

MYOFIBROBLASTOMA: A POTENTIAL PITFALL IN CORE NEEDLE BIOPSY OF BREAST LESIONS

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Myofibroblastoma (MFB) is a benign neoplasm arising most frequently in the adult breast, but it may occur in any other tissue with the exception of the central nervous system. Adequate treatment of this neoplasm consists of local excision. MFB shows characteristic histological features and a clear immunohistochemical profile and usually does not cause any diagnostic difficulties [1-4]. A rare variant of MFB such as the epithelioid subtype with sclerotic stroma, however, can resemble lobular carcinoma in routinely stained histological sections.

Key words: myofibroblastoma, core biopsy, lobular breast carcinoma, immunohistochemistry.

Introduction

Myofibroblastoma (MFB) is a rare soft tissue neoplasm arising most frequently in elderly men and postmenopausal women as a solitary lesion [3, 5]. It is a benign mammary neoplasm, usually well circumscribed and composed of fascicles of uniform spindle/ovoid cells in a collagenous matrix. Tumour cells contain moderate/abundant eosinophilic cytoplasm and small uniform nuclei with a smooth chromatin pattern and one or two small nucleoli. Local excision with free margins is the curative treatment of these uncommon tumours. The main differential diagnoses of MFB include benign lesions such as leiomyoma, nodular fasciitis, fibromatosis, hemangiopericytoma and inflammatory myofibroblastic tumour. The epithelioid subtype of MFB must be distinguished from mammary carcinoma, especially lobular carcinoma [6-8].

This paper presents clinical features and histological findings in one case of a partly epithelioid and infiltrating MFB of the breast in a patient examined by mammography and core needle biopsy. The preoperative diagnosis was invasive lobular carcinoma. The objective of this case report is to elucidate the diagnostic difficulties of MFB, particularly the epithelioid variant.

Case description

A 65-year-old woman presented with a firm mobile mass in the left breast. On mammograms the mass was diagnosed as being suspicious for carcinoma; BIRADS 4. Preoperative core needle biopsy of the breast mass disclosed fibrous/collagenous tissue with strands and small rows of slightly or moderately atypical cells containing round to oval irregular nuclei with somewhat coarse chromatin and often small nucleoli. Most of the tumour cells in sections from the core biopsy showed epithelioid morphology with occasionally nuclear moulding. The cells infiltrated breast tissue as so-called "Indian files" resembling invasive lobular carcinoma (Fig. 1A). Small areas of fat were visible within the cellular areas of core biopsy and gave an impression of infiltrative growth (Fig. 1B). The core biopsy was signed-out as invasive lobular carcinoma. The patient underwent a breast sector and axillary lymph nodes resection. The operative specimen measured 6 × 5 × 2.5 cm and contained a 1.2 × 1.0 cm relatively well-circumscribed firm tumour (Fig. 2A) with a white-gray cut section. There were 11 benign lymph nodes in the axilla. Sections of the tumour showed areas corresponding to the appearance of the core biopsy speci-

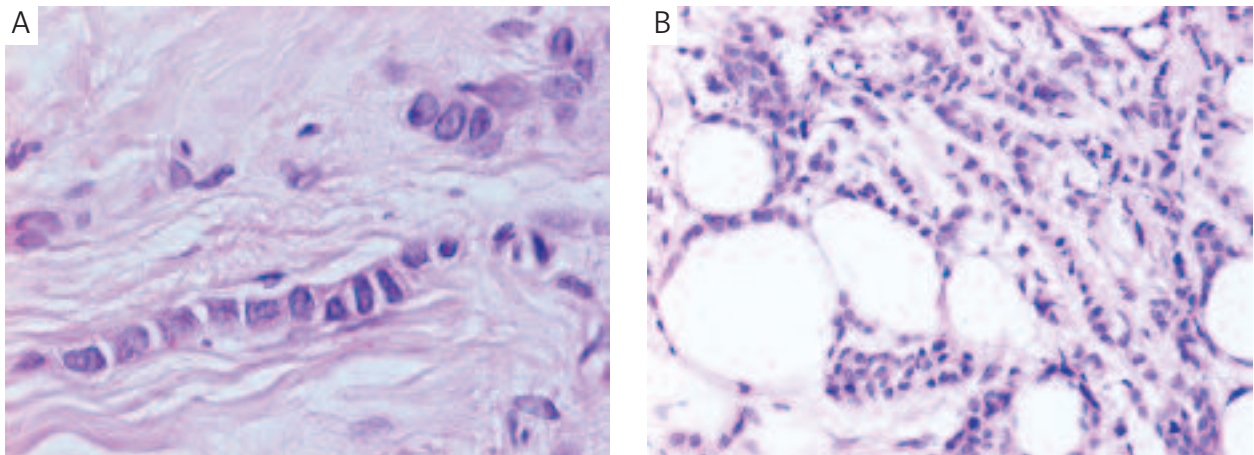


Fig. 1. Core needle biopsy showing moderately atypical tumour cells growing in Indian files in a collagenous matrix (A) (HTX \times 100) and focally infiltrating fat tissue (B) (HTX \times 50)

