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A rare case report of myoid hamartoma of breast with fibroadenomatoid hyperplasia

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Abstract
Myoid hamartoma of breast is a rare entity and displays marked smooth muscle cells. We present a case of myoid hamartoma of breast with fibroadenomatoid hyperplasia in a 34 year old woman. She had a painless breast lump which was excised. Macroscopically, it was a well circumscribed non encapsulated tumor with fatty tissue in between. Microscopically, the tumor showed mammary lobules, adipose tissue, fibrous stroma and smooth muscle cells. Focal areas of fibroadenomatoid hyperplasia was also noted. Immunohistochemistry showed positive for SMA and desmin in smooth muscle cells.

Keywords: Breast, Myoid hamartoma, Fibroadenomatoid hyperplasia

Introduction

Breast hamartoma is uncommon and a poorly recognized benign breast lesion. Their main characteristic is the variety of tissue they contain. Myoid hamartoma is an extremely rare subtype containing an additional smooth muscle component. Fibroadenomatoid hyperplasia has composite features of fibroadenoma and fibrocystic change. Here in, we report a case of myoid hamartoma with fibroadenomatoid hyperplasia which has not been documented till now.

Case report

A 34 year old woman visited the department of surgery with a complaint of mass in the right breast for duration of one year. She was a known case of diabetes. Her HbA 1c was 6.9%. Family history of diabetes was noted. She was para 2 and her cycles were regular. The lump was painless and had been slowly enlarging. There was no family history of breast lesions or malignancies.

Physical examination revealed a soft mass measuring 5x4 cm in the upper outer quadrant of right breast. The lymphnodes were not palpable in the right breast. A clinical diagnosis of fibroadenosis was made. The patient refused for mammography and FNAC and insisted on excision of the lesion.

The patient underwent wide local excision of the mass. The post operative period was uneventful. Macroscopically, the tumor was round, firm with smooth margins, measuring 5x4x3.5cm. The cut surface showed homogenous grey rubbery solid tissue with fat in the centre (Fig. 1).

Microscopically the lesion showed mammary lobules, ducts, dense fibrous stroma and fatty tissue mingled with many

bundles of smooth muscle fibres. Focal areas showed fibroadenomatoid hyperplasia. No cellular atypia or significant mitotic activity was seen. Immunohistochemistry showed a strong and diffuse immunoreactivity for SMA and Desmin in the smooth muscle cells. These smooth muscle cells failed to express pan cytokeratin or S 100 protein (Fig. 2,3,4,5).

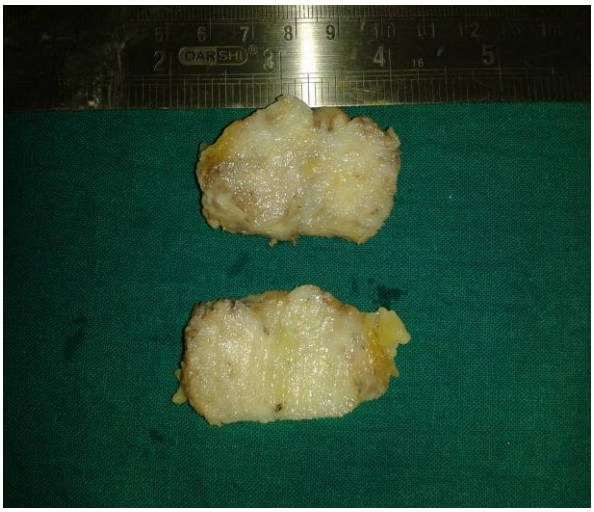

Fig. 1: Gross picture showing well circumscribed non-encapsulated grey white lump, with fatty tissue in between.

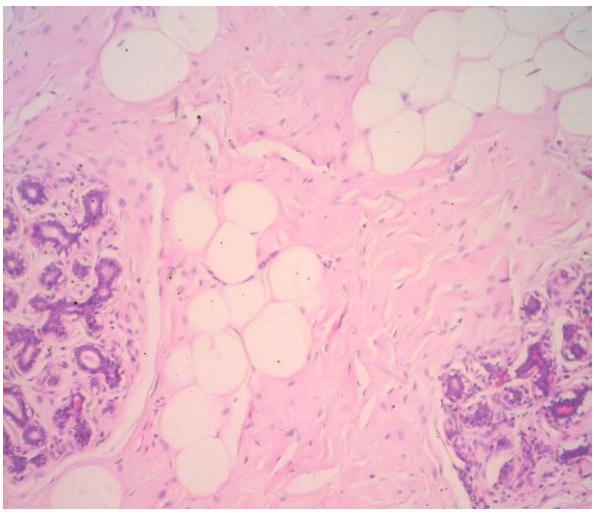

Fig. 2: Tumor showing mammary lobules and ducts, adipose tissue, fibrous stroma and bundles of smooth muscles cells.

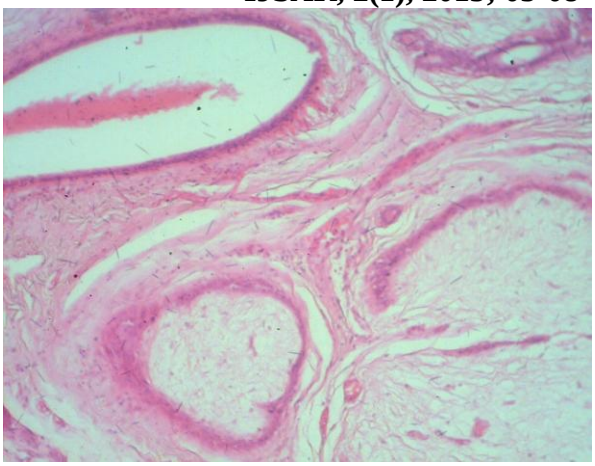

Fig. 3: Tumor showing fibroadenomatoid hyperplasia.

