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Breast Imaging

# Fibromatosis of the breast mimicking cancer: A case report

*Maria Carmela Grimaldi*[a,*], *Chiara Trentin*[b], *Roberto Lo Gullo*[b], *Enrico Cassano*[b]

[a] *Postgraduation School of Radiology, University of Milan, via Festa del Perdono 7, 20122 Milan, Italy*
[b] *Breast Imaging Division, European Institute of Oncology, via G. Ripamonti 435, 20141 Milan, Italy*

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ABSTRACT

Breast fibromatosis, also referred to as desmoid tumor or aggressive fibromatosis, is a very rare, locally aggressive disease that does not metastasize. Bilateral lesions are extremely rare and are found in only 4% of patients with breast fibromatosis. Tumor recurrence following surgery occurs in 18%-29% of patients, most often within the first 2 years after surgery. In this report, we discuss a case of breast fibromatosis, mimicking a breast carcinoma both clinically and radiologically, that presented clinically with dimpling of the skin of the left breast in a 31-year-old woman. The patient relapsed a few months after surgery, with a multicentric and bilateral disease.



## Introduction

Fibromatosis of the breast, also known as aggressive fibromatosis, desmoid tumor, or low-grade fibrosarcoma, may occur in women, typically between the ages of 25 and 45. Breast fibromatosis is a nonmetastasizing benign, but locally invasive, stromal tumor commonly observed in the abdominal wall and in extra-abdominal sites. It rarely occurs in the breast (<0.2% of all breast tumors) where it usually presents as a unilateral solitary lesion, which shares the same clinical and radiological features of breast carcinoma [1–3]. We report a case of a 31-year-old woman with recurrent breast fibromatosis with multicentric bilateral lesions, which has been initially misinterpreted as a multicentric breast carcinoma.

### *Case report*

A 31-year-old woman presented to the European Institute of Oncology with skin dimpling of the left breast, which she had noticed a few days earlier.

Clinical breast examination showed skin dimpling in the inferior outer quadrant of the left breast; underneath the skin dimpling, there was a palpable breast lump of 2 cm, which was firm, painless, and easily movable under the skin.

The patient had no familiar history of breast cancer, a personal history of prior trauma of the right hand (2013), and splenectomy secondary to a motor vehicle accident (2003). The patient had never been pregnant.

Sonographic evaluation of both breasts demonstrated fibroglandular breasts and revealed in the inferior outer

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* *Corresponding author.*
E-mail address: maricagrimaldi@hotmail.it (M.C. Grimaldi).

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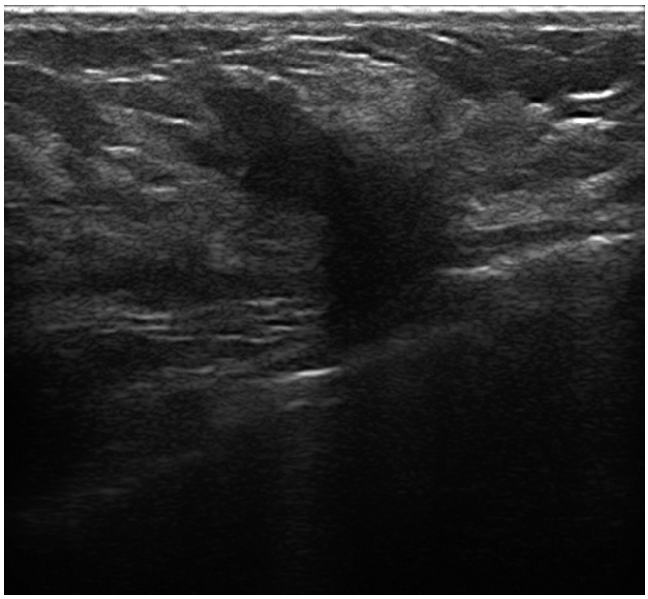

**Fig. 1 – Ultrasound shows a 20-mm irregular, hypoechoic, solid mass with spiculated margins vascularized on color Doppler, with posterior acoustic shadowing in the inferior outer quadrant of the left breast.**

