Case Report

Invasive Carcinoma Arising within a Solitary Complex Fibroadenoma: A Case Report

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DOI
10.21276/apalm.3621

Article History
Received: 20-06-2025
Revised: 01-08-2025
Accepted: 31-08-2025
Published: 20-09-2025

How to cite this article
Janemary, Karikkanthra J, Jabamalai F, Arya PM. Invasive Carcinoma Arising within a Solitary Complex Fibroadenoma: A Case Report. Ann Pathol Lab Med. 2025;12(09):C161-C163.

Abstract

Fibroadenomas are the most common benign mammary tumors, in young women. Here we present a case of a 62 years old lady presenting with breast lump and pain, radiologically diagnosed as a BIRADS IVA lesion. Histopathological examination of which revealed a fibroadenoma with intracanalicular pattern and a focus of Invasive carcinoma of no special type (ductal) with histological grade 2, thus emphasising the need for meticulous histopathological examination of fibroadenoma especially in the elderly individuals.

Keywords: Fibroadenoma; invasive carcinoma; malignant transformation

Introduction

Fibroadenomas are benign biphasic tumors with epithelial and stromal components. They most commonly occur in adolescent girls and women aged <35 years. [1] Fibroadenomas are hormone dependent tumors, [2] exhibiting a wide spectrum of changes including metaplasia, cysts, calcification and hyperplasia. However, carcinoma arising in fibroadenoma is rare with an incidence of 0.1-0.3%. [3] Complex fibroadenomas are reported to show a higher risk for subsequent malignant transformation. [4] Here we report a case of invasive carcinoma coexisting within a solitary fibroadenoma in the sixth decade.

Case Report

A 62-year-old woman presented to the surgical outpatient department with a one-month history of pain and swelling in her left breast. On examination, a palpable and tender lump was noted in the lower inner quadrant of breast. The lump was ovoid, mobile, smooth and firm in consistency. No overlying skin/nipple changes noted. The patient's younger sister had a history of breast carcinoma.

Mammography revealed an ovoid, radiodense lesion with partially obscured margins, located in the lower inner quadrant of the left breast. The lesion demonstrated amorphous microcalcifications and was categorized as BIRADS 4A, indicating a mildly suspicious abnormality.

Patient underwent lump excision. Grossly the specimen was well circumscribed and ovoid measuring 1.5x1x0.5 cm. Cut section was pale white.

Histological examination showed a well-circumscribed lesion with an intracanalicular growth pattern, composed of compressed benign glandular elements, consistent with a fibroadenoma (Figure 1). Notably, within the fibroadenoma, foci of invasive carcinoma were identified (Figures 2 and 3), arranged in tubules, trabeculae, and single cells. These malignant cells exhibited moderate nuclear atypia and low mitotic activity. Importantly, microcalcifications were present within the invasive foci, correlating with the calcifications observed on mammography, thereby strengthening the radiologic-pathologic concordance.

Hence diagnosed, Invasive carcinoma of no special type (ductal) arising in a fibroadenoma with histological grade 2.

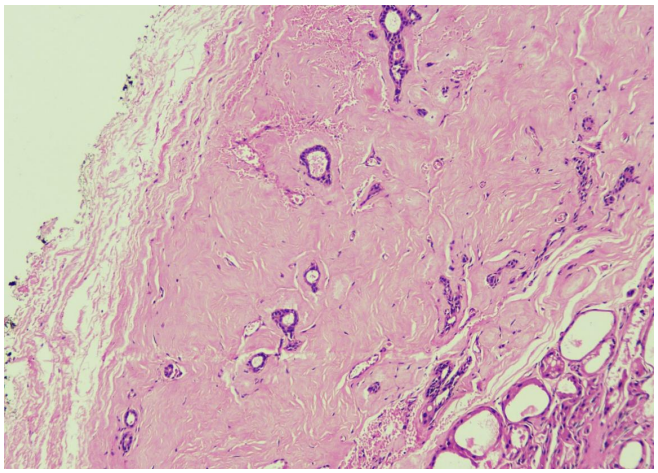

Figure 1: Biopsy showing a circumscribed lesion arranged in intracanalicular stromal growth pattern. (Hematoxylin and Eosin, x40)

