

# Breast disease

## fibroadenomas and phyllodes tumours

**Fibroadenomas are generally benign and can usually be managed by reassurance and simple observation. The lesions should, however, be removed when diagnostic test results are suspicious, they increase in size, their clinical features change or they are the malignant form, phyllodes tumour.**

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Benign fibroadenomas are rounded collections of fibrous and glandular tissue occurring in the breasts of younger women typically aged between 16 and 25 years. They are often palpable and highly mobile, and are commonly named 'breast mice' as they slip out from under the examining fingers and vanish, only to reappear later. On ultrasound examination they appear as rounded smooth hypochoic lesions that look radiologically benign. They do, however, often cause considerable anxiety to both patient and doctor.

Phyllodes tumours, or cystosarcoma phyllodes, are the malignant forms of fibroadenoma and are divided into low grade and high grade tumours, depending on their malignancy.

Benign fibroadenomas form about 15% of excised breast tumours. Phyllodes tumours form about 0.1% of breast tumours, and 80% are low grade malignancies.

Benign fibroadenomas probably form between

16 and 25 years of age, but many impalpable small lesions are not found until patients have ultrasound examinations in later life. Clinically the majority are found in young women, and autopsy series show that many are still present at death. Phyllodes tumours are found typically in women aged 30 to 50 years, but some are found at puberty.

This article discusses the diagnosis and management of these lesions.

### The problem

Breast lumps in young women are highly unlikely to be cancers – but cancers can occur in women in their early twenties. Although these must not be missed, we must not unnecessarily increase anxiety levels in this already worried group of women.

Australia's national mammographic breast screening program officially targets women aged between 50 and 69 years. This age bracket, however, only accounts for 42.7% of breast cancers

### IN SUMMARY

- Benign fibroadenomas occur in women typically between the ages of 16 and 25 years.
- Phyllodes tumours are found typically in women aged 30 to 50 years, but some are found at puberty.
- Diagnosis is made by clinical features, ultrasound and cytology, i.e. the triple test.
- Fibroadenomas should be excised if any diagnostic test results are suspicious. They should also be excised if they increase in size or their clinical features change.
- Management of definitively diagnosed fibroadenomas involves reassurance of the patient and observation of the lesion.
- Phyllodes tumours should be excised with a clear margin unless they are of high grade malignancy or great size, when mastectomy should be considered.
- Rarely, invasive duct cancer can occur in the epithelium of fibroadenomas.

occurring annually. The over-70 years' age group includes 27.6% of the cancers, and the under-50 years' group, 29.7%. In this latter group, 22% of cancers are in women aged 40 to 49 years and 7.7% in women aged 20 to 39 years.<sup>1</sup>

There is a need, therefore, to target younger women with information to make them 'breast aware' so that they can recognise lumps and know if they are increasing in size or changing. These women must also know how to seek appropriate advice as simple tests to exclude malignancy can relieve the anxiety that arises on the finding of a lump.

### Pathology Fibroadenomas

Fibroadenomas can occur in breast tissue at any site in women and men. They consist of fibrous tissue with branching gland-like breast epithelium and ducts, and are often multinodular and lobulated (Figure 1). They are usually easy to 'shell out' of the surrounding normal breast tissue. Giant fibroadenomas can be over 5 cm in diameter, but benign lesions are more commonly about 1 cm in diameter when found clinically. Older textbooks divided them into intracanalicular or pericanalicular types but this subdivision is of no practical importance.

Multiple fibroadenomas can occur from time to time as a definite syndrome with up to 20 lesions present between the two breasts. The syndrome is seen more often in Asian women. These lesions are more likely to increase in size and present as phyllodes tumours.

Rarely, infiltrating duct cancer can occur in the epithelium of a fibroadenoma. The presence of epithelial atypia in a fibroadenoma is said to increase the risk of subsequent malignancy and hence is an indication for excision.<sup>2</sup>

### Hamartomas

Hamartomas of the breast can mimic giant fibroadenomas and may be quite large, up to 10 cm or more in diameter. Histologically they are normal breast tissue separated by loose areolar tissue. They are true anomalies of development.

### Phyllodes tumours

Low grade phyllodes tumour is diagnosed when the background fibrous tissue stroma shows one



Figure 1. An excised multilobulated fibroadenoma.

to three mitoses per high power field. High grade tumours have more mitoses per field. The malignancy is in the connective tissue, not the epithelium. The tumour does not spread to the lymph glands. These lesions range in size from 1 to 2 cm in diameter to very large (about 20 cm).

The name cystosarcoma phyllodes refers to the soft fleshy nature of the tumour, its leaflike configuration when sectioned and the epithelial cyst-like spaces when viewed histologically.

