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CASE REPORT | OPEN ACCESS **DOI:** https://doi.org/10.70818/taj.v38i01.0323

Juvenile Gigantomastia: A Rare Case Treated by Reduction Mammoplasty

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ABSTRACT: Gigantomastia is a rare benign disorder of the breast, in which the breasts undergo a massive hypertrophy and increase in size. It is the most serious anomalies of the female breast by means of their pathological enlargement. Juvenile Gigantomastia is a rare disease of unknown etiology which is characterized by a sudden and alarmingly rapid, continued growth of the breasts in the pubertal period. We present a patient of 12 years with massive bilateral juvenile Gigantomastia. She had normal hormonal statuses and no other health issues including no such family history. It is usually associated with psychological effect on the patient and her family and physical disability due to excessive breast growth. The skin overlying the breasts was dark in color, without ulcerations, with visible enlarged superficial veins, the nipples were not well defined and areola were in wide area. Both nipples were positioned below the umbilicus. The patient was successfully treated surgically following the principle of reduction Mammoplasty. 4.8 kilograms of tissue was excised in total from both sides. The histopathological report presented stromal proliferation, collagenization and fibrosis. It also revealed ductal hypertrophy. After six months follow up, though there are diffuse scar marks, both patient and her mother were satisfied with the aesthetic outcome. The management of Gigantomastia is operative treatment. This paper presents significant results and effects of plastic surgery, and the applied surgical method can be recommended for successful management of juvenile Gigantomastia.

Keywords; Juvenile Gigantomastia, Reduction Mammoplasty.

Article at a glance:
***Study Purpose**: To report on a juvenile gigantomastia case and the outcomes of surgical treatment.*
***Key findings:** Reduction mammoplasty successfully reduced 4.8 kg of breast tissue, improving physical and aesthetic results.*
***Newer findings:** Reduction mammoplasty proves effective for juvenile gigantomastia, with minimal complications and significant recovery.*
***Abbreviations:** GI – Gastrointestinal, CBC - Complete Blood Count, SLE - Systemic Lupus Erythematosus.*

INTRODUCTION

Gigantomastia is a rare benign disorder of the breast, in which the breasts undergo massive hypertrophy and increase in size. It may occur spontaneously during marked hormonal changes such as puberty or pregnancy, or in certain conditions as taking medications.[1, 2] It is usually associated with the psychological effect on the girl and her parents and physical disability due to excessive breast growth. The size of the breasts remains unchanged till puberty.[3] The ductal growth of breast is under the influence of the anterior pituitary hormones as luteinizing hormone, growth hormone, adrenocorticotropic hormone, and estrogen as the major triggering factor.[3] Lobulo-alveolar development is influenced by progesterone and prolactin. Corticosteroids and prolactin affect breast development independently. The reason why breasts rarely take enormous size during adolescence without underlying pathology remains unknown.[3-5] The etiology of gigantomastia remains unknown, but several theories have been proposed to explain gigantomastia. The etiology include hypersensitivity of the breast tissue to circulating hormones,[6]

autoimmune issues as systemic lupus erythematosus,[2] high IGF-1 (insulin growth factor-1), hyperprolactanemia, hypersensitivity to estrogen, hyperthyroidism, ovarian granulose cell tumour, Side effects of treatment with certain medications like D-pencillamine and Neothelazone and lastly Idiopathic during puberty and pregnancy.[1-3, 6-9] Symptoms of gigantomastia are ranging from pain to necrosis or sepsis.[6] It may include mastalgia (breast pain), ulceration and infection, orthopnea, posture problems, scoliosis, kyphosis or lordosis and back pain,[3] chronic traction injury to 4th/5th/6th intercostals nerves with resultant loss of nipple sensation and hygienic difficulties, intertriginous lesions at the inframammary folds.[2, 3, 6, 10-13] Investigations should be done in addition include thyroid hormones and magnetic resonance imaging [MRI] of the brain to rule out enlargement of sella turcica and hypophysial enlargement; ultrasound of the breasts and abdomen, to exclude any disorder of breasts, and abdomen.[5, 14, 15] Treatment is based on the person's symptoms and may include breast reduction, mastectomy with or without reconstruction, hormonal treatment, or a combination.[16] Surgery remains the ideal treatment for gigantomastia.[7]

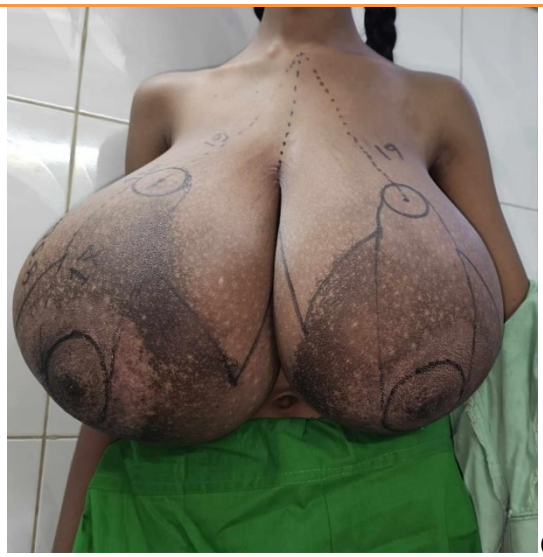
(a)

(b)

Figure 1: Bilateral Breast Hypertrophy, Nipples Were Positioned Below the Level of Umbilicus(A) Anterior View, (B) Right Lateral View.

