

## Juvenile Gigantomastia: About a Case and Review of the Literature

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### 1. Abstract

Juvenile gigantomastia or virgin mammary hypertrophy is a pathological increase greater than 1500 cm<sup>3</sup> in the volume of the two breasts in adolescents. It is unsightly. But very often, it is the pain, the disorders of the spinal statics and the shoulder girdle, as well as the psychological impact which lead the adolescent to make a request for repairing and cosmetic surgery. The medical treatments are disappointing, giving way to surgery which can compromise the functional future of the mammary glands. We report the case of a young girl carrying a juvenile gigantomastia. It was a 16-year-old girl carrying a disabling gigantomastia whose management, essentially surgical by a reduction mammoplasty was carried out at the Mohammed IV center for the treatment of cancers at CHU CASABLANCA. It is a rare disease; Pregnancies are possible and recurrences are not uncommon.

### 2. Introduction

Gigantomastia is a rare disease, which remains poorly understood. There is no universally accepted definition, but breast weight greater than 3% of total body weight has been proposed [1].

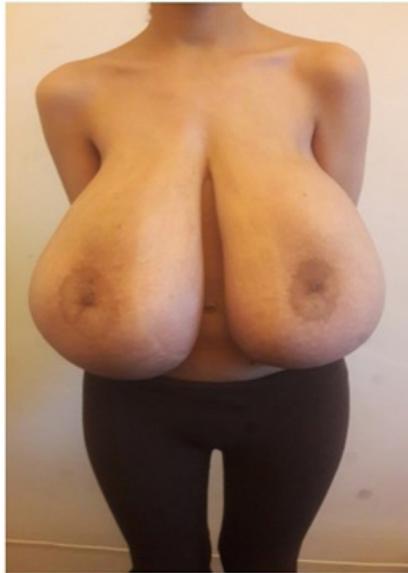
Juvenile gigantomastia, or virginal mammary hypertrophy, is a subtype that involves the sudden onset, excessive growth of breast tissue during puberty which can occur before or after the onset of menstruation [1] resulting in an excessive increase in breast tissue. breast volume becoming unsightly and disabling [2].

It is a rare disease and only isolated cases or very small series have been described [2]. We report a case of gigantomastia in a non-pregnant adolescent followed and operated on at the Moham-

med IV center for the treatment of cancers at CHU CASABLANCA.

### 3. Patient and Observation

This is a 16-year-old patient, nulligeste, with no particular history who had menarche 10 months ago. She presented an excessive and rapid increase in the volume of the breasts evolving for 8 months, without inflammatory signs or nipple discharge (Figure 1a and 1b) with on examination of the breasts a 5x4cm nodule at the level of the QSI of the right breast (Figure 2). The weight of the breasts had become too heavy with mechanical back pain. A bilateral mammary ultrasound showed hypertrophy of the two mammary glands with the presence at the level of the right QSI of a well-limited homogeneous isoechoic tissue formation measuring 51x26mm, vascularized by color doppler evoking a phyllodes tumor classified BIRADS IV confirmed by the trucut biopsy which revealed a histological appearance in favor of a benign phyllodes tumor, grade I without signs of malignancy. She underwent bilateral breast reduction with an inverted T technique with a superior pedicle respecting the areolo-nipple plate (Figure 3). An amount of glandular tissue estimated at 2339 grams on the right and 2246 grams on the left was removed (Figure 4a). A resection of the right breast nodule was performed (Figure 4b). The anatomopathological examination of the operative specimens was in favor of a fibrocystic breast dystrophy without signs of malignancy and that of the QSI nodule was in favor of an adenofibroma. Postoperative complications were summed up in anemia which is corrected by a transfusion of blood isogroup isorhesus. The postoperative result was good (Figure 5).



**Figure 1a:** Standing Position



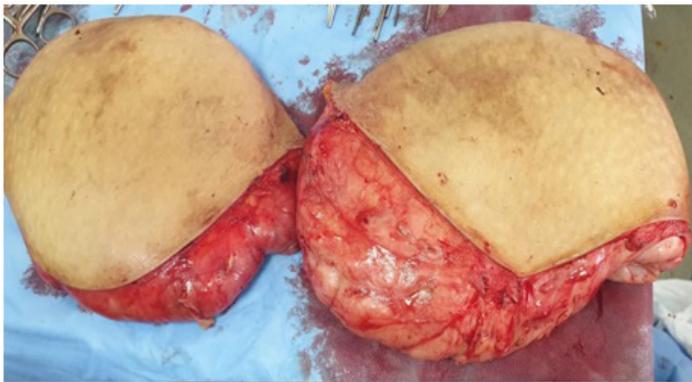
**Figure 1b:** Sitting Position



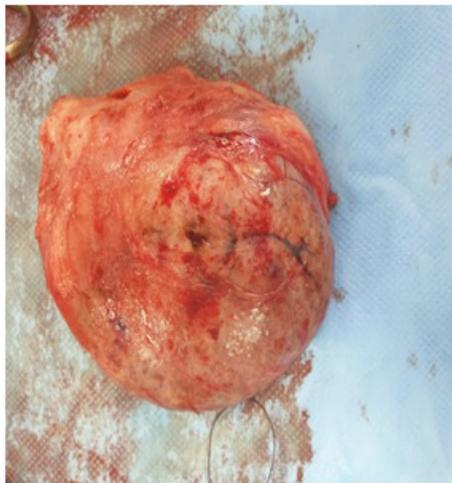
**Figure 2:** 5x4cm nodule at the level of the QSI of the right breast



