Case 8679
Focus of in situ lobular carcinoma within a fibroadenoma

Mavromati A, Nikolaidou O, Stavrogianni T, Ntoula D, Malamas D, Xinou K.
Dept. of Radiology, Theagenion Anticancer Research Hospital, Thessaloniki, Greece.

Section: Breast Imaging
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Patient: 45 year(s), female

Clinical History

A 45 year old woman presented to our hospital with a palpable mass on her left breast.

Imaging Findings

A 45 year old woman presented to our hospital after detecting incidentally, during a self-examination, a mass on her left breast. She was alarmed because there was a history of breast cancer in the family (mother). She mentioned that she had had a screening mammography 5 years ago which did not reveal any masses or pathological findings and she neglected visiting a doctor ever since. The physical examination revealed a smooth, mobile, non-tender lump with rubbery consistency, which caused no skin changes. She had a conventional mammography (mediolateral oblique and craniocaudal projections) where a solitary, radiopaque mass was depicted to the lower outer quadrant of the left breast (Fig. 1, 2). It was relatively circumscribed except of an area where the margins appeared unclear but there were no associated calcifications or retraction phenomena. A further work-up included an US examination of the breast. Imaging features included a circumscribed gently lobulated hypoechoic mass, without any posterior enhancement, shadowing or architectural distortion (Fig. 3). Usually, when the imaging features shows whithout any doubt that a lesion is benign, a clinical and sonographic follow-up is adequate while if the lesion is new, enlarging or/with suspicious imaging features a percutaneous needle biopsy is performed.In this case, considering the family history, the age of the appearance of the nodule (> 40), and since the diagnosis was not clear-cut with the previous examinations, a complete - curative excisional biopsy was performed. The histologic findings featured fibroadenoma with multiple foci of sclerosing adenosis and a focus of in situ lobular carcinoma.
Discussion

Fibroadenomas are common benign lesions of the breast and are usually present as single breast masses in young women, while patients with multiple fibroadenomas have a strong family history of these tumours. They are assumed to be aberrations of normal breast development or the product of hyperplastic processes, rather than true neoplasms. Fibroadenomas are stimulated by oestrogen and progesterone, and by lactation during pregnancy, and they undergo atrophic changes in menopause. Some fibroadenomas have receptors and respond to growth hormone and epidermal growth factor. A fibroadenoma is most often detected incidentally during a medical examination or during self examination, usually as a discrete solitary breast mass of 1-2 cm. Although they can be located anywhere in the breast, the majority are situated in the upper outer quadrant. A fibroadenoma is usually smooth, mobile, non-tender, and rubbery in consistency. Fibroadenomas larger than 5 cm (about 4% of the total) are commonly defined as being giant fibroadenomas; however, this terminology is not universally accepted. Giant fibroadenomas are usually encountered in pregnant or lactating women. When found in an adolescent girl, the term juvenile fibroadenoma is more appropriate. In the mammographic image, fibroadenomas appear as soft, homogenous, and well-circumscribed nodules, and inner coarse calcifications are often observed. Breast sonography is often used for the diagnosis of fibroadenomas. The sonographic criteria that support the diagnosis of a fibroadenoma are a round or oval solid mass with smooth contour and weak internal echoes in a uniform distribution and intermediate acoustic attenuation. The clinician often faces the dilemma whether to remove the mass or to monitor it by means of periodic follow-up examinations. Any analysis of the associations of fibroadenomas with breast cancer must address two main questions: whether or not a fibroadenoma is a marker for increased risk of breast cancer, and whether or not breast cancer can evolve from the epithelial component of a fibroadenoma. A more recent study designed to delineate the possible correlation between the histologic features of the fibroadenomas and the risk for subsequent breast cancer used the term "complex fibroadenoma." This term applies to fibroadenomas with cysts >3mm, with elements of sclerosing adenosis, epithelial calcifications, papillary apocrine metaplasia. The risk that malignant transformation will occur in any fibroadenoma is low and has been reported to be 0.0125-0.3%. There are numerous reports that the general risk of developing cancer in the breast parenchyma is elevated among women with complex fibroadenomas; these women are 3.1-3.72 times more likely to develop breast cancer than women in the general population. About 50% of these tumours are lobular carcinoma in situ (LCIS), 20% are infiltrating lobular carcinoma, 20% are ductal carcinoma in situ (DCIS), and the remaining 10% are infiltrating ductal carcinoma. The clinical, sonographic and mammographic findings are usually similar to those of benign fibroadenomas and the malignant changes are often noted only when the fibroadenoma is excised.

Final Diagnosis

Fibroadenoma with a focus of in situ lobular carcinoma

Figures

Figure 1 Mediolateral oblique projection
An oval radiopaque nodule, relatively well circumscribed except of an area where the margins appear unclear:

Figure 2 Craniocaudal projection

The mass seems to have partially ill-defined margins. No inner calcifications are present:

Figure 3 Appearance of sonography and color doppler sonography

A circumscribed gently lobulated hypoechoic mass is visible, without any posterior enhancement, shadowing or architectural distortion. Doppler Echo shows no vascular flow within the mass.
MeSH

Breast [A01.236]
In humans, one of the paired regions in the anterior portion of the THORAX. The breasts consist of the MAMMARY GLANDS, the SKIN, the MUSCLES, the ADIPOSE TISSUE, and the CONNECTIVE TISSUES.

Biopsy [E04.074]
Removal and pathologic examination of specimens in the form of small pieces of tissue from the living body.

Breast Neoplasms [C04.588.180]
Tumors or cancer of the human BREAST.

References


fibroadenomas may also contain premalignant and malignant lesions Cir Esp 86(1):51-3


Citation