

# FEMALE BREAST MYOFIBROBLASTOMA: CASE REPORT

Miofibroblastoma de mama feminina: relato de caso

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## ABSTRACT

The myofibroblastoma of the breast is rare, being even less frequent in women. It is a benign mesenchymal tumor of uncertain etiology. The present study reports the case of a 47-year-old patient with a palpable nodule on the right breast, non-painful, having appeared approximately one year before, and with slow growth, located in an inferolateral quadrant. The biopsy pathology product describes a firm, yellowish white tissue that microscopically exhibited fusocellular proliferation without atypia, including small ductal structures with epithelial hyperplasia, suggesting immunohistochemistry which revealed expression of desmin and smooth muscle actin. Based on the morphological and anatomopathological picture, the diagnosis of breast myofibroblastoma was confirmed. Sectorectomy surgery was performed as treatment

**KEYWORDS:** Breast; myofibroblastoma; immunohistochemistry; diagnosis.

## RESUMO

O miofibroblastoma de mama é raro, sendo menos frequente ainda em mulheres. Trata-se de um tumor mesenquimal benigno de etiologia incerta. A presente descrição relata o caso de uma paciente de 47 anos, apresentando um nódulo palpável na mama direita, não doloroso, com surgimento há aproximadamente um ano e de crescimento lento, localizado em quadrante ínfero-lateral. O anatomopatológico de biópsia produto de *core biopsy* descreve tecido branco amarelado, de consistência firme, que microscopicamente apresenta proliferação fusocelular sem atipias, incluindo pequenas estruturas ductais com hiperplasia epitelial, sugerindo imuno-histoquímica, a qual revelou expressão de desmina e actina de músculo liso. Com base no quadro morfológico e anatomopatológico, confirmou-se o diagnóstico de miofibroblastoma de mama. Foi realizada setorectomia como tratamento.

**PALAVRAS-CHAVE:** Mama; miofibroblastoma; imuno-histoquímica; diagnóstico.

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## INTRODUCTION

Myofibroblastoma is a benign and infrequent tumor of the breast that mainly affects men. It is a rare, fusiform cell tumor that derives from fusiform mesenchymal cells, probably originating in the fibroblasts. The case reported is of a 47-year-old patient with palpable nodulation in the right breast, located in the inferolateral quadrant, non-painful, slow-growing, with a confirmed diagnosis of myofibroblastoma.

## CASE REPORT

LSC, 47 years old, female, Caucasian, I gestation, I child-birth, diabetic, with no family history of cancer, sought out ambulatory care due to a palpable nodule of slow growth in her right breast, which had appeared approximately one year before. On physical examination, the patient had large breasts and a palpable nodule of approximately 3 cm in diameter (Figure 1), of fibroelastic consistency, located in her right breast's inferolateral quadrant, with smooth and regular borders, movable and non-painful to palpation, free axillary lymph nodes and absence of papillary discharge.

Mammography, ultrasonography and core biopsy of the nodule were requested. Upon return, the mammogram presented an oval image in the right breast, with sharp edges, but a piece of the image was cut (Figure 2). Ultrasound revealed a nodular, hypoechoic image with lobulated contours, with a greater axis parallel to the cutaneous plane, without posterior acoustic event, measuring 31 × 21 × 26 mm, spaced about 57 mm from the papilla and 10 mm from the skin. According to the report, it was a solid nodule of possibly benign nature (Figure 3). Core biopsy of the nodule was performed and with the anatomopathological examination, immunohistochemistry was requested. The anatomopathological result described

that, macroscopically, five filiform fragments of yellowish white tissue with firm consistency were analyzed, the largest measuring 1.3 cm and the smallest 0.7 cm. As a conclusion, fusocellular proliferation was obtained without atypia, including small ductal structures with epithelial hyperplasia. An immunohistochemical study was suggested to aid in the differential diagnosis between pseudoangiomatous stromal hyperplasia, fibromatosis, tumor phyllodes and other possibilities. The result of immunohistochemistry revealed mammary tissue with proliferation of spindle cells with eosinophilic cytoplasm and vesiculous nuclei with inconspicuous nucleoli, arranged in fascicles, interrupted by thickened collagen fibers, revealing expression of positivity for the antibodies calponin (clone Calp), desmin (clone D33) and smooth muscle actin (clone 1A4), confirming the diagnosis of myofibroblastoma. Sectorectomy was performed as treatment in the right breast, with removal of the nodulation (Figures 4 and 5). All the material was sent for anatomopathological study.

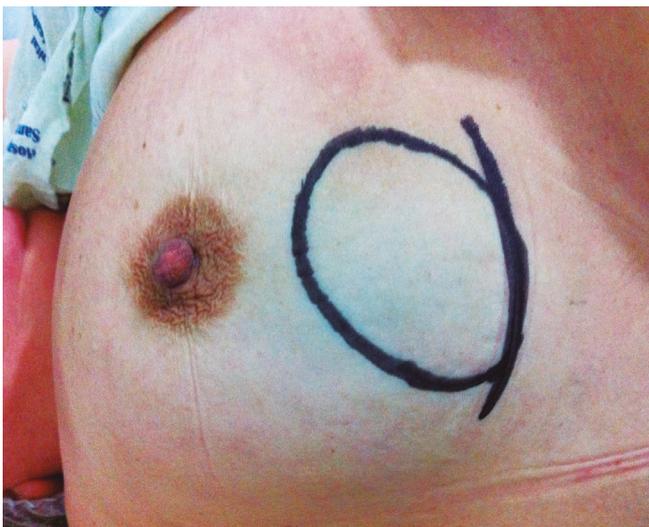


Figure 1. Location of breast nodule.

