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# Fibromatosis of the Male Breast: A Case Report

**Mirela Roman[1], Therese Westerby[1], Clarence Karler[2]**

[1]Department of Mammo-Pelvic Surgery, Jules Bordet Institute, ULB, Belgium
[2]Departments of Anesthesiology, Moliere Hospital, ULB, Belgium

**Corresponding author:**
Mirela Roman, MD
Department of Mammo-Pelvic Surgery
Jules Bordet Institute, Brussels, Belgium
E-mail: mirela-mariana.roman@bordet.be

## Rezumat

***Tumora desmoidă a sânului la bărbat: prezentare de caz***

Tumora desmoidă este o leziune benignă a sânului rar întâlnită la barbați, necesită un diagnostic corect pentru a putea fi diferențiată de carcinomul de sân. Tumora desmoidă a sânului afectează în mod frecvent femeile, dar poate afecta şi barbații (1,2). Fiind foarte rară, această tumoră este confundată deseori cu carcinomul mamar. S-a raportat o variabilitate semnificativă cu privire la caracteristicile imagistice ale tumorii desmoide folosind ecografia şi rezonanța magnetică nucleară (RMN). RMN-ul este deosebit de util în evaluarea extinderii tumorii şi în planificarea preoperatorie (3). Vă prezentăm cazul unui pacient de 66 ani, bărbat, care prezintă o masă palpabilă la nivelul cadranului extern al sânului drept. Biopsia leziunii a arătat histologia tipică unei tumori desmoide. Controlul făcut la 11 luni postoperator nu a relevat semne de recidivă.

**Cuvinte cheie:** sân, bărbat, tumoră desmoidă, rezonanță

## Abstract

Fibromatosis is a benign lesion of the breast that can rarely occur in men, and requires good imaging and biopsy to make a differential diagnosis to breast carcinoma. Primary breast fibromatosis predominately affects females but can rarely affect the male breast (1,2). Due toits rarity, the condition has often been confused with breast carcinoma. Significant variability has been reported regarding imaging characteristics of fibromatosis using ultrasound

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and MRI. MRI is particularly useful in the evaluation of tumor extent and preoperative planning (3). We report the case of a 66-year old male who presented with a palpable mass within the external quadrant of his right breast. Ultrasound-guided core needle biopsy revealed diagnosis of fibromatosis. Follow-up performed 11 months after resection demonstrated no radiographic evidence of recurrence.

**Key words:** breast, male, fibromatosis, MRI

## Case report

A 66-year-old male patient consulted the Emergency Department with a 2-year history of a mass in the right breast. The patient had no history of surgery or trauma of this breast, and had no other personal history of interest. Clinical examination revealed a mass located in the external quadrant of his right breast tissue measuring 7 cm in diameter. The mass was firm and was fixed to the skin and to the pectoral fascia. There was no axillary lymphadenopathy. The left breast was normal. A complete physical examination did not identify any other abnormal findings. At ultrasound, the lesion manifested as an irregular hypo-echoic mass suggestive of malignancy (*Fig. 1*). A thoracic CT scan (*Fig. 2*) shows the mass without discernable characteristics. MRI showed a voluminous heterogeneous and irregular mass occupying the external quadrant of the right breast and measuring 79 x 37.5 x 54 mm (*Figs. 3-7*). This mass was strongly suspected to be malignant. Core needle biopsy revealed spindle cell proliferation without atypia, forming sweeping or interlacing fascicles. Further IHE studies confirmed the diagnosis of fibromatosis supported by positive nuclear staining for B-catenin. The patient underwent mastectomy. The final pathology confirmed diagnosis of fibromatosis. It was positive for B-catenin and estrogen receptor. A PTEN and APC mutation was identified, yet none of his family members showed evidence of a mutation.

