ORIGINAL RESEARCH PAPER
Volume - 11 | Issue - 10 | October - 2022 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

# INVASIVE DUCT CARCINOMA ARISING WITHIN A FIBROADENOMA: A RARE CASE REPORT.

Histopathology

**Dr. Pallavi Kumari** Department of Pathology, VIMSAR, Burla.

**Dr. Jyotirmayee Mishra** Department of Pathology, VIMSAR, Burla.

## ABSTRACT

Fibroadenoma is the most common benign tumor of the female breast with the highest incidence before 30 yrs of age.Malignant transformation in a fibroadenoma is uncommon. We present a rare case of a 30 years old female with invasive ductal carcinoma arising within a fibroadenoma. This case suggest that despite the low percentage of fibroadenoma harboring carcinoma , all breast lump should be carefully examined and managed.

## KEYWORDS

Benign breast tumor , Fibroadenoma, Invasive Duct Carcinoma.

## INTRODUCTION

Fibroadenoma is the most common benign tumour of the female breast.Women can present with fibroadenoma at any age, but the peak incidence is in the 2nd and 3rd decade[1].Fibroadenoma is a biphasic tumor composed of stromal and an epithelial component. Although generally considered as benign,there is an evidence of an association with an increased risk of invasive breast cancer[2].Malignant changes in fibroadenoma is very rare. Risk of development of breast cancer was high in patient with complex fibroadenoma[3]. Mean age of patients reported for carcinoma arising in fibroadenoma is in the 5th decade,20 years older than the peak age of women diagnosed with simple fibroadenoma[4].In 1931 cheatle and cutler were the first to describe a carcinoma arising in a fibroadenoma[5]. Since there are no definite clinical or radiological criteria for diagnosing carcinoma arising in a fibroadenoma ,histopathological examination should be performd routinely to rule out malignancy in cases of fibroadenoma.

### Case Presentation

A 30 yr old female presented with swelling over right breast for 1.5 yr, which was insidious in onset, non progressive, mobile, associated with mild pain and not associated with any discharge. During the physical examination swelling of size 3x2 cm in upper outer quadrant of right breast was noted,which was firm, mobile and tender. Axillary lymph nodes were not palpable. Any family history of breast malignancies was denied. Fine needle aspiration cytology was performed and cytosmear is cellular showing benign looking bimodal population of duct epithelial and myoepithelial cells arranged in cohesive sheets along with bare nuclei in the background, impression given was fibroadenoma of right breast.

Chest x- ray, abdominal ultrasonography ,and all laboratory findings were unremarkable.

Excision biopsy was performed and specimen sent to pathology department for histopathology examinantion.

### Gross Description:

Received a greyish white to greyish brown fibrofatty tissue measuring 3.5x2.5x2 cm. C/s of the tissue showed a 2x1.5x1 cm firm, grey white globular mass, cut section of which was grey white to grey brown in color with slit like spaces.

### Histopathological Findings

Microsection showed both duct and stromal components .The ducts are of various shapes and sizes. Some are normal looking and some are dilated and irregularly branched. In most of the ducts lining epithelium shows hyperplasia and exhibit marked nuclear pleomorphism and prominent nucleoli.The proliferation in the form of cribriform and micropapillary pattern also seen. Attenuation of myoepithelial cell layer with invasion of basement membrane by tumor cells was seen at some places. At few places stroma was infiltrated by tumor cells along with inflammatory cell infiltration. Areas of hemorrhage and necrosis also seen.3-4 mitosis /10 high power field were noted.

Considering the above mentioned findings, a diagnosis of IDC with DCIS arising from a fibroadenoma was made.

