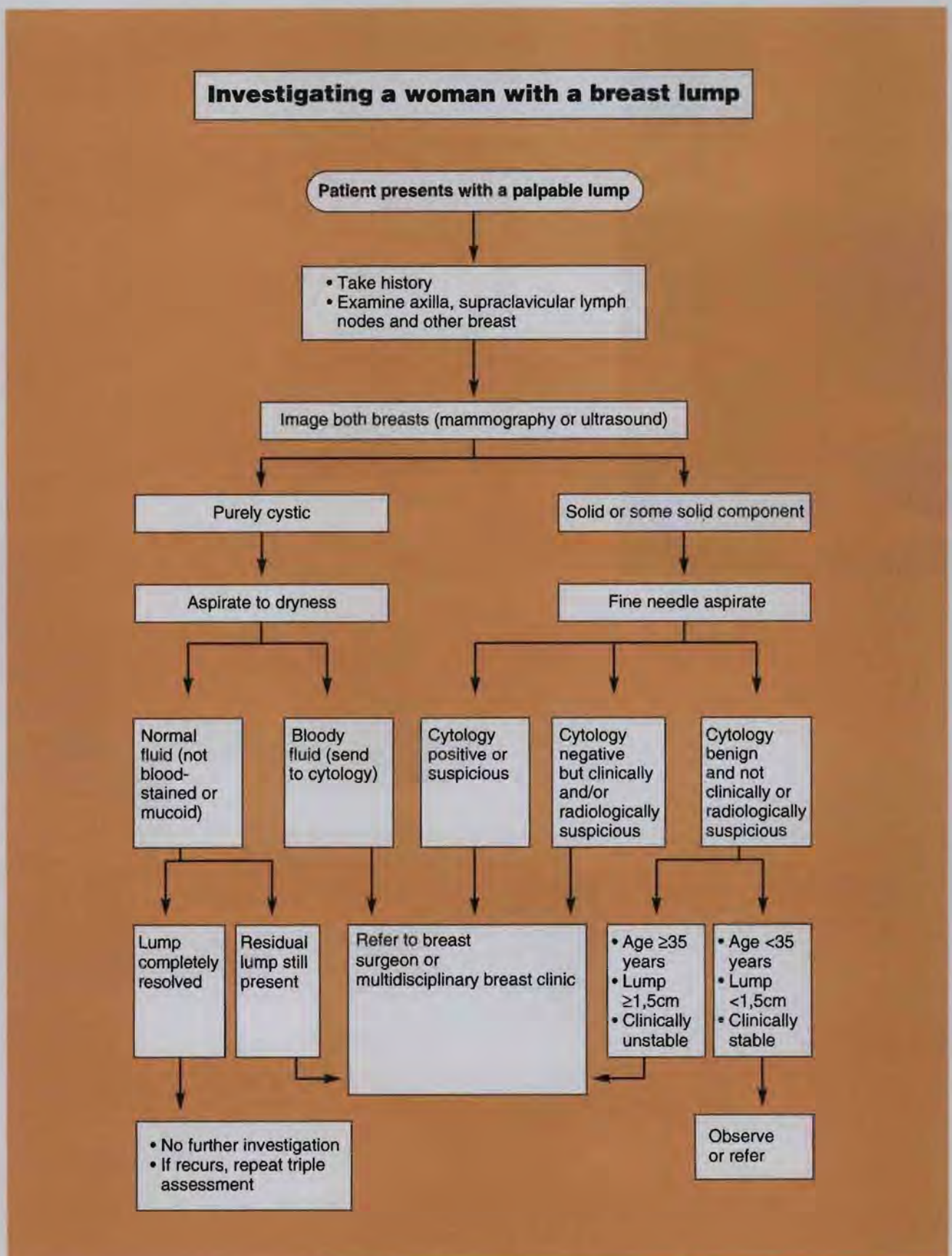
Investigating a woman with a breast lump
continued

Where there is insufficient material for diagnosis, repeating FNAC or taking a core biopsy may be worthwhile.



