Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com/journal/sjmcr/home

OPEN ACCESS

Juvenile gigantomastia: one case report and revue of literature

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| **Received:** 07.05.2019 | **Accepted:** 12.05.2019 | **Published:** 19.05.2019
DOI: 10.36347/sjmcr.2019.v07i05.002

Abstract **Case Report**

Juvenile gigantomastia is a rare disease affecting women in the peripubertal period. We report a 16-year-old girl with bilateral gigantomastia , the patient was successfully treated with a breast reduction. A total of 1500 grams of breast tissue had been removed, hormonal therapy was not performed, there was no recurrence during two years of followup and the patient remains satisfied .
Keywords : Juvenile gigantomastia, breast, hormonal therapy.

INTRODUCTION

Juvenile gigantomastia is a benign condition where atypical, alarmingly rapid, and continued breast growth occurs during puberty, superseded by a longer period of slower but sustained breast growth [1]. We can use many terms for this condition such as ; virginal hypertrophy, juvenile hypertrophy of the Breast or juvenile macromastia [2,3,4].

It is rare condition. Neinstein reviewed 15 publications regarding breast lesions in adolescent spanning a period of nearly 40 years and reported that juvenile gigantomastia accounts for only 2% of all breast lesions in this group of patients [3,5]. The surgical reduction is the main treatment .

We report a 16-year-old girl with bilateral juvenile breast hypertrophy successfully treated with a breast reduction.

Case Report

we report a 16-year-old girl with progressive, massive and bilateral breast enlargement for a period of 4 years, causing her social embarrassment. The patient attained menarche at 13 years old. Her past medical and family history was unremarkable .

On clinical examination, she had a normal weight with a normal BMI of 23 ,4 kg/m^2 . The breast was symmetrical, pendulous, and enlarged with widened areolas. There was no intertrigo at the inframammary fold and the skin normal, the breast palpation was unremarkable .

The breast measurements were as follows: suprasternal notch-to-nipple distance was 37 cm bilaterally, nipple-to-IMF distance was 21cm bilaterally, and nipple-to-nipple distance was 28 cm (Figure 1).

Hormonal levels of luteinizing hormone, follicle-stimulating hormone, and serum oestradiol were within normal limits. Ultrasound examination was normal.

We perform a bilateral breast reduction following Mckissock vertical bipedicle technique (6), the nipple pedicle was preserved, A total of 1500 grams of tissue had been resected . Postoperative period was uneventful and the patient was discharged on 4 days after the operation (figure 2).

Histological examination showed an increase in interlobular stroma, abundant collagen and little of fat.

Decision was made not to commence any prophylactic hormonal therapy following a consultation with the endocrinologist.

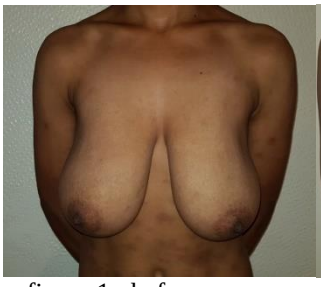


figure 1 : before surgery

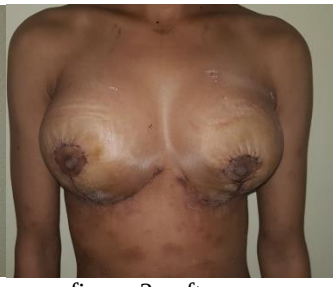
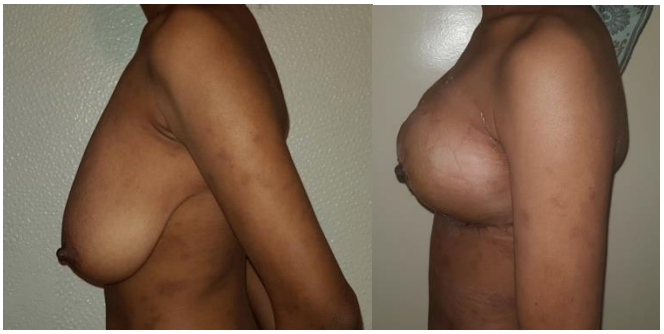
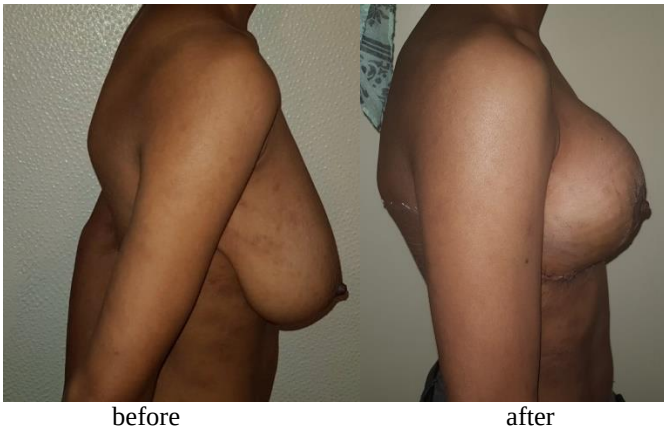


