Case Report

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Unanticipated diagnosis- intraparenchymal leiomyoma of the breast: case report

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ABSTRACT

Smooth muscle neoplasms are uncommon, particularly if we are talking about the mammary gland. We report a case a case of a 38-year-old female with an 11.6 mm right breast nodule. A wire-guided surgical excision was performed and the histopathologic and immunohistochemical studies revealed a leiomyoma. There are no radiological criteria to allow the diagnosis of smooth muscle neoplasm and histopathological evaluation is the definitive diagnostic method. Despite being a benign neoplasm, it may mimic malignancies and therefore present a diagnostic challenge.

Keywords: Breast neoplasm, Benign tumor, Leiomyoma

INTRODUCTION

Leiomyoma is a benign smooth muscle neoplasm most commonly occurring in the uterus, small bowel and esophagus. ^{1,2} Leiomyoma of the breast is an extremely rare tumor, representing less than 1% of all breast neoplasms ^{3,4} It most commonly involves the subareolar area of the breast and occurs in both sexes. ^{2,5,6} Deep parenchymal lesions seem to affect only women. ⁷

Although histologically benign, they may mimic malignant tumors and therefore present a diagnostic challenge.

We report a case of parenchymal leiomyoma of the breast in a 38-year-old woman and the clinical, radiologic, histopathologic an immunohistochemical findings.

CASE REPORT

A 38-year-old woman with no previous medical conditions was referred by her gynecologist after a routine breast ultrasound and biopsy.

She had no clinical complaints, nipple discharge nor morphologic changes of the breast and nipple. She had no family history of breast or ovary cancer.

The ultrasound showed a well-defined nodule located in the superior quadrants of the right breast with 11.8 mm which was biopsied by percutaneous core needle due to recent growth and two other infracentimetric nodules in the same breast with benign characteristics. On the left breast, the ultrasound examination showed a 15.8mm and a 6.7 mm nodules in the outer superior quadrant as well as several small cysts.

On physical examination, no nodule was identified nor axillary or supraclavicular lymph nodes.

The biopsy performed in another medical facility, showed that the right breast nodule was in fact suggestive of schwannoma.

Wire-guided surgical excision was performed. On gross examination, a white, well defined mass with 0.9 cm was noted.

Histologic examination identified fusocelular proliferation with no atypia or necrosis. Imunohistochemical stains indicated positivity for desmine and alfa-actine and negativity for S100 protein, CD34 and CD10. A diagnosis of intraparenchimal leiomyoma was made.

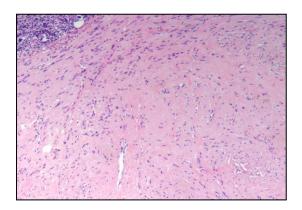


Figure 1: Leiomyoma, spindle cells proliferation (hematoxylin-eosin) – 100X.

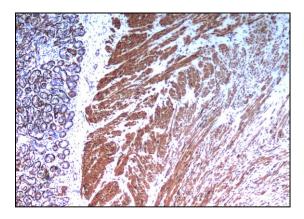


Figure 2: Leiomyoma, immunohistochemistry shows cytoplasm staining of the tumor cells for desmin, reflecting smooth-muscle differentiaton (right), breast tissue (left) - 100×.

DISCUSSION

Leiomyoma of the breast is an extremely rare benign tumor and its etiology is uncertain. It may originate from the superficial smooth muscle cells around the nipple and areola or even rarely from the vascular endothelium located deeper within the breast parenchyma. 1.6,7

Although typically asymptomatic, patients may present a clinically palpable painless lump, discomfort, pain, pruritus and hardening of the nipple.^{4,8}

On mammography, the majority of reported leiomyomas are well defined, homogenous and dense with no microcalcifications. Sonography studies showed mainly solid, well circumscribed and homogenous lesions. ^{2,8} The most common differential diagnosis would be the fibroadenoma. ⁷

Since no radiological criteria exist for the diagnose of smooth muscle neoplasm, histopathological evaluation is the definitive diagnostic method.^{3,4}

The common histopathological features show bundles of spindle cells with no or infrequent mitosis and immunohistochemical staining for vimentin, desmin and smooth muscle actin. 3,5,7 Also, these lesions are negative for S100 protein and cytokeratin. 7

The histopathological differential diagnosis is established with leiomyosarcoma, adenomyoepithelioma, myofibroblastoma, fibromatosis, begnin nervous sheath tumors and phyllodes tumors.⁷ Among these, the most important one is leiomyosarcoma for its similarity but very different implications regarding treatment and prognosis.^{5,7} Leiomyosarcomas of the breast show pronounced cytologic atypia, numerous mitotic figures with atypical mitosis, vascular invasion, and necrosis. Unlike its begin counterpart, it may show local recurrence or distant metastasis by hematogenous.^{2,3,7}

Given the benign nature of the leiomyoma, these tumors are best treated with simple excision. ^{2,3,8}

CONCLUSION

Leiomyoma in mammary tissue is an extremely rare condition. The clinical presentation or radiological findings do not differ from that observed in the most common benign tumors of the breast. In histopathological evaluations, the most important differential diagnosis is the leiomyosarcoma.

The recommended treatment is simple excision with free margins and thorough histological examination is essential for a proper diagnosis.

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