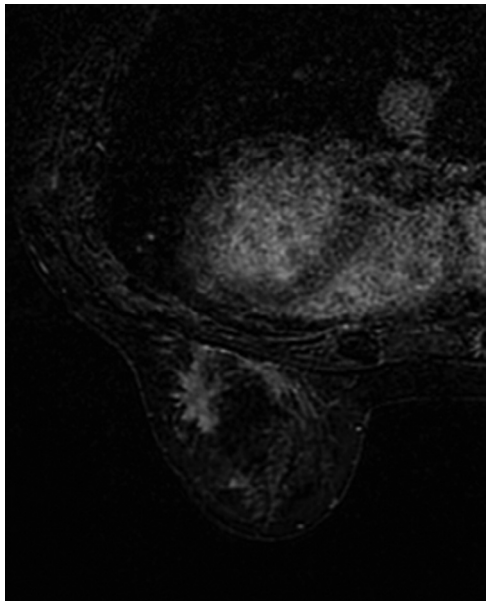

**Fig. 2 – Magnetic resonance imaging shows a coarse architectural distortion measuring 23 × 10 mm, isointense to the muscle and to the surrounding gland on T1-weighted image and hyperintense on T2-weighted image, with a moderate gradual enhancement.**

quadrant of the left breast a 20-mm irregular, hypoechoic, solid mass with spiculated margins vascularized on color Doppler, with posterior acoustic shadowing; there was no involvement of the pectoralis muscle (Fig. 1). The ultrasound finding was suspicious for malignancy and was characterized, according to the Breast Imaging Reporting and Data System (BI-RADS), as BI-RADS 4c. A biopsy was requested. No other suspicious findings were present on ultrasound examination. In the left axilla, a 9-mm oval lymph node with a central hyperechoic hylum and minimal thickening of the cortex was observed, compatible with a reactive lymph node, and worthy of cytologic examination.

The patient underwent a magnetic resonance imaging (MRI), which showed a marked background enhancement of both breasts; this finding limited diagnostic sensitivity.

On MRI, the lesion appeared as a coarse architectural distortion measuring 23 × 10 mm, isointense to the muscle and to the surrounding gland on T1-weighted image, and hyperintense on T2-weighted image, with a moderate gradual contrast enhancement, without chest wall and pectoralis muscle involvement (Fig. 2). There were 2 other distortions of similar appearance: one in the left outer quadrant near the equator measuring 15 mm and the other in the right inferior outer quadrant; the latter was difficult to measure (Fig 3).

A second-look ultrasound confirmed the presence of 2 additional inhomogeneous hypoechoic areas in the left outer quadrant near the equator (14 mm) and in the right inferior outer quadrant (16 mm) corresponding to the MRI findings.

We performed an ultrasound-guided needle aspiration using a 22-gauge needle, obtaining 4 samples:

- Sample 1: irregular nodule of 20 mm in the inferior outer quadrant of the left breast
- Sample 2: lymph node in the left armpit
- Sample 3: inhomogeneous hypoechoic area of 16 mm to the inferior outer quadrant of the right breast
- Sample 4: inhomogeneous hypoechoic area of 14 mm in the left outer quadrant near the equator.

Samples 1 and 3 were classified as benign lesions: C2 according to the 1997 European guidelines; samples 2 and 4 were

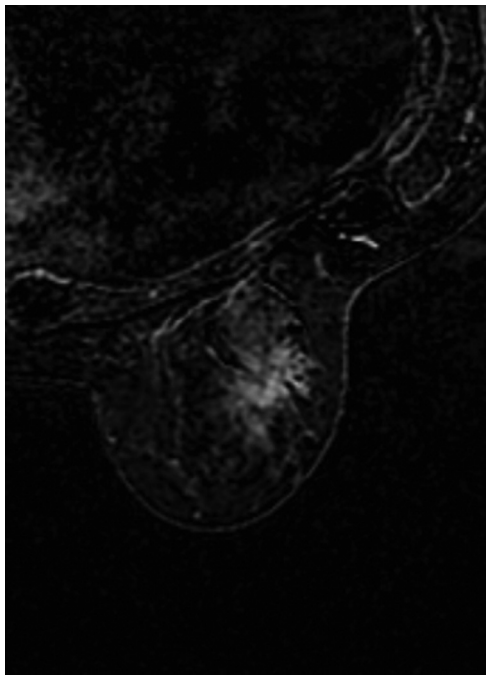

**Fig. 3 – Magnetic resonance imaging shows the area of distortion in the right inferior outer quadrant.**