figure 2 : after syrgery



before after



before after

DISCUSSION

The origin of juvenile gigantomastia has not been fully elucidated, but several theories have been proposed. The popular theories include end-organ hypersensitivity to normal levels of circulating oestrogen, [11] increased oestrogen or progesterone receptor expression, imbalance of endogenous hormone production, and excessive local oestrogen production [1, &13]. Hereditary and autoimmune causes have also been described, [13] but in most cases the condition is sporadic.

The genetic basis for this disease has also been postulated involving the PTEN (phosphatase and tensin homologue) tumour-suppressing gene. [16].
Our patient had neither the family history nor association with any autoimmune diseases. PTEN gene mutation analysis was notperformed .

Clinical features are similar to those of the adult gigantomastia, albeit the psychological and social sequelae of the gigantomastia are more pronounced in this population of adolescent women [18]..
Laboratory testing for endocrinology profile, specifically oestradiol, progesterone, LH, FSH, and prolactin, is common practice but is not routinely indicated .
Breast imaging is of limited value owing to the dense breast tissue but should be pursued to rule out tumours [13, 19].
Our patient has a normal hormonal profile and ultrasonic examination, no other imaging were performed.

that consideration of other breast pathologies is academic [19]. The differential diagnosis of juvenile gigantomastia includes giant fibroadenomas, phyllodes tumour, and malignant tumour such as lymphoma and sarcomas. [4].

Treatment modalities in Juvenile gigantomastia involve the following four strategies: (1) surgical management, (2) medical therapy administered either preoperatively or (3) postoperatively, and (4) medical therapy alone [13

The surgical management options are mastectomy with implant reconstruction and breast reduction (reduction mammoplasty) either as a pedicle-based technique or with a free nipple graft. Hoppe et al. reported a significant relationship () and an odds ratio of 7.0, for the likelihood of recurrence using a reduction mammoplasty as compared with a mastectomy. This finding indicates that mastectomy offers the most definitive treatment for juvenile gigantomastia [1,13].

A common and well-accepted sequence of treatments consists of breast reduction surgery as the first line option, followed by mastectomy with implant reconstruction in the event of recurrence.
In the treatment of our patient, we perform an Mckissock technique with nipple pedicle preservation..
During the 2-year follow-up period of our patient, there was no recurrence noted.
This demonstrates the long-term reliability of this technique in this singular case of a gigantomastia..

Medical therapies, mainly hormone modulators, have been attempted in the treatment of gigantomastia . These include tamoxifen, dydrogesterone, medroxyprogesterone (Depo-provera), bromocriptine, and danazol. Tamoxifen is a selective oestrogen receptor modulator (SERM) and is the most commonly used medical therapy in recent literature. [1, 413]].
Our patient demonstrated a stable disease following the operation and was not commenced on any medical therapy.

CONCLUSION

The juvenile gigantomastia is a rare condition, the managment is often surgical, the hormonal therapy can be usesd in certain cases.
The convervation of the nipple pedicle is more indicateted , the long period follow up is necessery to watch eventual reccurencess

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

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