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REFERENCE:
1. Olans FB, Wolf JL. Gastro-oesophageal reflux in pregnancy. Gastrointest. Endosc. Clin N Am 1994;4(4):699-713
2. Broussard CN, Richter JE. Treating gastro-oesophageal reflux disease during pregnancy and lactation. Drug Safety 1998;19(4):325-37

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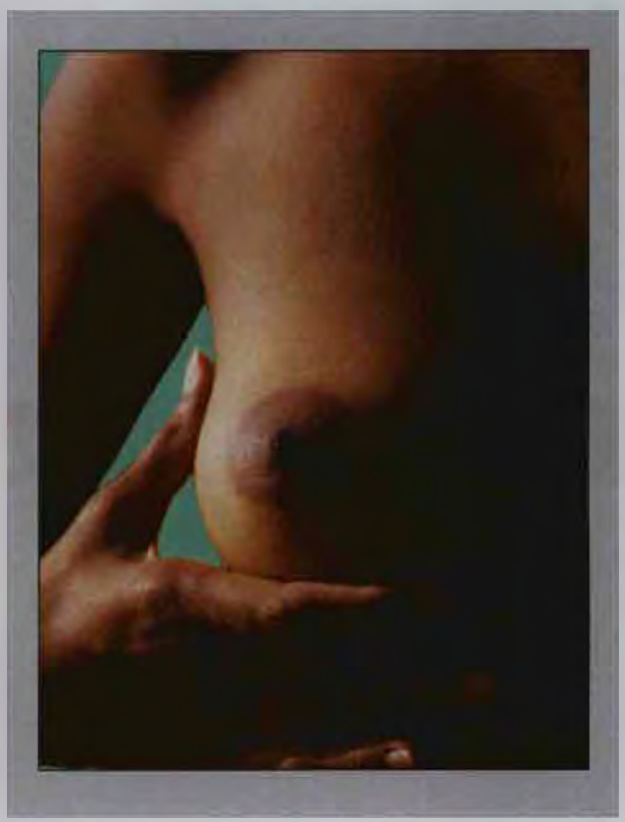

avoiding a second operation for definitive treatment.

The limitations of FNAC must also be recognised. Where there is insufficient material for diagnosis, repeating FNAC or taking a core biopsy may be worthwhile. Occasionally, well-differentiated cancers may yield benign-appearing cells on cytology. In experienced hands, FNAC has a sensitivity and specificity of 91% and 93% respectively.

Importantly, where there is suspicion of malignancy on clinical or radiological grounds, a surgical biopsy procedure is required despite a FNAC reported as showing benign cells. Thus, a solid lesion in a 55-year-old woman should proceed to excision biopsy even if cytology was reported as benign, because of her age. In other words, the principle should apply that any breast lump that could be a cancer should be excised. If in doubt, seek a second opinion from a breast surgeon or a multidisciplinary breast clinic.

'Triple test' accuracy?

Assessment of the accuracy of the 'triple test' of clinical examination, mammography and FNAC demonstrated that one or more of the methods was positive in 99,6% of breast cancer cases — that is, the combination has very high sensitivity.

The false positive rate — that is, the number of

Referral to a surgeon is appropriate for any suspicious lump.

women with one or more abnormal tests who after further investigation were not found to have breast cancer, was 38%. That means a specificity of 62%.

Referral

Referral to a surgeon, particularly one with an interest in breast disorders, is appropriate for any suspicious lump. It is often also worthwhile seeking a second opinion in the patient with lumpy breasts where there is any clinical concern.

Conclusion

When a woman presents with a breast lump, triple assessment — clinical, radiological and pathological — will distinguish between a cyst, fibroadenoma, carcinoma or DCIS. Even in younger patients, clinical examination alone is insufficient to label a breast lump benign.

When in doubt, refer a woman with a suspicious lump to a breast surgeon or multidisciplinary breast clinic. ■

Reference

1. Irwig L. Evidence relevant to guidelines for the diagnosis of symptomatic women [report to the NBCC], 1996.

CPD questions appear on page 40.