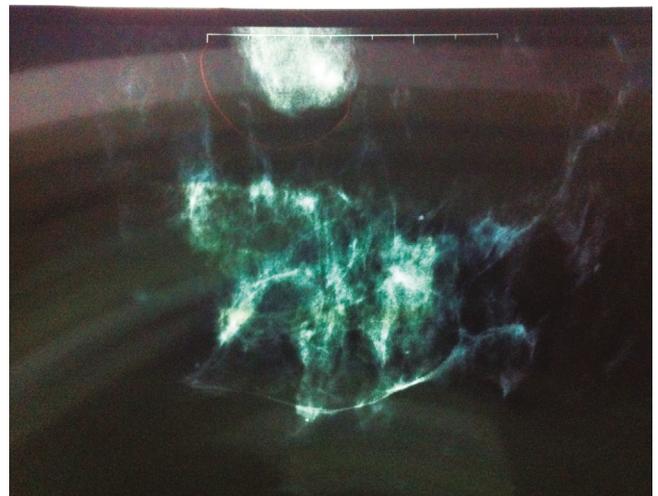


Figure 2. Nodule seen in mammographic image.



Figure 3. Ultrasound imaging.

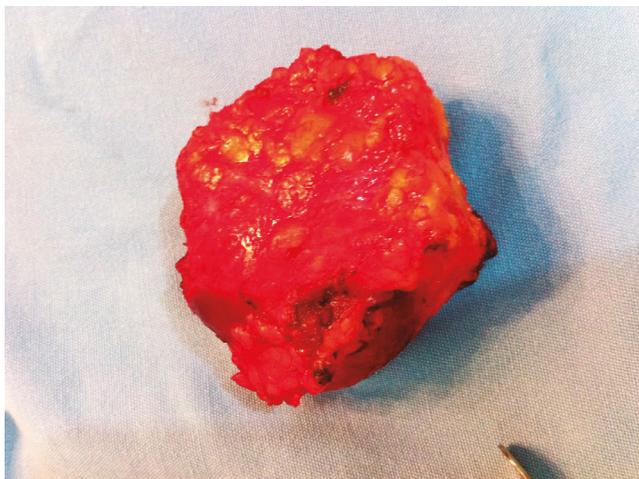


Figure 4. Closed surgical part.

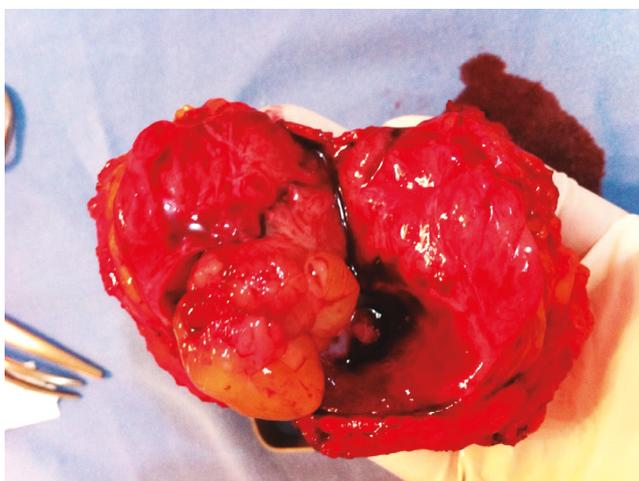


Figure 5. Open surgical part.

## DISCUSSION

Myofibroblastoma is a benign and rare tumor that mainly affects male breasts<sup>1</sup>. The literature shows a higher frequency in men between the sixth and eighth decades of life, but some authors mention equal incidence between men and women<sup>2</sup>. There are approximately 80 published cases of myofibroblastoma, which was first

described in 1987 by Campos et al.<sup>3</sup>. The tumor has mesenchymal origin and is characterized by the proliferation of fusiform cells surrounded by collagen and derived from fibroblasts. They do not metastasize and have a low rate of recurrence<sup>2</sup>. Immunohistochemistry reveals positivity for vimentin, actin, and desmin<sup>4</sup>.

Macroscopically, they are well delimited tumors, firm and elastic, unencapsulated, round or oval, with sizes varying from a few millimeters to 15 cm<sup>3</sup>. Mammography usually reveals a single lesion, well delimited, round or discretely lobulated<sup>4</sup>. Differential diagnosis should be made, among others, with gynecomastia, carcinoma, sarcoma and metastases. Ultrasound allows to rule out cystic lesions, lipomas, abscesses and hematomas<sup>3</sup>.

Immunohistochemistry plays a fundamental role in some cases<sup>3</sup>, such as the one reported in this study, which confirmed positivity for the antibodies calponin, desmin and actin, revealing myofibroblastoma through morphological and immunohistochemical findings.

The pathogenesis of mammary myofibroblastoma is uncertain. The high incidence in men led some authors to investigate the possible role of androgens in this tumor<sup>2</sup>. They concluded that the *in situ* detection of estrogen, progesterone and androgen receptor suggests that steroid hormones and their receptors are implicated in the pathogenesis of mammary myofibroblastoma<sup>2</sup>. However, we observed that, in the case described, myofibroblastoma affected a female patient and her immunohistochemistry demonstrates antibody for negative estrogen receptor (SP1).

Tumor's surgical resection is the treatment of choice, and so far there are no descriptions of local recurrences or metastases of myofibroblastoma<sup>3</sup>.

## FINAL CONSIDERATIONS

The report of this type of pathology is important due to its rarity, in general, but mainly because this is a female patient, which does not match the reality described in the literature. This case demonstrates the possibility of a differential diagnosis of benign breast tumor and the importance of requesting immunohistochemistry to define it.

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