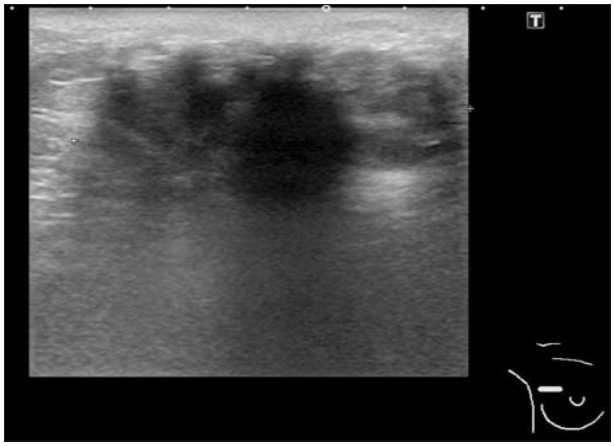

**Figure 1.** Ultrasound


**Figure 2.** CT scan

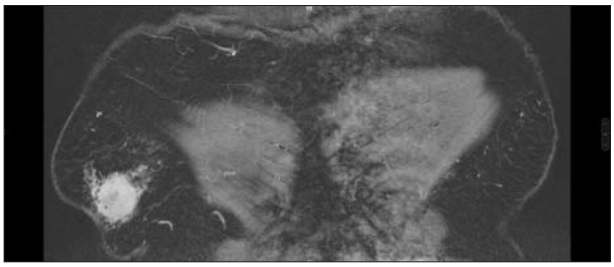

**Figure 3.** Frontal MRI 1

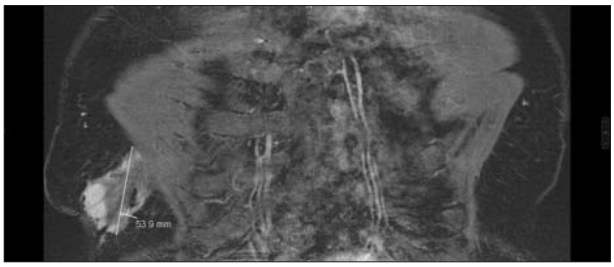

**Figure 4.** Frontal MRI 2

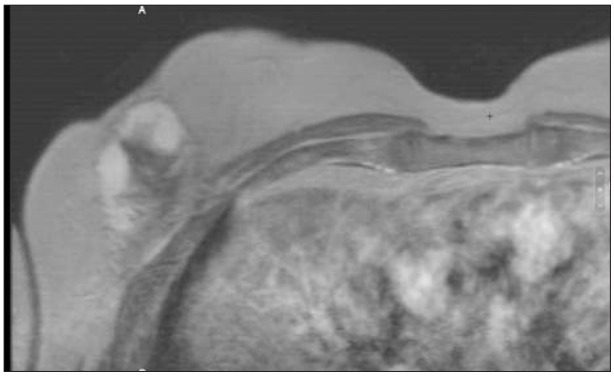

**Figure 5.** Transverse MRI 1

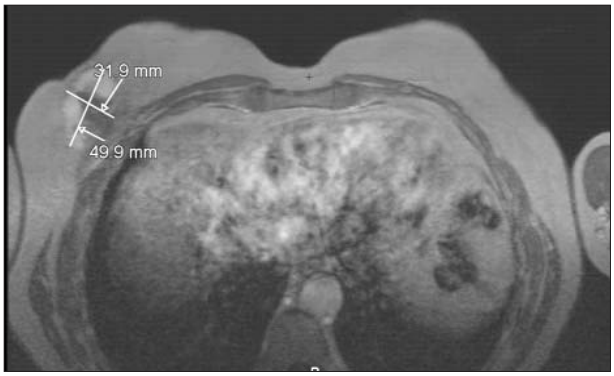


**Figure 6.** Measurements on transverse MRI

## Discussion

Fibromatosis is an uncommon benign stromal tumor encountered predominately in females in the third or fourth decade of life and predominately elderly men (4). While this entity has been described extensively in the trunk and extremities, there are few case series reported in the literature (PubMed and Medline) of fibromatosis primarily the male breast. Genetic alterations in male breast fibromatosis have not been characterized previously.Various etiologies have been evoked including endocrine and genetic factors as well as surgical trauma (5,6). It is a locally aggressive and infiltrative tumor with no potential for distant metastasis.

Fibromatosis of the breast usually presents with a palpable, firm, typically painless mass, and is more likely to occur in one of the breast quadrants rather than in a sub-areolarlocation. There may be concomitant skin andnipple retraction leading to suspicion of malignancy as in our case. Nipple discharge is uncommon and patients do not exhibit adenopathy (7). The lesion is most often unilateral, butup to 4% of patients in a larger case series presented with bilateral and synchronous mammary fibromatosis (8).

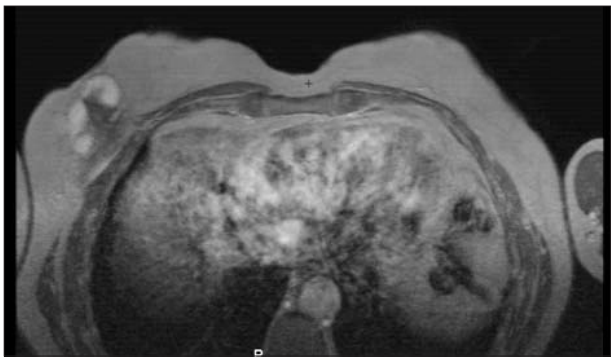

**Figure 7.** Transverse MRI 2

The diagnosis of fibromatosis can be made reliably in most cases by core needle biopsy. MRI is indispensable when dealing with fibromatosis for determination of tumor extent

and preoperative planning (3). Immunohistochemical studies are helpful to support the diagnosis and to exclude carcinoma (9). For treatment of fibromatosis, wide local excision with adequate safety margins is considered the standard of care.Some studies suggest that sexual steroid hormones playa role in the development of fibromatosis. Tamoxifen, anantiestrogen, has been used alone or in combination with nonsteroidal anti-inflammatories to induce regression or stabilization or complete resolution of disease (10). Our patient received tamoxifen as the tumor demonstrated ER positivity.

## Conclusion

Fibromatosis of the male breast is a rare solid benign tumor, locally invasive and radiographically mimics breast carcinoma. Detailed pathological examination is the key to diagnosis. Wide local excision with clear margins is the first treatment, and invasion into skin, muscle, or fascia requires removal of the affected tissue. Patients with positive estrogen receptor tumors may respond to tamoxifen.

### *Conflicts of Interest*

The authors have no competing interests to declare.

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