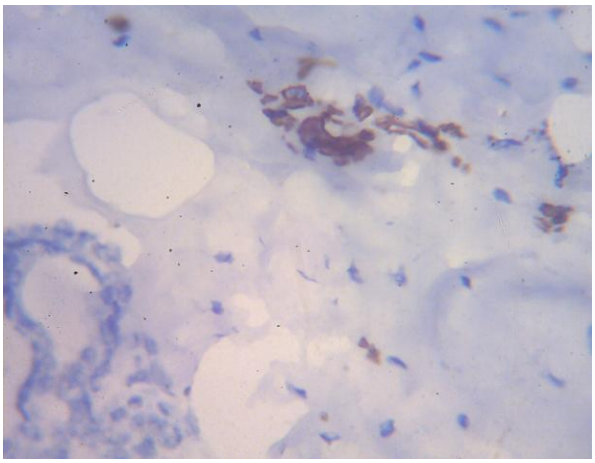

Fig. 4: The smooth muscle cells staining positive for desmin.

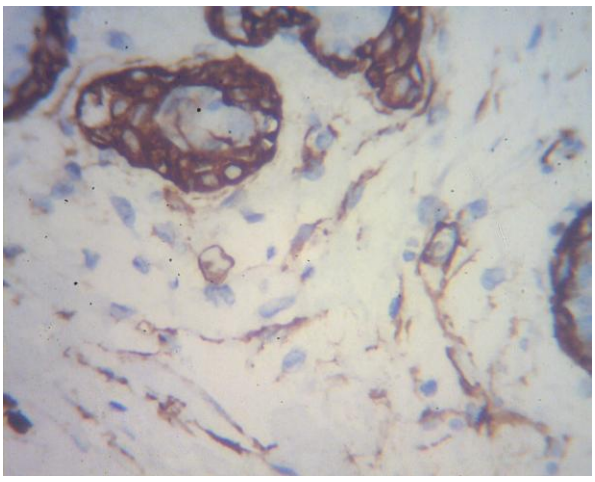

Fig. 5: Smooth muscle actin (SMA) staining positive for smooth muscle tissue and also basal myoepithelial cells of terminal ducts lobular units.

Discussion

Breast hamartoma are uncommon about (0.7%-5%) of all benign breast masses. [1] It was described for the first time in 1973 by Davies and Riddell.[2] It can be can be single, multiple or bilateral. It can be seen in extramammary location such as axilla and inguinal region.[3]

It encompasses a collection overgrowth of mature tissue lacking in organization. The tissues include benign ductul and lobular units, adipose tissue, fibrous stroma and smooth muscle tissue. Hamartoma with a marked component of smooth muscle tissue is known as myoid hamartoma.[4] Hypotheses on the pathogenesis of myoid hamartomas include a metaplastic process emanating from the myoepithelium, amyofibroblastic origin or an origin from local vascular wall.[5] Breast hamartoma is similar to surrounding mammary tissue which is influenced by hormones and may enlarge during pregnancy and lactation.[6]

In most documented cases adipose tissue is present in more than 90% of the cases, although the volume of adipose tissue generally account for 10-20% of the lesion volume. Hamartoma with epithelial hyperplasia, apocrine metaplasia, cystic changes are documented.[7] In our case, we have noticed myoid hamartoma with fibroadenomatoid hyperplasia which has not been documented till now.

.Fibroadenomatoid hyperplasia was previously described as sclerosing lobular hyperplasia, fibroadenomatosis or fibroadenomatoid mastopathy. It is characterized by a microfocal proliferation of fibrous stroma containing hyperplastic epithelial elements similar to those seen in fibroadenoma. It is a cause of suspicious, granular, clustered microcalcification on screening mammography.[8]

Histological differential diagnosis of fibroadenoma, adenomyoepithelioma, leiomyoma have to be excluded. Immunohistochemistry studies are helpful in making a diagnosis and several reports have suggested that spindle and epithelial tumor cells show strong positive staining for SMA, desmin, vimentin and absence of staining for cytokeratin as well as S100 protein.[1]

The role of FNAC in diagnosis of hamartoma remains limited. The two main contributing factors are the scanty materials obtained during the aspiration and lack of specific cytological or architectural features in hamartoma.[7] Different modalities like mammography, ultrasonography may not yield definitive diagnosis in such cases.

Mammograms show well defined masses composed of mixture of fat and glandular tissue, pathogmonic of this lesion.[1] However in our case patient refused for mammography.

Local excision is treatment of choice for myoid hamartoma and no adjuvant therapy is needed following surgery.

Conclusion

Myoid hamartoma with fibroadenomatoid hyperplasia can present as a painless lump in the breast and is often misdiagnosed preoperatively. Diagnostic modalities like mammography, fine needle aspiration cytology may not give definitive diagnosis. Histopathological examination and immunohistochemistry studies are crucial for diagnosing this rare lesion and also to exclude any concurrent malignancies.

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