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Case Report

A case report and literature review: post-traumatic mammary myofibroblastoma

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ABSTRACT

Mammary myofibroblastoma is a rare benign tumor of the breast, with a higher incidence in elderly age group. It is diagnosed via radiologic and histologic findings, as clinical findings share the same presentation with other, more common, benign breast pathologies. Surgical excision is the only treatment modality used to treat this tumor. We report the case of a 56-years-old-male, who presented with the complaint of left-sided chest swelling for 1 year following a minor trauma to the chest. Ultrasonographic imaging of the mass was the initial investigation and it revealed a well-defined hypoechoic lesion, excisional biopsy was done, followed by histopathological analysis of the mass, which gave the diagnosis of mammary myofibroblastoma. The aim of this case-report is to further study and characterize this rare lesion and its relationship to previous minor or major trauma and other risk factors, in addition, a proper diagnosis should be taken when encountering a similar mass as it mimics many benign and malignant tumors, furthermore a follow up plan should be established to assess the rate of possible recurrence.

Keywords: Mammary, Myofibroblastoma, Breast neoplasms, Spindle cell

INTRODUCTION

Mammary myofibroblastoma (MFB) is a rare benign myofibroblastic tumor of the breast.[1] It usually presents as a painless, mobile lump in the breast that occur in old men and post-menopausal women. It is diagnosed based on the radiological and histological findings of the mass.[2] MFB has many differential diagnoses that includes other benign neoplasms and reactive lesions such as nodular and proliferative fascititis, fibromatosis, lipomas, neurofibromas, and leiomyoma's.[3]

CASE REPORT

A 56-year-old male patient who is known to have type ll diabetes presented to the clinic with 1-year history of left chest swelling that was increasing in size and associated with occasional pain following minor trauma to the chest. There was no history of fever associated with the swelling. He has no family history of benign or malignant breast diseases. Clinical examination revealed a 5*3 cm firm mass in the upper inner quadrant of the breast with no changes of the overlying skin or the nipple. There was no palpable lymphadenopathy. The right breast was normal. Routine basic investigations were within normal. An ultrasound of the breast was done which showed a well-defined hypoechoic lesion with internal echoes and minimal peripheral vascularity but no calcification at the upper inner quadrant of the left breast, measuring 4.5*1.8 cm (Figure 1 and 2). The patient underwent excisional biopsy with no complication. Histopathology reveled benign spindle cell lesion, no malignancy seen.

Microscopic sections reveal a well-circumscribed lesion composed of sheets of uniform bland spindle cells arranged in fascicles separated by broad bands of

hyalinized collagen. No mitotic activity is seen. No necrosis or atypia is seen. Vimentin is positive (Figure 3 and 4).

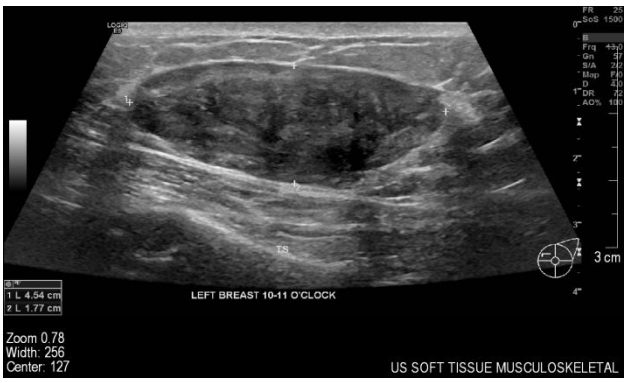

Figure 1: An ultrasound of the breast showing a well defined hypoechoic lesion with internal echos and minimal peripheral vascularity but no calcification.

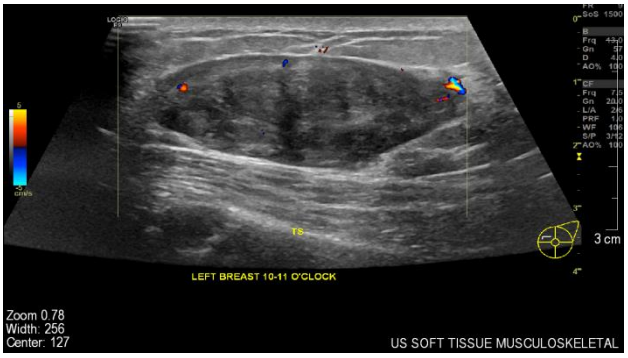

Figure 2: An ultrasound of the breast showing a well-defined hypoechoic lesion with internal echos and minimal peripheral vascularity but no calcification.