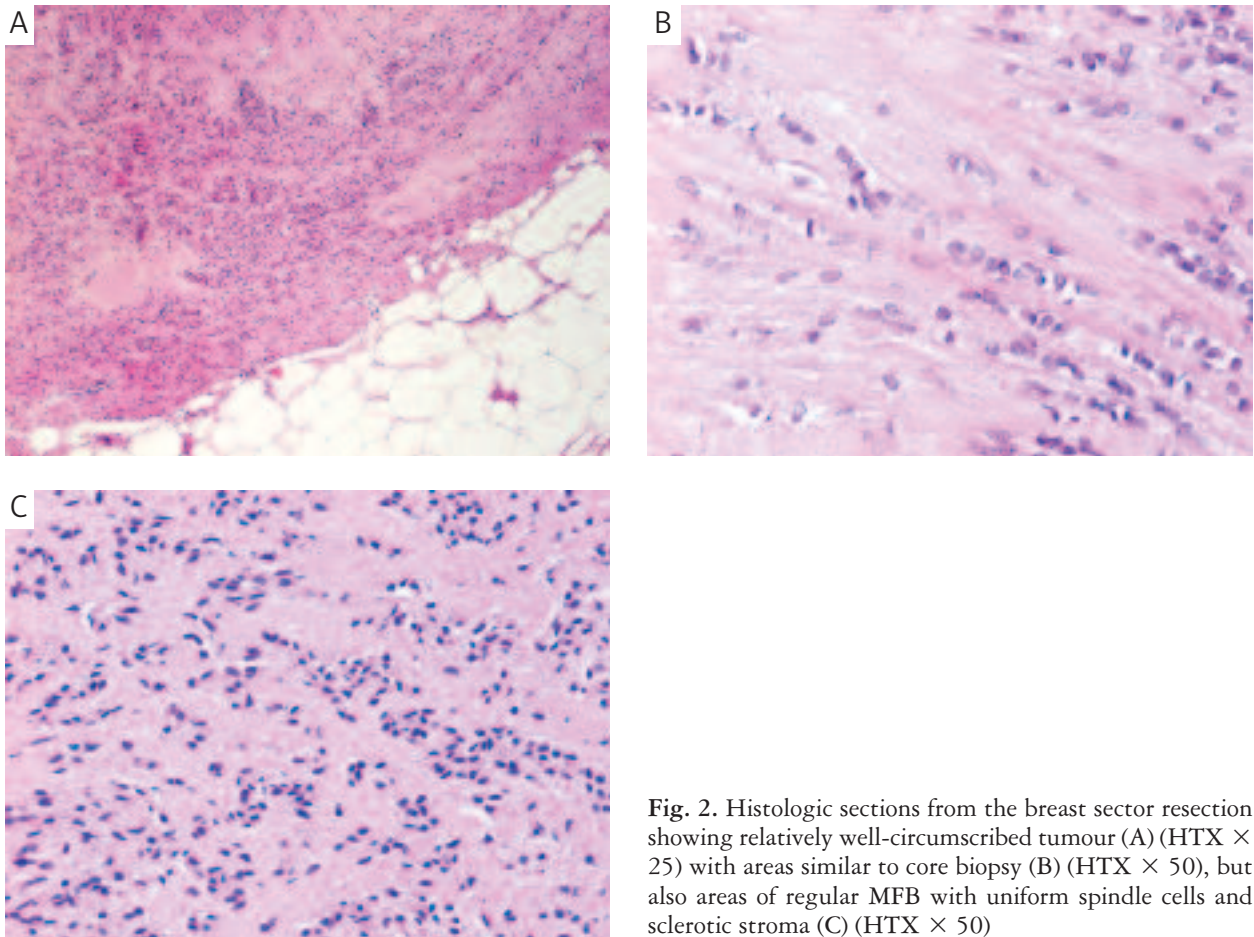


Fig. 2. Histologic sections from the breast sector resection showing relatively well-circumscribed tumour (A) (HTX \times 25) with areas similar to core biopsy (B) (HTX \times 50), but also areas of regular MFB with uniform spindle cells and sclerotic stroma (C) (HTX \times 50)

men (Fig. 2B), but also larger areas of fibrotic and sclerotic collagenous tissue containing monomorphic spindle cells with the morphology of MFB (Fig. 2C). There were foci of normal mammary glands and ducts as well as islands of fat in the tumour areas. Immunostainings revealed positivity for smooth-muscle actin, desmin, and focally CD34, while cytokeratins were negative.

Discussion

In this case report we present an unusual epithelioid morphology, occasional moderately atypical tumour cells and unusual architecture of the lesion with an infiltrative growth pattern resulting in a false diagnosis of lobular carcinoma in the core needle biopsy [2, 7, 8]. This biopsy provided a limited specimen that unfor-

tunately contained only carcinoma-like cellular areas. Histological examination of the operative specimen disclosed the dominating, well-circumscribed lesion with only small foci of infiltration. Most of the tumour showed rather typical MFB morphology. The core biopsy was not stained immunohistochemically.

In summary, this unusual variety of epithelioid/infiltrating MFB in the breast may give a false cancer diagnosis in radiological and histopathological examinations.

When a benign diagnosis is not obvious on microscopic examinations of this neoplasm, immunohistochemical examinations with a panel of antibodies should be used to discriminate MFB from other breast lesions.

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