
Complex fibroadenoma – A case report

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Abstract

Fibroadenoma is the most common benign biphasic breast tumour which usually occurs in young women under 30 years of age. Fibroadenoma is termed as complex fibroadenoma when it contains cysts larger than 3 mm & there is presence of sclerosing adenosis, epithelial calcification or papillary apocrine changes.

The reported case is a 26 years old unmarried girl from Majuli, Jorhat who presented with left sided painless mobile breast lump of 2 years duration. The lump showed presence of coarse calcification on chest X-ray. FNAC of the lump revealed mostly calcified material with occasional ductal element. Histopathological study revealed occasional tubules lined by cuboidal epithelium, numerous cystic spaces of varying sizes with abundant connective tissue stroma showing hyalinization & extensive calcification. Histopathological diagnosis was made as 'complex fibroadenoma'. There is recurrence free follow up till date.

Keywords: Fibroadenoma, biphasic, sclerosing adenosis, histopathology, calcified.

1. Introduction

Fibroadenomas are the most common benign biphasic breast tumour having epithelial & stromal components. It usually occurs in young women under 30 years of age. A Saudi Arabian study by Samir S. Amar *et al* showed that fibroadenomas are the most frequent lesions encountered, constituting 30.7% of all cases and 75% of all benign tumors. This is higher than the reported frequency in England (7.7%), the USA (18.5%) and Jordan (21%), but is slightly lower than American blacks (34.7%), Africans and the Caribbean islands of Trinidad (39.3%) and Jamaica (32.4%)[1]. In an Indian study by Kulkarni *et al*, fibroadenoma was found to be the most common benign lesion viz 62.32% in females followed by fibrocystic disease in 11.59% of the patients [3]. Another Indian study by Desai M. showed that the incidence of fibroadenoma was as high as 85.47% whereas Malik *et al* reported 55.00% in their study [3,4].

Fibroadenoma is termed as complex fibroadenoma when it contains cysts larger than 3 mm & there is presence of sclerosing adenosis, epithelial calcification or papillary apocrine changes [5]. The incidence of carcinoma developing in a fibroadenoma is only 0.1 to 0.3% [6]. Complex

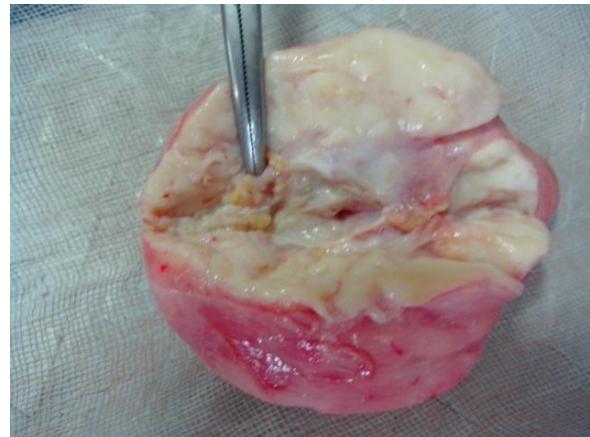
fibroadenomas are reported to be associated with a greater risk for subsequent breast carcinoma than classical fibroadenoma and overall risk of development of invasive carcinoma is 2.17% [5].

2. Case Report

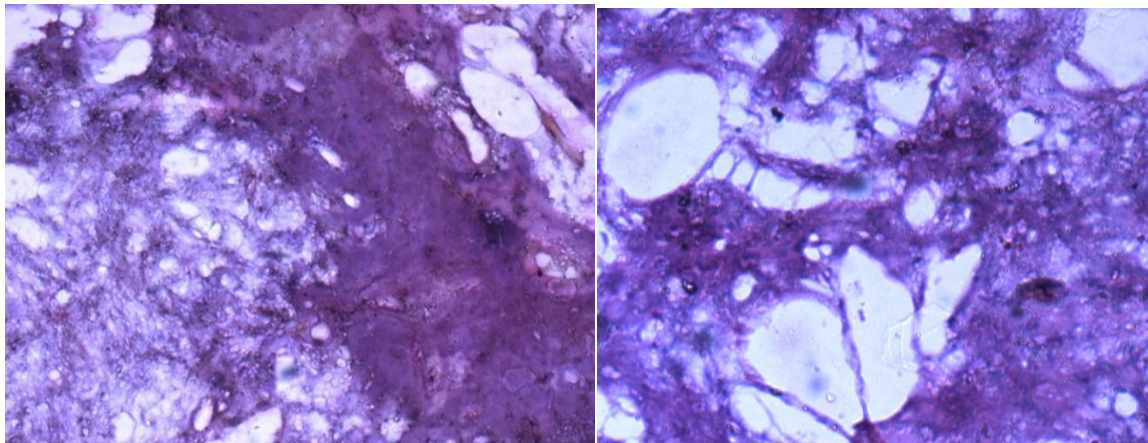
A 26 years old unmarried female patient attended surgery OPD, JMCH with history of left sided non tender breast lump of 2 years duration. She had no family history of any breast lump. On examination a solitary oval shaped, firm to hard, freely mobile & non tender lump of the size of 6 cm x 5 cm x 3 cm was detected in the upper & lower outer quadrants of left breast. FNA revealed mostly calcified material with occasional ductal element. Chest X-ray of the patient showed coarse calcification involving the breast lump (popcorn calcification). All her ancillary investigation parameters were within normal limit. Clinical diagnosis of calcific fibroadenoma was made. The lump was excised under general anaesthesia and formalin preserved specimen was received in our pathology laboratory on the next day of operation in the month of Dec'2013.