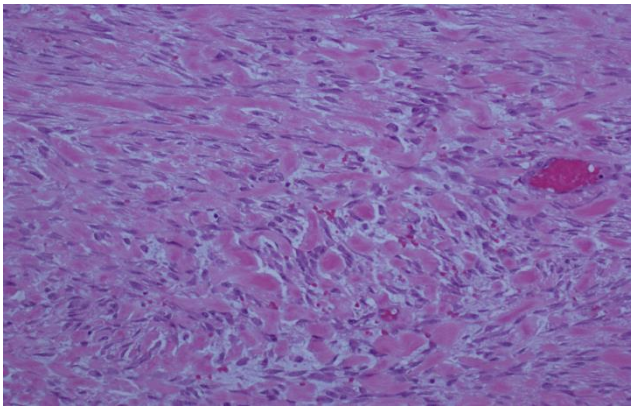

Figure 3: Microscopic section of the breast myofibroblastoma showing bundles of elongated cells with spindled nuclei.

Based on the histopathology and immunocytochemistry analysis, diagnosis of a myofibroblastoma of the breast was made. The patient had an uneventful postoperative course. He didn't receive any adjuvant therapy and was followed in the outpatient clinic. He has no evidence of local recurrence.

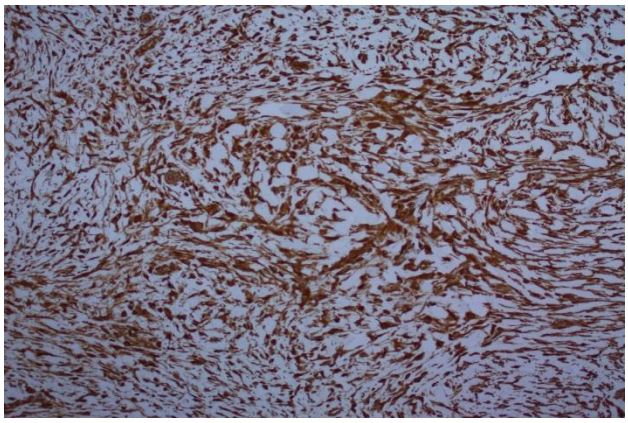

Figure 4: Microscopic section of the breast myofibroblastoma showing extensive and intense cellular immunoreaction to vimentin.

DISCUSSION

Mammary myofibroblastoma (MFB) is a benign mesenchymal neoplasm originating from spindle stromal fibroblasts.[4]

They are most commonly found within the breast parenchyma. However, some cases of MFB have been reported in extra mammary locations.[5]

MFB was first recognized in 1981 by Toker. Six years later, 16 cases of a distinctive benign mesenchymal tumor were reported by Wargotz et al. Only then was it named MFB.

Most cases reported in the literature are in men between the ages of 41 and 85 years.[6]

Although most cases are sporadic, few cases in the literature were associated with gynecomastia, chest wall trauma, irradiation for breast cancer, surgical incision site scar tissue, and other organ malignancies.[7]

MFB usually presents clinically as a unilateral painless breast lump that is not adherent to overlying or underlying structures.

The preferred imaging modality is by ultrasound. MFB appear as homogenous, and well-circumscribed, lobulated lesions, with no microcalcification.

These lesions are difficult to characterize as definitely benign or malignant sonographically, prompting the need for biopsy.

Microscopically, MFB can be classified into 5 subtypes: classical, collagenase, cellular, epithelioid, and infiltrative.[8]

The majority of MFB are immunoreactive for CD34, desmin, smooth muscle actin, and vimentin. On the other hand they are usually negative for cytokeratin and S-100 protein.[9]

Excisional biopsy is usually adequate for the treatment of MFB.[10] Recurrence has only been reported in the literature once. It was reported in a 25-year-old woman, which is also the only reported bilateral case.

In this case report our patient's presentation was associated with trauma, which is rare. The provisional diagnosis was made solely by ultrasound without the need for a preoperative FNA. Mammary myofibroblastoma remains a rare entity that needs to be further studied and researched.

CONCLUSION

Myofibroblastoma is a rare benign neoplasm with few cases reported in the literature. A proper diagnosis requires histological identification of the neoplasm. Surgical excision is recommended as the definitive treatment.

There were no reported cases of metastasis or recurrence, therefore this neoplasm needs more studying.

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