



# Fibromatosis of the Male Breast: A Case Report

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**Keywords:** Breast fibromatosis; Desmoid tumor; Extra-abdominal fibromatosis; Spindle cell tumors.

## Abstract

**Background:** 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. Fibromatosis is a proliferation of fibroblastic and Mio fibroblastic cells that primarily originate from the fascia or aponeuroses of the abdominal wall. Primary breast fibromatosis predominately affects females but can rarely affect the male breast. It is extremely uncommon in the male breast. Fibromatosis of the breast presents clinical, mammographic and ultrasound signs of malignancy, and it can only be confirmed through histological analysis due to its rarity, the condition has often been confused with breast carcinoma.

**Case presentation:** A 49 -year-old male presented in surgery outpatient department with complain of feeling of lump in his right breast for past 10 month. Clinical breast examination showed lump in the upper inner quadrant of his right breast. The patient breast trucut needle biopsy was performed for histopathology. Biopsy showed fibromatosis of breast upper inner quadrant. The patient subsequently underwent wide local excision of the breast lump. Final histopathology report confirmed fibromatosis. The patient tolerated the surgery well and will continue to follow up post-operatively for recurrence.

**Conclusion:** Breast fibromatosis is a benign stromal tumor that doesn't metastasize and is only locally invasive. Treatment for fibromatosis is typically surgical excision with wide margins. It is important to assess whether the lesion extends beyond the surgical margins on histopathology, as fibromatosis is locally aggressive.



## Introduction

Fibromatosis of the breast, also known as aggressive fibromatosis. Women may develop breast fibromatosis, also known as aggressive fibromatosis, desmoid tumors, or low-grade fibrosarcoma, usually between the ages of 25 and 45. Breast fibromatosis is a benign stromal tumor that doesn't metastasize and is only locally invasive. It is frequently found in the abdominal wall and other places outside of the abdomen. It seldom affects the breast (less than 0.2% of all breast tumors, and when it does, it typically manifests as a unilateral solitary lesion. Although it does not metastasize, breast fibromatosis is frequently locally aggressive and is prone to recur (up to 35%), even after complete surgical excision with clear margins [1].

A literature search showed that there have been only 8 reported cases of male breast fibromatosis [5,7,8,9,10,11,3].

The patient's age range is between 13 and 83 years, but breast fibromatosis predominantly affects middle-aged women. Few cases have also been reported in men [2]. All racial and ethnic groups are affected, and no specific predilection is seen. However, others suggested that it arises from the Musculo-aponeurotic structures that overlying pectoralis major muscle [12].

The current report aims to report a rare case of desmoid type fibromatosis of the breast. The report has been arranged in line with SCARE guidelines with a brief literature review [13].

## Case presentation

A 49-year-old male with normal BMI and no co morbid presented in surgery outpatient department with complain of feeling of lump in his right breast for past 10 month, initially it was small but gradually it increases not associated with pain.

### Clinical examination

The patient had right breast hard, fixed, irregular mass in the right upper inner quadrant measuring 27cm in longest diameter, associated with skin tethering and a no palpable right axillary lymph node. The patient had no familiar history of breast cancer. Fig (1)

### Diagnostic assessment

The ultrasound finding was suspicious solid lesion at 2 o'clock position and was characterized, according to the Breast Imaging Reporting and Data System (BI-RADS), as BI-RADS 4c. The patient underwent a magnetic resonance imaging (MRI), which showed a marked background enhancement of both breast, this finding limited diagnostic sensitivity.

The patient underwent uneventful core biopsy of right breast lesion and Histopathological examination of the specimen confirmed the diagnosis of desmoid type fibromatosis of the breast. Histopathology showed proliferation of spindle cells, associated with dense connective bundles; the spindle cells were positive for smooth muscle actin and beta-catenin, negative for cytokeratin, desmin, CD34, BCL-2, and CD99 on immunochemistry. He underwent Wide local excision of right breast lesion.

### Intervention

Wide local excision (purely breast tissue without surrounding muscles biopsy) was performed. Histopathological examination of the specimen revealed Low-grade spindle cell neoplasm, suggestive of fibromatosis **Figure ( 2,3,4).**



**Figure 1,2,3:** Removal of breast mass from right breast upper inner quadrant.



**Figure 4:** Removed Breast Specimen.

## Discussion

Fibromatosis is an uncommon benign stromal tumor encountered predominately in females in the third or fourth decade of life and predominately elderly men. 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 subareolar location. Nipple discharge is uncommon, and patients do not exhibit adenopathy (3) The diagno-