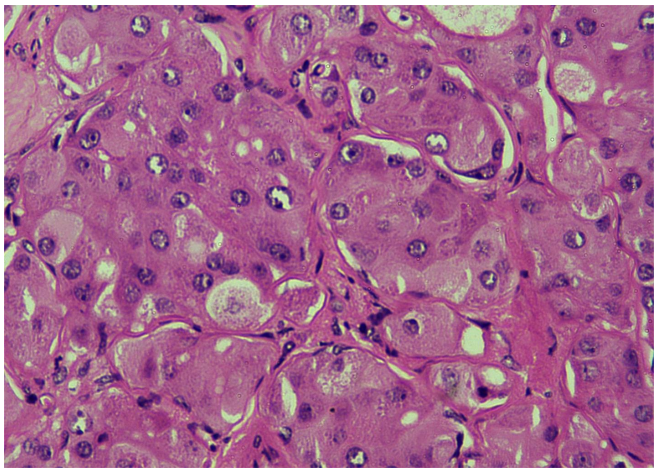

Figure 2: Coexisting focus of invasive carcinoma. (Hematoxylin and Eosin, x200)

Discussion

Though a number of changes occur in a fibroadenoma, the carcinoma incidence is very low, being only 0.1-0.3% in the screened population. [3]

Malignant transformation in complex fibroadenoma is 1.89 times higher than simple fibroadenomas. [4] Apocrine metaplasia, calcification, cyst formation and sclerosing adenosis are the features of complex fibroadenomas.

It was Cheatle and Cutler in 1931, for the first time, to describe the occurrence of carcinoma within fibroadenoma. [5]

Carcinoma involving fibroadenoma was defined for the first time by Azzopardi as: arising in the adjacent breast tissue. Engulfing and infiltrating fibroadenoma in the crevices of a fibroadenoma as well as in the adjacent breast tissue and

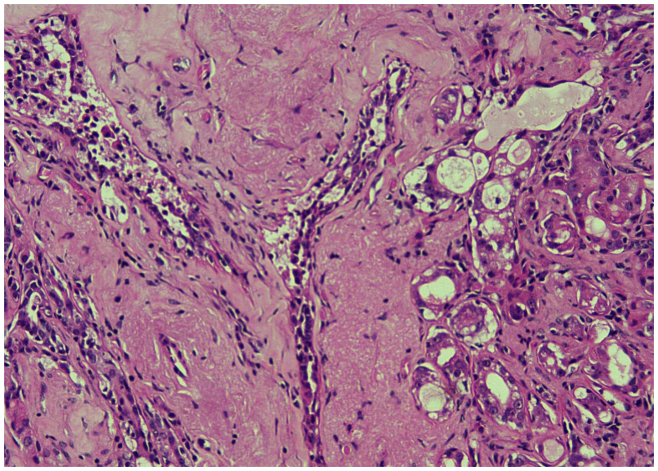

Figure 3: Coexisting focus of invasive carcinoma. (Hematoxylin and Eosin, x400)

carcinoma restricted entirely or at least dominantly to a fibroadenoma. [6]

Out of the total carcinomas arising in a fibroadenoma, carcinoma in situ - 66.9% lobular carcinoma in situ and 12.4% ductal carcinoma in situ is found to be more common than the invasive carcinoma - 11% invasive ductal and 3.4% invasive lobular carcinoma. [7, 8] Invasive carcinoma transformation is seen in females more than 40 years of age. [7] Since there is no well defined clinical/radiological criteria for carcinoma arising in fibroadenoma, the importance of histopathologic examination is highlighted especially in elderly females presenting with fibroadenoma. The presence of family history and a complex fibroadenoma should be dealt with more caution. In our case, too, the patient is in her sixth decade with a positive family history of carcinoma breast and with features of complex fibroadenoma.

Conclusion

There was no conclusion provided in the original text.

Acknowledgements: None.

Funding: Nil.

Competing Interests: None.

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