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Juvenile Giant Fibroadenoma Presenting In 12 Years Old Girl, A Rare Presentation with Review of Literature

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Abstract: *Fibroadenoma is most common benign neoplasm after fibrocystic disease of the breast which occurs in an age group of 15-35 years. It is uncommon before the age of 16 years. 4% of fibroadenomas can present juvenile age group. Tumor usually presents as unilateral breast mass with asymmetry of the breast. Diagnosis is made on clinical basis since it moves freely within the breast. FNAC is done to confirm the diagnosis; USG breast will give well circumscribed swelling with mixed echogenicity. Surgery is the treatment of choice followed by breast reconstruction for asymmetry in well developed breast in adults. 12 years old female presented with asymmetry and enlargement of left breast. On examination there was a lump of 12X10 cm in size, occupying the entire breast. The lump was firm in consistency, freely mobile and no palpable lymph nodes were present in the axilla. Our clinical diagnosis was fibroadenoma. Lump was completely excised by periareolar incision. The diagnosis is confirmed by histological examination. Since fibro adenoma is rare in juvenile age group and in most of the cases it is giant fibro adenoma. To our knowledge one case of juvenile giant fibroadenoma was reported in 11 year old girl in literature, to best of our knowledge this would be a second lowest age group reported in the literature. However, fibroadenoma was reported in 13 months old female child which was lowest age group.*

Keywords: *Cytoablation, Giant fibroadenoma, juvenile fibroadenoma, Ultrasonogram (USG)*

I. Introduction

Fibro adenoma is a common problem in young females. It is second most common problem of the breast after fibrocystic disease of the breast in women (1). Diagnosis is made mostly on clinical basis. Excision biopsy is the treatment of choice in young women since fibro adenoma turning in to malignancy is rare in this age group. FNAC will confirm the diagnosis. Surgical excision is the treatment of the choice however, USG guided cytoablation is the treatment of the choice in patients who are not willing to undergo surgical excision (2)

II. Case Report

A 12 years old girl who has not attained menarche presented with asymmetry of left breast which was rapidly enlarging in size for last three months. On examination left breast was larger than the right breast. A firm painless lump was palpable in the left breast with a size of 12X10cm. The lump was occupying all the quadrants of the left breast and lump was freely moving within the breast. Skin over the left breast was stretched and shiny but no engorged veins (fig.1). No palpable lymph nodes were present in the axilla. Our provisional diagnosis was giant fibroadenoma of the left breast.

Figure. 1. Lump in the left breast

USG showed well defined hypo to mixed echogenic lesion occupying the entire breast. FNAC showed cellular smear showing benign ductal epithelial cells, arranged in monolayer sheet with numerous bare oval

nuclei against hemorrhagic back ground. Mammogram was not done since diagnosis was clinically obvious and to avoid radiation risk.

The lump was excised by peri areolar incision and excised specimen was sent for histological examination (fig. 2).

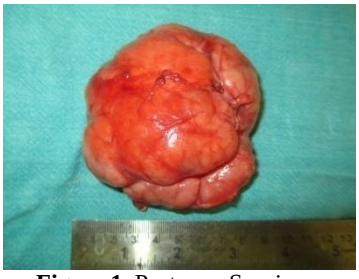

Figure 1. Post ope. Specimen

Gross specimen: a globular mass was measuring 8x5x2 in size. Cut section was showing gray white nodular areas (fig. 3).

Figure 2. Cut section

Microscopic picture showing a tumour composed of glandular and connective tissue components. The connective tissue is seen invaginating in to glandular spaces and regular round glandular configuration is maintained in few areas. The lobules are lined by cuboidal / columnar cells with round uniform nuclei resting in myoepithelial layer. The stroma is with dense cellular fibrous tissue. Impression features suggestive of juvenile fibroadenoma (fig.4).

Figure 3. Microscopic picture

III. Discussion

Fibro adenoma is second most common benign breast disease in women after fibrocystic disease (1). It is an aberration in normal development not considered as neoplasm if it less than 3 cm in size. Small fibroadenomas less than 1cm is considered as normal, fibroadenoma less than 3cm is considered as disorder and fibroadenoma is greater than 3cm is disease. Most common age group is 16-45 years.

Clinically fibroadenoma presents in two forms. The one that arises in young individuals in a age group of 16-25 years, where tumour is superficially placed in the breast, firm in consistency, often multiple and

sometimes bilateral. The fibro adenoma arising in elderly people in a age of 35-45 years, where tumour is deeply placed in the breast, soft in consistency, solitary and unilateral. The tumour freely moves within the breast which is a diagnostic feature of fibroadenoma.

The neoplasm is hormone dependent increases in size during pregnancy and lactation and involutes in perimenopausal period. Direct association has been noted between oral contraceptive use before age 20 and the risk of fibroadenoma (3). Probably Epstein-Barr virus may play a causative role in the development of fibroadenoma in immunosuppressed patients (4). Fibroadenoma variants are adult, juvenile and giant fibro adenomas.

Juvenile fibro adenoma presents as unilateral solitary swelling. Common age is group between 10-18 years; however it may occur in patients younger than 10 years. One case was reported in 13 months old child (5). Tumour size is usually more than 5cm however it can reach up to 15-20 cm dimension. Skin over the tumour is thinned out with engorged veins indicating that it is rapidly growing tumour. It is difficult to differentiate from phyllodes tumour of the breast since phyllodes tumour can also occur in same age group (1). It is giant fibroadenoma because of its size. Any fibroadenoma more than 5 cm with 500 gm is said to be giant fibroadenoma.

Fibroadenoma is a proliferation of both stromal and epithelial components arising from single lobule. Microscopic picture: juvenile fibroadenoma consists of increased fibrotic stroma when compared to adult fibroadenoma. The ducts are compressed as slit like spaces and lined by cuboidal epithelium with uniform nuclei. Stroma proliferates around tubular glands - **pericanalicular** type. Compressed ducts are seen in **intra canalicular** type. Often both types may represent in the same lesion.

Ultrasound is good imaging study. Suspected breast masses in young patients are better detected in fibroglandular breasts than in fatty breasts. Mammography is not indicated in paediatric age group. Cytology by fine needle aspiration demonstrates sheets of hyperplastic, benign, ductal epithelial cells with myoepithelial cells (6). In contrast to phyllodes tumour, juvenile fibroadenoma often shows hyperplasia of ductal epithelium (7). Excision biopsy will confirm the diagnosis; it is both diagnostic and therapeutic.

Surgical excision is the treatment of the choice. In young individuals the tumour less than 3cm can be observed safely since carcinoma in this age group is rare. Patients who have large tumour with breast asymmetry may require plastic reconstruction after tumour excision. In juvenile fibroadenoma, precaution is taken to preserve normal breast tissue and skin flaps are trimmed appropriately and sutured. Cryoablation of fibro adenoma is the choice treatment in adult patients who does not want surgery (2).

IV. Conclusion

Juvenile fibroadenoma is rare tumour and grows rapidly. Patient usually presents with unilateral breast swelling with asymmetry of the breast. Surgical excision is the treatment of choice. Fibroadenoma in adult patients can turn in to phyllodes tumour which in turn phyllodes can transform in to malignant. However malignant changes in juvenile age group are not reported in the literature.

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