In summary

- Early diagnosis is the most significant factor in reducing deaths from breast cancer. Therefore, it is important to investigate thoroughly each patient presenting with a breast lump. The lump could be a cyst, a fibroadenoma, carcinoma or ductal carcinoma *in situ*.
- Triple assessment is required — clinical, radiological and pathological. Even in younger patients, clinical investigation alone is insufficient to label a breast lesion benign. Radiological imaging (by mammography and/or ultrasound), then fine needle aspiration cytology (FNAC), should follow.
- Where there is suspicion of malignancy on clinical or radiological grounds, surgical biopsy is required, even if FNAC shows benign cells.
- Refer a woman with a suspicious lump to a breast surgeon or multidisciplinary breast clinic.

QUESTIONS FOR CPD ARTICLE NUMBER TWO

CPD: 1 point

Investigating a woman with a breast lump

Instructions

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2. The answer form is perforated and bound into this journal. Tear it out carefully.

3. Read the instructions on the answer form and follow them carefully.

4. Your answers for the September issue must reach Modern Medicine, *PO Box 2271, Clareinch 7740, by December 31, 2001.*

5. You must score at least 60% in order to be awarded the assigned CPD points.

Answer true or false to parts (a) to (e) of the following questions.

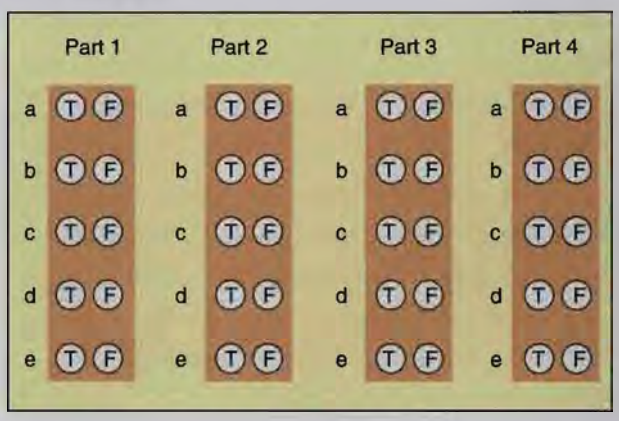
Part 1. Evaluating breast lumps:
a. When there is a lump in one breast, examine the other, and the axilla carefully.
b. The histological type of the malignant lump is the most significant factor in reducing mortality.
c. Look for nipple discharge or distortion of breast shape.
d. Biopsy of the lump is all that is required for diagnosis.
e. Family history is important.

Part 2. Clinical assessment:
a. Clinical assessment alone is sufficient to label a breast lesion benign.
b. Clinical examination has a sensitivity of 85% in diagnosing breast cancer.
c. Mammography obviates the need for clinical examination.
d. Mammographic abnormalities correlate well with surgical diagnosis.
e. Further investigation of a palpable lump is not required if a mammogram is negative.

Part 3. Ultrasound examination:
a. Ultrasound has a lower false positive rate than mammography.
b. Ultrasound is useful in evaluating breast lumps.
c. Ultrasound is the preferred diagnostic imaging test for women over the age of 40 years.
d. Referral for further examination is required if a residual lump is present after aspiration.
e. The most important aim of ultrasound is to demonstrate whether the lesion has a cystic component.

Part 4. Fine needle aspiration cytology:
a. Aspirated mucoid fluid can be discarded safely.
b. When insufficient material for diagnosis is obtained, repeating the procedure or core biopsy may be worthwhile.
c. The presence of cells appearing to be benign on cytology excludes malignancy.
d. Anyone with a suspicious lump should be referred to a surgeon even if fine needle aspiration cytology (FNAC) shows benign cells.
e. The combination of FNAC, clinical examination and mammography will diagnose 99,6% of breast cancer cases.

CPD Article 2



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1. Leach C. Targeting inhaled steroids. Int J Clin Pract. 1998 (Suppl 96): 23-27. 2. Leach CL, Davidson PJ, Hasselquist BE, Boudreau RJ. 3M Pharmaceuticals, St Paul, MN; University of Minnesota, Minneapolis, MN USA. Deposition Comparison of CFC-Fluticasone, CFC-Beclomethasone, and HFA-Beclomethasone MDI's in healthy Subjects. 3. Wurth H, et al. Efficacy of HFA beclomethasone dipropionate extrafine aerosol from a breath actuated device versus budesonide from a turbuhaler at twice the dose. Presented at ERS 1999.