Infiltrating fibromatosis of the breast

WLADIMIR V BOGOMOLETZ, EDOUARD BOULENGER, AND ARLETTE SIMATOS
From the Departments of Pathology, Cytology, and Surgery, Institut Jean Godinot, Reims, France

SUMMARY A case of fibromatosis of the breast in a 65-year-old woman is described. The difficulties in the histological and cytological differential diagnosis of fibromatosis in such an uncommon site are emphasised.

Among the benign mesenchymal lesions of the breast masquerading as clinical carcinoma, fibroblastic and fibrous proliferations such as fibromatosis are fairly rare. Their inflammatory, reactive, or truly neoplastic nature is often difficult to determine histologically, and the cytological features of fine-needle aspiration from these lesions may also be misleading.

We report the case of a 65-year-old woman with an unusual fibroblastic proliferative lesion of the right breast of three years' duration and with the features of an infiltrative fibromatosis. We emphasise the problems of differential diagnosis, histogenesis, and cytological aspects of fibromatosis of the breast.

Case report

A 65-year-old postmenopausal woman, para 8, was admitted to our institution in July 1979 for investigation of a mass in the right breast. The patient stated that she had first noticed this mass about three years previously after a minor trauma to the right breast when she was hit on the chest by the fall of concrete material from a ceiling. At the time of injury the patient had not noticed skin bruising of the right breast. Before the present hospital admission the mass had been increasing in size and had become somewhat tender with a slight 'milky' discharge from the right nipple.

On physical examination both breasts were pendulous, and a firm and movable 4 × 4 cm painless mass was palpable in the lower inner quadrant of the right breast. Although the area of the skin overlying this mass was slightly depressed, there was no skin fixation or nipple retraction. The left contralateral breast appeared normal. Axillary lymph nodes were not felt. The liver was not enlarged. There was no history of previous surgery.

Mammography confirmed the presence in the right breast of a suspicious opacity (Fig. 1). Other routine radiological and laboratory investigations showed no significant abnormality.

Percutaneous fine-needle aspiration of the mass was performed and yielded scanty cellular material. Cytological examination revealed a few enlarged fibroblasts without atypia, scattered in an haemorrhagic background. Four clusters of epithelial cells were also identified, two of which consisted of fairly normal cuboidal or columnar cells of probable duct origin. In the other two aggregates, the cells were haphazardly arranged, overlapped, and showed anisocytosis, anisonucleosis, and hyperchromasia (Fig. 2). On account of these markedly atypical cells and notwithstanding the scantiness of the cellular material available, a positive report of malignancy

Accepted for publication 7 May 1980
Infiltrating fibromatosis of the breast

Fig. 2 (a and b) Cytological smears prepared from fine-needle aspiration of breast. Two different aggregates of markedly atypical cells interpreted as ‘malignant’. (Papanicolaou × 700).

The surgical specimen was a right breast with attached axillary fat contents. The lower inner quadrant contained a firm, irregular, and infiltrating mass (3 × 2 cm) situated close to the deepest margin of excision. The remainder of the breast tissue was markedly fatty. A total of 16 lymph nodes were dissected from the axillary contents.

Histologically this lesion consisted of interlacing bundles of proliferating fibroblasts with some attempt at forming a ‘storiform’ pattern (Fig. 3a). The lesion had a definite infiltrating border, fibroblasts spreading into the surrounding fat (Fig. 3b). The degree of cellularity was variable. The fibroblasts were well-differentiated and uniform in size, although some were enlarged but not displaying nuclear atypia (Fig. 4). Mitoses were few in the multiple sections examined. Scattered lymphocytic aggregates, some congested capillaries, and patchy fat necrosis were also present around the periphery of the lesion; multinucleated histiocytic giant cells were not noted. Ductal and lobular structures appeared entrapped within the fibroblastic proliferation with resulting features of pressure atrophy, which included bizarre nuclei in the epithelial cells (Fig. 5). A few of the ducts situated at the periphery showed some degree of epithelial hyperplasia but there was no evidence of intraduct or invasive carcinoma. The central portions contained much hyalinised collagen with interspersed obliterated ducts showing marked periductal elastosis; foci of necrobiosis and calcification were also noted. Surgical excision of the lesion appeared complete, and the 16 lymph nodes examined were free of metastatic deposit.

Based on the histological findings, a diagnosis of fibroblastic proliferation consistent with infiltrative fibromatosis was made.

Discussion

Our case of fibromatosis of the breast raises several problems, particularly from the point of view of differential diagnosis and histogenesis.
Fibromatosis of breast. (a) Representative fascicular pattern. (b) ‘Infiltrating’ edge of lesion. Haematoxylin and eosin × 150.

Fibromatosis may be defined as an infiltrating fibroblastic proliferation, which is locally aggressive but non-metastasising, the fibroblasts concerned showing no cytological features of unequivocal neoplasia. Some authors have added that there should be no features of inflammatory response.
Infiltrating fibromatosis of the breast

This complementary criterion may be questionable on the grounds that a fibromatosis could elicit an inflammatory response from the infiltrated breast tissue if the latter is particularly prone to react to local aggression, for example, fat. It should also be noted that nodular fasciitis, which is characterised by both fibroblastic proliferation and inflammatory response, has been classified with the fibromatoses.²

Fibromatosis must be distinguished from simple hyperplasia of reparative connective tissue which stops spontaneously. However, scar tissue of varying hyperplasia of response, has been classified with the inflammatory cells, and process borderline between this fibroblastic fibromatosis. It has been noted that nodular tissue if necrosis, the distinction of fibromatosis from fibrosarcoma. Two further cases of fibromatosis of the breast have been reported by Ali et al.⁷

Our case also exemplifies the difficulty of the cytological interpretation of fine-needle aspiration from fibromatosis of the breast. As a result of fibroblastic proliferation, mammary ducts become constricted with pressure phenomena on their epithelial lining. In addition to fibroblasts, the aspirate may contain some of these modified epithelial cells which show anisocytosis with nuclear pleomorphism and hyperchromasia. The overall cytological pattern mimics carcinoma. In this situation, the scantiness of these atypical cells and the presence of well-differentiated fibroblasts are cautionary signposts.

As with other fibromatoses, local recurrences can be expected when fibromatosis of the breast is incompletely excised, as shown by Zayid and Dihmis.⁸ Wide local excision should therefore be the preferred treatment for fibromatosis of the breast; mastectomy does not appear to be justified in view of the non-metastasising nature of the lesion. However, even when a biopsy specimen is submitted for frozen section and fibromatosis is correctly diagnosed, the surgeon may be faced with technical difficulties, such as involvement of the pectoralis major muscle,⁹ ¹⁰ and mastectomy may then have to be considered.

We thank Mrs A Christoph for technical assistance and Miss MJ Bianchi for secretarial help.

References


Requests for reprints to: Dr WV Bogomoletz, Department of Pathology, Institut Jean Godinot, BP 171, 51056 Reims Cédex, France.
Infiltrating fibromatosis of the breast.

W V Bogomoletz, E Boulenger and A Simatos

*J Clin Pathol* 1981 34: 30-34
doi: 10.1136/jcp.34.1.30

Updated information and services can be found at:
http://jcp.bmj.com/content/34/1/30

**Email alerting service**

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

**Notes**

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/