

Fibroadenoma with Foci of Infiltrating Ductal Carcinoma

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Abstract:

Fibroadenoma is a biphasic tumor of breast with stromal and epithelial components. It is a very common benign tumor among young female. Malignant transformation in a fibroadenoma is uncommon. We report a case of an elderly patient with bilateral fibroadenomas harboring foci of invasive ductal carcinoma. The intent of this presentation is to increase general awareness as to the existence of carcinomas arising in fibroadenomas and also to actively discourage the practice of rendering gross pathological diagnoses of fibroadenomas.

Keyword: Fibroadenoma, infiltrating ductal carcinoma.

Introduction:

Benign breast disease has a high prevalence rate with fibroadenoma occurring in one of every five women. One of every two women is affected by fibrocystic disease.¹ Fibroadenoma is the most common benign tumor of the young female. Other benign lesions are adenosis and proliferative epithelial changes such as mild, moderate, florid ductal and lobular hyperplasia. Rarely, lobular and ductal non-invasive and invasive carcinoma may occur within fibroadenoma. In 1931 the first reported case was published to describe carcinoma arising in fibroadenoma.²

Fibroadenoma, a biphasic tumor with stromal and epithelial component, is generally a benign tumors of not much concern. Malignant changes within fibroadenoma are an uncommon feature and is usually an incidental finding following the excision of fibroadenoma.

Case report:

A Female of 55 years complained of lump in both breasts for 20 years. The mass increased in size during last three months. She also complained of occasional pain. Bilateral lumpectomy was done for recent increase in size. Before surgery relevant investigations were done like ultrasonography but FNAC was not performed.

After surgery naked eye examination of the specimen revealed two nodular pieces of tissue. The larger one measured 5x4x3 and smaller one 4x4x3 cm. The cut surface was gray white and granular.

Histopathological examination showed anaplastic duct epithelial cells arranged in clusters and islands. In some areas evidence of invasion are present in the stroma. Foci of comedonecrosis are also seen. In peripheral areas features of fibroadenoma was also noted. Some of the ducts were slit like and lined by anaplastic epithelial cell.

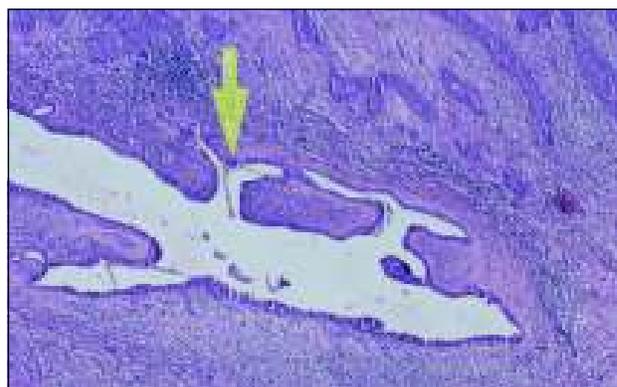


Fig.-1: Section show anaplastic duct epithelial cells arranged in clusters and islands. In some areas evidence of invasion are present in the stroma.



Fig.-2: Section show anaplastic duct epithelial cells arranged in clusters and islands. Foci of comedonecrosis are also seen.

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Discussion:

The incidence of carcinoma within fibroadenoma is not common and reported to be between 0.1% and 0.3% in a screened population, with a peak age of occurrence between 42 and 44 years.³⁻¹⁴ The reported mean age in various case series is 42.5 years, which is about 20 years later than the peak age of occurrence of fibroadenoma.⁷

Epithelial hyperplasia is a common finding within fibroadenomas. Atypical hyperplasia of either ductal or lobular type are infrequent findings.¹⁵ Some authors found atypical hyperplasia in only 0.81% of fibroadenomas⁽¹⁵⁾. Review of literature reveals a few case studies with insitu or invasive ductal and lobular carcinoma in a fibroadenoma.^{4,5,16}

Two-thirds of carcinomas within fibroadenoma are lobular and one-third is

ductal or mixed ductal and lobular. Lobular and ductal carcinoma in situ has an approximately equal frequency.⁶⁻¹⁴

Complex fibroadenomas occur in older women with feature of calcification, apocrine metaplasia, sclerosing adenosis and cyst formation.⁶ It is the complex fibroadenoma, which needs greater attention, as the risk of malignant transformation is higher in this subset.¹⁷ It has been found that the risk of malignancy in complex fibroadenoma is 1.89 times higher than that of conventional fibroadenoma.⁶

Although the malignant transformation of a fibroadenoma is rare, the presence of this tumor in a woman with a positive family history may have greater clinical importance than fibroadenomas arising in women with no additional risk factors.^{3,8,13,18,19} Therefore one needs to have a high suspicion index for malignancy in a case of fibroadenoma in an older woman particularly in one with associated risk factors like strong family history. Clinicians, radiologists and pathologists need to be aware of the possible yet uncommon stepwise progression capabilities of fibroadenomas.

Triple test done to evaluate breast lesions include FNAC, core biopsy and radio-imaging techniques such as ultrasound and mammogram. Fine needle aspiration cytology is an important tool that helps in guiding the surgeon to decide further management.

Despite the low percentage of carcinoma occurring within fibroadenoma we consider that each lump should be seriously managed; extirpation and histological examination is recommended. Special caution has to be taken in females older than 35 years presenting with a fibroadenoma. Prognosis depends on the grade and the stage at presentation but fibroadenoma may attract early attention leading to early detection and good outcome.

Conclusion:

To conclude, the case report highlights the need for extensive tissue sampling in fibroadenomas as the clinico-radiological features of malignant transformation may be quite subtle to be easily missed on routine examination.

Conflict of Interest: None

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