

JUVENIL GIANT FIBROADENOMA: Case Report and Literature Review

Mohammed BHIHI, Clementine UWIZEYEMARIYA, Najia ZERAIDI, Abdelaziz BAIDADA, and Aicha KHARBACH

Department of Gynecology and Obstetrics, Souissi Maternity,
Ibn Sina University Teaching Hospital,
Mohamed V University, Rabat, Morocco

Copyright © 2016 ISSR Journals. This is an open access article distributed under the **Creative Commons Attribution License**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT: Fibroadenoma is one of benign lesions which occurs in the breast. It is especially frequent in young women. The juvenile giant fibroadenoma is a rare type of fibroadenoma which is characterized by fast and massive growth. In general, it is a huge, firm, mobile and painless tumor with breast shape deformity. The diagnosis is made by Breast ultrasound and mammography. The differential diagnosis is phyllode tumors but they are rare before 20 years old. The treatment is surgical and consists on wide lumpectomy which must be esthetic to prevent recurrences. Here we present a 14 years old female patient to whom fibroadenoma was diagnosed and the wide lumpectomy was done with good improvements.

KEYWORDS: Breast Fibroadenoma, wide lumpectomy, mammography.

1 INTRODUCTION

The fibroadenoma is the most breast benign tumor which occurs in young women (always before menopause). It's developed from terminal lobular unit and associates an epithelial and conjunctive proliferation. The juvenile giant fibroadenoma is a rare entity of fibroadenoma and it is characterized by its massive and rapid growth.

It represents 0, 5% to 2 % of breast fibroadenoma. (1) It is a huge tumor more than 5 cm often from 10 to 15 cm, deforming the breast, doubling in volume in 3 to 6 months. It occurs in young women from 10 to 18 years old. In most cases, it is unique, unilateral painful and inflammatory signs at the site of the tumor. The breast is increased in size, most of the time with collateral venous circulation. So the areola can sometimes be stretched and seems to be wide. The treatment is based on wide lumpectomy and must be esthetic as possible.

2 CASE PRESENTATION

It is about a 14 years old female patient, student at secondary school, low socioeconomic level. As family history, mother treated for breast fibroadenoma at 22 years old, and underwent a lumpectomy. As gynecologic history; menarche at 13 years old, with irregular menstrual periods. The symptomatology started 6 months ago by left breast nodule which quickly increased in size and volume with mastodynia and local heat without mamelonar discharge.

On examination, good general state, conjunctiva well colored. No cervical lymph nodes. On chest examination, the left breast was increased in size, occupied by a huge mass which was mobile from deep plan, but fixed to superficial plan, with presence of collateral circulation without inflammatory signs. The right breast was normal and axillary lymph nodes were not palpable. The rest of examination there is nothing abnormal detected. (Fig 1)

Ultrasound was done and objected a left enormous lesional process of heterogeneous tissular echostructure, hypervascularized, well limited about 20 to 10 cm occupying almost all of the breast without axillary lymph nodes. And ultrasound concluded on tumoral process of left breast, most likely phylloide tumor.

The patient underwent a wide lumpectomy with good esthetic results. The anatomopathological results concluded on a giant fibroadenoma without signs of malignancy. (Fig 2)



Fig 1: Giant tumor of the left breast Fig 2: Enormous tumor after wide lumpectomy

3 DISCUSSION

Fibroadenoma is the most frequent breast benign tumor in young women (15-35 years), it represents 70 to 95% of breast lesions operated in the adolescent before the age of 20, (3) but it does not present degenerative potential. The juvenile fibroadenoma (giant) is the rare type of fibroadenoma (2%). It is characterized by fast growth and can present internal microcysts elements on ultrasound.

Historically the naming of breast giant tumor was unclear. First described in 1838 by Muller as phyllode cystosarcoma. Now they are recognized as giant fibroadenoma and phyllode tumors. Indeed there is no consensus on the definition of the giant fibroadenoma. Some authors describe them as tumors with a diameter more than 5 cm , weighting more than 500 grams or replaces at least 80% of the breast. (2,8) Others, as tumors which occupy almost all the breast (4). The term juvenile giant fibroadenoma is used to the teenagers who have fibroadenoma more than 50 mm (5). The giant fibroadenoma is rare and its frequency varies to 0, 5 to 2 % of the breast fibroadenoma. (1) It often affects especially the black or oriental teenagers. (6) It can raise problems of differential diagnosis with phyllode tumors but phyllode is rare before 20 years.(4)

Hormonal status is also a feature of these tumors (7). They are indeed more common in women of childbearing more than postmenopausal women. However, it is the main cause of the breast tumor in teenagers, almost at 15 years. It seems to corespond to the immediate post juvenile hormonal imbalance (5).