sis 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 (4). For treatment of fibromatosis, wide local excision with adequate safety margins is considered the standard of care. The etiology of this disease is unknown, but associations with Gardner syndrome, incidental and surgical trauma, familial multicentric fibromatosis, familial adenomatous polyposis, and silicone and saline implants are reported. The etiology of this tumor is unknown; however, physical, hormonal and genetic factors have a significant role in the development of desmoid tumor. Some cases have been associated with sex steroid hormones, mainly estrogens (during childbearing age, the disease tends to be more "cellular," more mitotically active, with a larger amount of mild cellular atypia), suggesting a hormonal correlation [5], Nowadays wide local excision is usually done, and mastectomy may be required for extensive or locally recurrent disease. When "tumor" is adherent to fascia, muscle or skin, excision should be extended to include the affected area [5] Nowadays wide local excision is usually done, and mastectomy may be required for extensive or locally recurrent disease. When "tumor" is adherent to fascia, muscle or skin, excision should be extended to include the affected area [14] There is also evidence to suggest that radiation reduces the volume of gross tumor in extramammary fibromatosis and may be effective in controlling gross disease. Radiation added to those patients with positive margins following resection has also been shown to significantly reduce the rate of recurrence [15]. Erguvan-Dogan B. et al., reported that postoperative radiation therapy can improve the 10-year recurrence-free survival rate [16]. Tumor regression has been reported in inoperable fibromatosis with conventional low-dose chemotherapy [16]. With the advent of more accurate imaging methods, together with proper histopathologic interpretation and the judicious use of ancillary methods like immunohistochemistry, most of the entities making up this spindle cell lesion can be identified with certainty, facilitating treatment planning [17].

### Conclusion

Fibromatosis of the male breast is a rare solid benign tumor, locally invasive and radiographically mimics breast carcinoma. 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.

### Patient consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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### Research registration number

According to the previous recommendation, registration is

not required for case report.

### Credit authorship contribution statement

Hina Khalid: literature review, writing the manuscript, final approval of the manuscript.

Abdul Khaliq Mahar: Doctors managing the case, follow up the patient, and final approval of the manuscript.

Naveed Ali Khan major contribution to the idea, revision and final revision of the manuscript.

**Declaration of competing interest:** None to be declared.

### References

- Bhat D, Wear V, Weisenberg E, Alvarado R. Desmoid-type fibromatosis of the breast: a case report. *Breast Dis.* 2016; 36: 149-152.
- Matherne TH, Green A Jr, Tucker JA and Dyess DL. Fibromatosis: the breast cancer imitator. *South Med J.* 2004; 97: 1100-1103
- Milos RI, Moritz T, Bernathova M, Amann G, Panotopoulos J, et al. Superficial desmoid tumors: MRI and ultrasound imaging characteristics. *Eur J Radiol.* 2015; 84: 2194-2201.
- Devouassoux-Shisheboran M, Schammel MD, Man YG, Tavassoli FA. Fibromatosis of the breast: age-correlated morphofunctional features of 33 cases. *Arch Pathol Lab Med.* 2000; 124: 276-280.
- HB Neuman, E Brogi, A Ebrahim, MF Brennan, KJ. Van Zee. Desmoid tumors (fibromatoses) of the breast: a 25-year experience. *Ann Surg Oncol.* 2008; 15: 274-280.
- Akanksha Kulshreshtha BAW, Leah Drost, Caitlin Yee, Vithusha Ganesh, Justin Lee, Danny Vesprini, et al. Presentation and diagnosis of desmoid tumours (fibromatosis) in the male breast: a case report. *Ann Breast Cancer Ther.* 2017; 1: 18-20.
- AH Macchetti, HR Marana, A Ribeiro-Silva, JM de Andrade, CF. Melo Fibromatosis of the male breast: a case report with immunohistochemistry study and review of the literature *Clinics (Sao Paulo).* 2006; 61: 351-354.
- I Rudan, N Rudan, T Skorić, B. Sarcević. Fibromatosis of male breast. *Acta Med Croatica.* 1996; 50: 157-159.
- HC Burrell, DM Sibbering, AR. Wilson. Case report: fibromatosis of the breast in a male patient. *Br J Radiol.* 1995; 68: 1128-1129.
- Smarrito S, R. Salmon. [Desmoid tumor in a male breast in the context of Gardner's syndrome. Case report]. *Ann Chir.* 2005; 130: 40-43.
- Ha K.Y, DeLeon P, Hamilton R. Breast fibromatosis mimicking breast carcinoma. *Proc (Bayl Univ Med Cent).* 2013; 26: 22-24.
- Y. Godwin, T.A. McCulloch, L. Sully. Extra-abdominal desmoid tumour of the breast: review of the primary management and the implications for breast reconstruction. *Br J Plast Surg.* 2001; 54: 268-271.
- Agha RA, Franchi T, Sohrobi C, Mathew G, Kerwan A, et al. The SCARE 2020 guideline: updating consensus surgical CAse REport (SCARE) guidelines. *Int J Surg.* 2020; 84: 226-230.
- Burrell HC, Sibbering DM, Wilson AR. Case report: fibromatosis of the breast in a male patient. *Br J Radiol.* 1995; 68: 1128-1129.
- Seo YN, Park YM, Yoon HK, Lee SJ, Choo HJ, et al. Breast fibromatosis associated with breast implants. *Jpn J Radiol.* 2015; 33: 591-597.

16. Khanfir K, Guinebretiere JM, Vanel D, Barreau-Pouhaer L, Bonvalot S, et al. Unusual problems in breast cancer and a rare lung cancer case. Case 2. Aggressive fibromatosis of the chest wall arising near a breast prosthesis. *J Clin Oncol*. 2003; 2216-2218.
17. Tse GM, Tan PH, Lui PC, Putti TC. Spindle cell lesions of the breast-the pathologic differential diagnosis. *Breast Cancer Res Treat*. 2008; 109: 199-207.