### Diagnosis

A definitive diagnoses of fibroadenoma is made by applying the triple test, i.e. positive clinical,

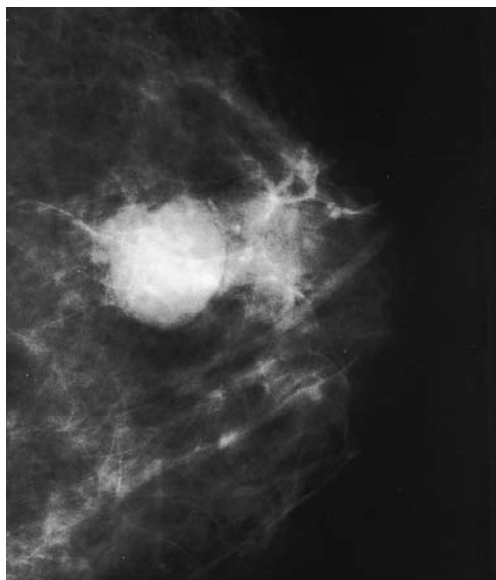


Figure 2. Mammogram of a fibroadenoma showing a black 'halo sign', suggesting it is benign.

continued



Figure 3. Ultrasound of a fibroadenoma showing bright sound reflection behind the lesion and edge shadowing.



Figure 4. Ultrasound of a multilobulated fibroadenoma.

ultrasonic and cytological tests. The triple test also excludes invasive duct cancer.

Clinically a rounded, hard mobile lump in the breast of a younger woman suggests a fibroadenoma but could equally be a tense cyst or a cyst filled with inspissated material. None of these cause skin or deeper tethering.

Mammography is usually inappropriate in younger patients because of the denseness of their breasts. A fibroadenoma will show on mammography as a rounded opaque lesion indistinguishable from a cyst, with largely clear margins (Figure 2).

Ultrasound is the initial diagnostic tool of choice. It shows a fibroadenoma as a smooth rounded outline, flatter vertically than it is wide, with accentuation of the acoustic signal behind the lesion

and some shadowing from the edges of the lesion – like a comet passing through space (Figures 3 and 4). Ultrasound will separate cysts from solid lesions, but the smaller a hypoechoic lesion is, the harder it is to separate cystic from solid.

Fine needle aspiration cytology can make a definite diagnosis: ‘bare bipolar nuclei’ are seen against a background of benign breast cells and fibrous stroma. If the lesion is impalpable, the procedure can be done under ultrasound control.

Core biopsy can sometimes be used, but the hardness of the lesions and their high degree of mobility can make it difficult to obtain samples.

### Management Observation

A patient with a fibroadenoma that has been definitively diagnosed benign by the triple test can be reassured and the lesion simply observed.

Palpable lesions should be checked monthly by breast self-examination and annually by the GP. Impalpable lesions should be checked by repeat ultrasound in six months and then every one or two years if they are not changing.

### Excision

If any of the diagnostic test results are suspicious, the lesion should be excised.

Increasing size or changing clinical signs are also indications for excision. Many patients will prefer excision to prolonged follow up.

Lesions more than 1.5 to 2.0 cm in diameter should be considered for excision as a small percentage of these will be low grade phyllodes tumours. Phyllodes tumours should be excised with a narrow but clear margin unless they are of high grade malignancy or great size, when simple mastectomy should be considered.<sup>3</sup>

If excision is required it should be performed as a day surgery procedure with attention to good cosmesis in this young group of patients. Ultrasound surface marking or needle localisation may be

required for impalpable lesions.

Multiple fibroadenomas pose a management problem because they are more likely to increase in size and present as phyllodes tumours. Removal of multiple lesions can test surgical skills.

### Recurrent fibroadenomas

Recurrence near the scar of excision of a fibroadenoma can result from missing a nearby second lesion initially or incomplete excision of a lesion.

Phyllodes tumour is prone to recur locally and should initially be treated by re-excision with a wider margin. Depending on the grade of the tumour, treatment of recurrence by simple mastectomy with preservation of the axillary nodes may need consideration.

### Conclusion

Fibroadenomas and their malignant subtype phyllodes tumours are seen in younger woman. It is vital to exclude invasive duct cancer by the triple test. Management of definitively diagnosed benign fibroadenoma involves reassurance of the patient and observation of the lesion. However, the lesion should be excised if any of the diagnostic test results are suspicious or the lesion changes in size or clinical features.

Low grade phyllodes tumours should also be excised, and simple mastectomy should be considered for high grade phyllodes tumours. **MT**

### References

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