The physiopathology is unclear: a hormonal ground with hyperestrogeny and luteal insufficient is certainly among factors. Indeed estrogens promote edema and cellular hyperplasia, whereas the absence or progesterone deficiency does not allow controlling their action. Some authors refer to overexpression of growth factors (5). Currently, all authors agree on the existence of a hypersensitivity of breast tissue to normal rates of pubertal hormones (4)

It consists on palpable masses because they are enormous tumors (discovered when they measure 3 to 5 cm). They are farms, more or less elastic usually unilateral occupying the entire breast rarely bilateral or multifocal. (7)

This is a large tumor between 10 to 20 cm; deforming the breast, sometimes lobed, farm, easy and not tender on palpation. The overlying skin may be edematous with venous collateral circulation. The benign criteria are: regular, round or lobulated shape, and mobile.

As they grow rapidly, and they are discovered during the first year of menstruation. Sooner or later they lead in breast increasing in volume. There are some cutaneous modifications (erythema, inflammatory skin). They are found only when the size of the tumor is important or when the tumor is superficial. They are unilateral in 85% of the cases.

The clinical characteristics of our patient correspond to what is found in literature. The clinical appearance of giant fibroadenoma leads to phyllode tumor as differential but is very rare at this age.

The diagnosis is made by clinical features but also the mammography can be used. On mammography we find some criteria of a typical benign fibroadenoma as:

- Oval, lobulated or round shape
- Sharp outline
- High density
- Rare calcifications can be found in case of necrosis

On ultrasound, some semiological criteria of a typical benign fibroadenoma can be found on Grade 1 phyllode tumors:

A mass with:

- Oval or round shape
- Good compressibility
- The homogenous mass, with sometimes posterior enhancement
- The presence of heterogenous echogenicity with anechoic cystic area which can evoke the existence of hemorrhagic or necrotic area

After menopause period, the diagnosis of fibroadenoma requires further investigations in order to rule out the malignancy. Its volume sometimes increases on hormone replacement therapy. During pregnancy, the fibroadenoma changes and mammography and ultrasound images must be completed by micro-biopsies to make a diagnosis.

The treatment of juvenile giant fibroadenoma is based on complete removal of the lesion while maintaining the normal breast tissue and in the esthetic way. However, the fear of the phyllode tumor requires a safety peritumoral margin. (4)

All clinical studies recommend extended lumpectomy with peritumoral margin of 10 mm. In some cases a subcutaneous mastectomy may be indicated with mamoplasty after puberty. (1)

The major factor of local recurrence is the quality of surgical resection. In literature there is a high rate of recurrence, and some re-interventions were noted with many scars and breast deformity.

4 CONCLUSION

The giant juvenile fibroadenoma is a particular entity of fibroadenoma. It is characterized by its fast and massive growth. The diagnosis is based on clinical, ultrasound and mammography. The treatment is surgical and must be large in order to prevent recurrence and esthetic one.

REFERENCES

- [1] RAGANOONAN C, FAIRBAIN JK, WILLIAMS S, HUGHES LE. Giant breast tumours of adolescence. *Aust NZ J Surg* 1987; 57 : 243-7.
- [2] MUSIOF, MOZINGOD, OTCHY DP. Multiple giant fibroadenoma. *Am Surg* 1991 ; 57 : 438-41.
- [3] C. DUFLOS, G. PLU-BUREAU, E. THIBAUD, F. KUTTENN Breast disease in adolescents. *Pediatric and Adolescent Gynecology*. Vol 7, C. Sultan, Karger Publ, Bâle, 2004, p 183-196.
- [4] G. PLU-BUREAU, P. TOURAINE, F. KUTTENN Sein et hormones. *EMC Gynécologie* 810-A-10, 2002, 18p.
- [5] MCGRATH MH. Benign tumors of the teenage breast. *Plast Reconstr Surg*, 2000, 105: 218-222.
- [6] JACOB MM. Correspondence to application of reduction mammoplasty in treatment of giant breast tumour. *Br J Plast Surg* 2000 ; 53 : 265-8.
- [7] BAXI M, AGARWAL A, MISHRA A et al. Multiple bilateral giant juvenile fibroadenomas of breast. *Eur J Surg* 2000; 166: 828-30.
- [8] Jayasinghe Y, Simmons PS. Fibroadenomas in adolescence. *Curr Opin Obstet Gynecol* 2009;21:402-6.