Figure 1: Breast lump on examination**Figure 2: Chest X-ray**

Gross appearance of the specimen was oval shaped of the size of 6 cm X 5 cm X 3 cm. Cut section showed variegated appearance with areas of greyish white calcification, cystic areas & soft tissue.

Figure 3: Gross appearance on cut section

Histopathological examination revealed occasional tubules lined by cuboidal epithelial cells, numerous cyst spaces of varying sizes with abundant connective tissue & stroma showing hyalinization and calcification. The patient was advised for breast self examination and regular follow up. She is found to be recurrence and disease free on follow up till date.

Figure 4: Photomicrograph (LP & HP) showing cystic spaces, hyalinized and calcified areas (H & E stain)

3. Discussion

Complex fibroadenoma occurs in older patients (median age 47 years) compared to simple fibroadenoma (median age 28.5 years) and often it is smaller in size (1.3 cm average diameter) [7]. When calcifications are present in a fibroadenoma, they are usually benign & their frequency increases with age. Active cell secretion, cellular necrotic debris, inflammation, trauma & radiation are the usual reasons for formation of breast calcification.

Calcifications can be assessed according to shape, size, density, number, distribution & associated findings. Morphologically, they can be termed as popcorn calcification, egg shell calcification, tram track calcification etc. Popcorn calcifications are coarse calcifications (>2 mm) and are benign in nature where as small, branching type & heterogenous calcifications can express foci of carcinoma in situ [8].

A study from Israel showed that the incidence of complex fibroadenomas is 15.7% of total fibroadenomas[9]

In a histopathological study from Netherland, A. Kuijper *et al* found that 40.4% of fibroadenomas in his series were complex; 18.4% of the complex fibroadenomas harbored more than 1 complex feature, and 2.5% harbored more than 2 complex features [10]. In our case, 2 complex features comprising of cystic change and hyalinization with calcification were present.

A large scale epidemiological study has concluded that fibroadenoma represents a low long term risk for breast carcinoma development and this risk is increased in women with complex fibroadenomas, ductal hyperplasia or a family history of breast carcinoma [11]. The incidence of fibroadenomas turning to malignancy is around 0.1%, where as the incidence increases to 2.17% in complex fibroadenomas [5].

Risk factors for developing fibroadenoma have not been investigated extensively. However the effect of contraceptive pill, hormone replacement therapy and some immunosuppressant drugs like cyclosporin A have been found to be positively correlated in the development of fibroadenoma[12].

In most of the cases of fibroadenoma harboring / with malignant transformation is less than 0.5% and they are either lobular or duct carcinoma. In published reports more than 50% of the affected fibroadenomas had lobular carcinoma in situ, 20% had intraductal carcinoma, 20% had invasive duct carcinoma and 10% had invasive lobular carcinoma [13,14]

The presented case resembles complex fibroadenoma on histopathological examination without any evidence of occult carcinoma. Of particular importance is the evidence that the increased risk of breast cancer persists for more than 20 years after the diagnosis of fibroadenoma. Since fibroadenomas are commonly diagnosed before the age of 30 years, these lesions provide a means of identifying young women who have an increased risk of breast cancer decades before the onset of invasive disease [14]. Hence, such patients have to be carefully followed up during her reproductive period which helps in early detection of malignancy & timely management.

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