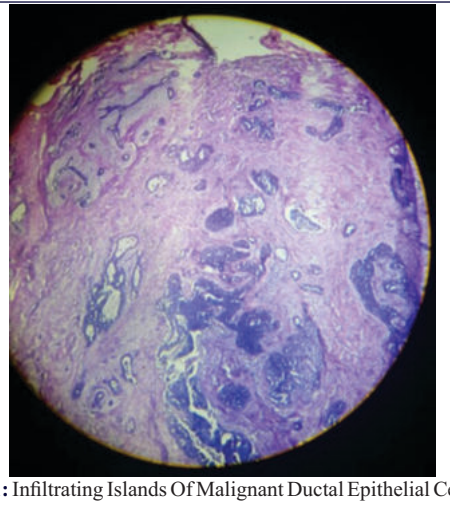

**Figure 1:** Infiltrating Islands Of Malignant Ductal Epithelial Cells And Fibroadenoma Component (x 200;H&E).

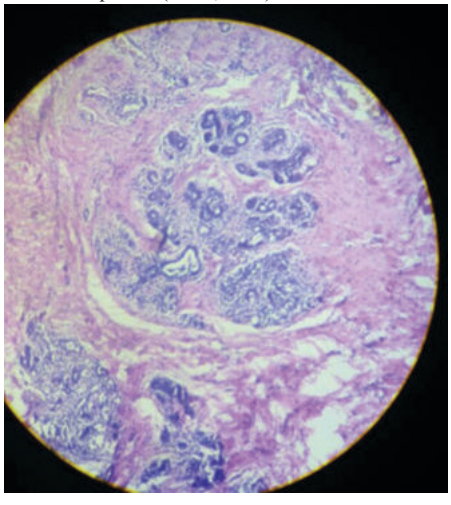

**Figure2:** Nest of invasive carcinoma(x 200 H&E)

## DISCUSSION:

According to the definition of World Health Organization, fibroadenoma is heterogeneous lesions with epithelial and stromal component. The rate of incidence is reported to be between 7% and 13%from aldolescent to individual in their mid 20s[6].Epithelial hyperplasia is frequently observed in fibroadenoma and Carter and Ark identified 0.81% atypical epithelial hyperplasia[7].The incidence of carcinoma within fibroadenoma is reported to be 0.1%-0.3% in a screened population ,with a peak age of occurrence at 42-44 years. In our case patient age is 30 years[2,8].The dominant type of carcinoma arising in fibroadenoma reported in published studies is non-invasive

or in situ carcinoma[80-95%],predominantly lobular carcinoma in situ[LCIS][4,9].LCIS is the most frequently reportd histological type[66.9%].However in a study by Diaz et al of 105 malignant cases, LCIS and DCIS within fibroadenoma occur with equal frequency and only seven cases have shown infiltrating duct carcinoma[IDC]. Complex fibroadenoma and proliferative diseases adjacent to the fibroadenoma are associated with a slight increase in the risk of breast cancer[10]. It has been found that the risk of malignancy in complex fibroadenoma is 1.89 times higher than that of conventional type. The biological behaviour of carcinoma arising within fibroadenoma is not different from the unrelated groups[11].Although malignant transformation is infrequent, the presence of this tumor with a family history of breast cancer may have greater clinical importance than a fibroadenoma arising in a women with no additional risk factors. Detection of malignancy developing within fibroadenoma can be difficult. Clinical and radiological signs may be masked, because of the heterogeneous nature of the lesions, fine needle aspiration cytology is insufficient for a correct diagnosis as shown in our case. Hence the diagnosis of carcinoma arising within fibroadenoma in most in stance is made only after excision and thorough histopathological examination of the tumor.

## CONCLUSION

Despite the low percentage of carcinoma occurring within fibroadenoma, we consider that each lump should be seriously managed.

FNAC is not always a reliable diagnostic tool.

Special attention should be given in cases involving females older than 35 yrs of age presenting with a Fibroadenoma.

## REFERENCES


1. FOSTER ME,garrahan N,Williams S. Fibroadenoma of the breast.JR Coll Surg Edinb 1988;33:16-19.
2. Dupont WD,page DL,Parl FF,et al.Long term risk of breast cancer in women with fibroadenoma.N Engl J Med.1994;331:10-15.
3. Buzanowski-Konakry K,Harrison EG Jr,Payne WS.Lobular carcinoma arising in fibroadenoma of the breast.Cancer.1975;35:450-456.
4. Diaz NM,palmer JO,McDivitt RW.Carcinoma arising within the fibroadenoma of the breast. A clinical study of 105 patients.Am J Cli Pathol 1991;95:614-22.
5. CheatleGL,Cutler M:Tumors of the breast.Their pathology symptomps,diagnosis and treatment.London:Edward Arnoled &CO;1931:483-4.
6. Greenberg R, Skornick Y, Kalpan O. Management of breast fibroadenoma. J Gen Intern Med 1998; 13:640-645.[PMID:9754521}.
7. Carter CL, Corle DK, Micozzi MS, Schatzkin A, Taylor PR. A prospective study of the development of breast cancer in 16,692 women with benign breast disease. Am J Epidemiol 1988; 128:467-477. (PMID: 3414655).
8. Deschenes L, Jacob S, Fabia J, Christen A. Beware of breast fibroadenomas in middle age women. Can J Surg 1985; 28:372-374. (PMID: 2990650).
9. Fukuda M, Nagao K, Nishimura R, Matsuda M, Baba K, Ueno Y et al. Carcinoma arising in fibroadenoma of the breast: a case report and review of the literature. Jpn J Surg 1989; 19: 593–6.
10. Kujiper A,Preisler-Adams SS, Rahusen FD,Gille JJP,Wall E van der,van Diest PJ: Histopathology of the fibroadenomas of the breast.Am J Clin Pathol 2001, 115:736-42.
11. Ozello L,Gump FE:The management of patients with carcinomas in fibroadenomatous tumor 0f breast. Surg Gynecol Obstet 1985, 160:99-104.