**Figure 3:** Incision for inferior pedicle technique with PAM amputation-grafting



**Figure 4a:** Removal of breast tissue from both breasts



**Figure 4b:** QSI adenofibroma of the right breast

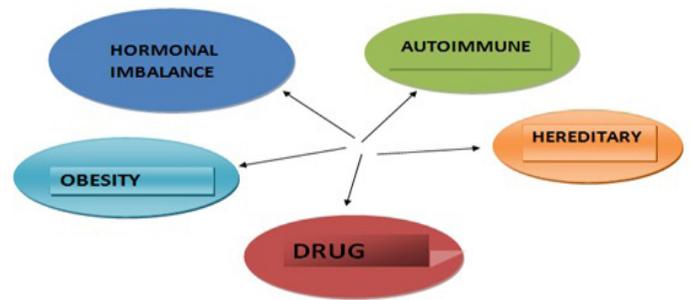


**Figure 5:** Post-operative aspect

#### 4. Discussion

Juvenile gigantomastia or virginal hypertrophy is a rare entity. It is defined by an increase in the size of the breasts greater than 1500 in adolescents [2]. The age of onset is around 13 and 14 years [2]. The development is rapid and the breasts can be very large and cause disabling kyphosis, especially since the patient tends to cause kyphosis to hide her large breast. This testifies to a psychological attack [1,3].

The exact underlying etiology of gigantomastia has not been fully elucidated, but several theories have been proposed [1] (diagram 1).



**Diagram 1:** Summary of the various hypotheses proposed in gigantomastia

The most important factor would be due to hormonal imbalance. The increase in the number of estrogen and/or progesterone receptors has been implicated [4]. A genetic cause was evoked in the family cases described [5]. Gigantomastia is found in other situations such as taking drugs such as D-penicillamine and cyclosporine or having autoimmunity [2].

A few cases of gigantomastia have been described in association with systemic lupus erythematosus, myasthenia gravis, Hashimoto thyroiditis, and rheumatoid arthritis [6].

Obesity has often been a contributing factor to breast enlargement [5, 7], but it does not seem to be an exclusive factor, especially since a skinny teenager can be a carrier of gigantomastia.

Virginal hypertrophy can be unilateral or bilateral.

Bilateral mammary hypertrophy is the most frequent mammary pathology in adolescents according to Grolleau et al and represents 63% of cases of morphological abnormalities of adolescent breasts versus 6% of cases for unilateral gigantomastia. bilateral, it can be symmetrical or asymmetrical.

Bilateral and symmetrical forms are the most frequent. They represent 33% of all morphological abnormalities of adolescent breasts [5].

Juvenile gigantomastia is always associated with very severe ptosis. Ptosis is itself linked to the overweight of these breasts which explains the shoulder pain and spinal static disorders present in these adolescent girls who are carriers.

It manifests itself clinically by an excessive, rapid and bilateral increase in breast size.

On clinical examination, the breast is large, often supple, firm, glandular with good skin-gland connections. In some cases, a very large enlargement can generate stretch marks or be accompanied by an increase in the venous network superficial [8].

The diagnostic role of imaging is poor; Ultrasound is the best first-line examination because of breast density. In the event of suspected associated lesions, breast MRI is suggested [2].

Biologically, hormonal assays in particular estradiol, progesterone, LH, FSH and prolactin are common practice but not systematic since they still do not reveal any abnormalities [9, 10].

The differential diagnosis arises with:

Pseudogynecomastia associated with obesity, hypertrophy of pregnancy or secondary to endocrinopathy [11], giant fibroadenoma, phyllodes tumors and malignant tumors such as lymphomas and sarcomas [8] but is generally unilateral in these cases [11, 12].

There is no standard therapeutic management given the small number of cases reported in the literature.

Medical treatment, mainly based on hormone modulators, has been tried such as: tamoxifen, dydrogesterone, medroxyprogesterone, bromocriptine, and danazol. Tamoxifen is an estrogen receptor modulator and is the most commonly used medical treatment in the literature recent. The evidence for its efficacy varies between the reported cases and the long-term safety of its use in adolescents is unknown [9].

Postoperative adjuvant antiestrogenic treatment is accepted according to Grolleau et al. And helps prevent recurrence [5].

Surgery is the treatment of choice [2].

Mammary reduction surgery is now a common surgical procedure for juvenile gigantomastia. It is a surgery most often performed from the age of 15-16 years so that the breasts finish their maturation and the mechanical qualities of the skin will be better, while taking into account the functional nature of the breasts [4].

The most used technique is the inverted "T" technique. It is a technique adapted to the usual size of the breasts [2].

The technique can be pedicled (superior or supero-internal pedicle), or one may prefer an amputation-graft of the areolo-nipple plate according to Thorek.

In our patient, preservation of the areolo-nipple plate was obtained after breast reduction.

The complications of surgery depend on the breast size and the experience of the surgical teams. In the short term, serosities, necrosis, releases and infections can occur and the aesthetic result can be disappointing [2,4]. In the long term breastfeeding may be compromised and recurrence may occur [4, 13]. Pregnancies are recommended at least 2 years after surgery. They are one of the main causes of recurrence [2].

## 5. Conclusion

Gigantomastia is a rare entity, of undetermined etiology, the treatment of which is primarily surgical. Long-term follow-up is necessary. Recurrences are not exceptional.

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