CASE REPORT

This paper deals with a case of virginal juvenile breast gigantomastia in a 12 years girl who is otherwise healthy. She had normal hormonal statuses and no other health issues including no such family history. She was referred by endocrinologist after excluding all the etiologies. It was usually associated with psychological effect on the patient and her family and physical disability due to excessive breast growth. So, patient came to us in search of plastic surgery. On examination, A 12 years young girl with below average body build and healthy general condition had a massive bilateral enlargement of breasts. She had mild kyphosis to compensate for the heavy weight. Skin overlying the breasts was dark in color, without ulcerations, with visible enlarged superficial veins, the nipples were not well defined and areola were in wide area. Both nipples were positioned below the umbilicus (Figure: 1). the patient complaining of heavy weight with neck pain and backache. Investigations were all normal, Ultrasound showed massive cystic enlargement of the breast. Hormonal study was all within normal limits. The investigations were suggestive of pubertal gigantomastia. She was admitted on April 4, 2024. Reduction mammoplasty was done (Figure: 2), 4.8 kilogram of breast tissue was excised in total from both sides.


(a)

(b)

Figure: 2 (a) Per-Operative Marking for Reduction Mammoplasty, (B) Per-Operative Picture After Excision of 4.8kg Tissue from Both Sides

The patient had excellent recovery with minimal collection of seroma on right breast, which was resolved spontaneously without any intervention. The drain tubes were removed on the 5th post-operative day and she was discharged from hospital. Sutures were removed on 14th post-operative day. The histopathological report presented stromal proliferation, collagenization and fibrosis. It also revealed ductal hypertrophy. After six months follow up, though there are diffuse scar marks, both patient and her mother were satisfied with the aesthetic outcome (Figure: 3, 4).

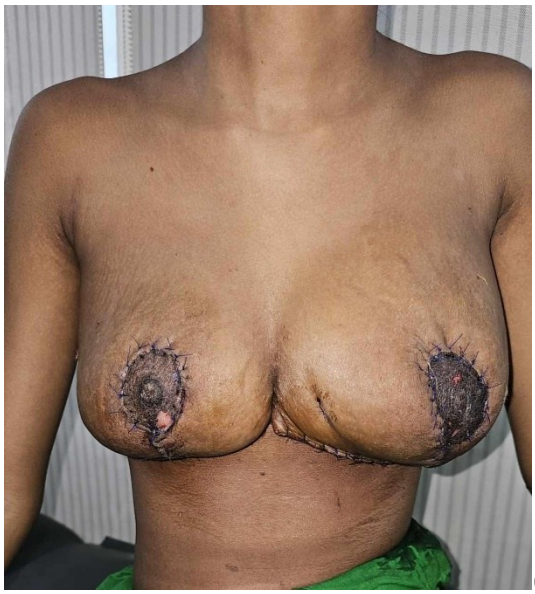
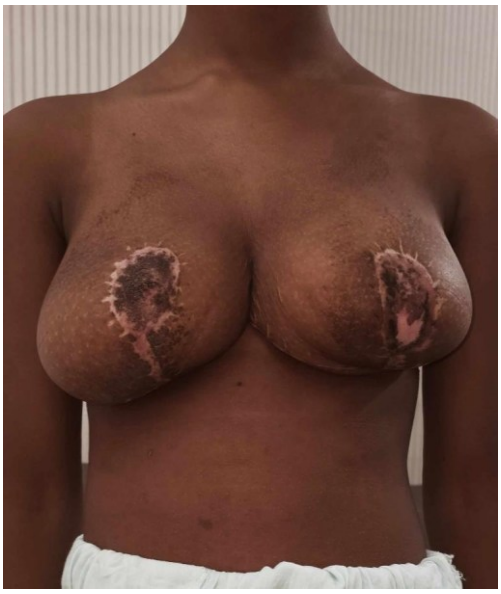

(a)

(b)

Figure: 3 (a) 14 Days After Operation, (b) Six Months After Operation

(a) **(b)**

Figure 4: Right Lateral View (a) Before Operation, (b) After Operation

DISCUSSION

We present in this paper a case of juvenile breast gigantomastia in a girl of 12 years who was otherwise healthy. She had a huge, enlarged breast which necessitated surgical interference. The case was identified as idiopathic because all investigations were normal, and no cause could be detected. The patient might have hypersensitivity to hormones.[6] Our line of treatment was surgical. She had reduction mammoplasty with excision of 4.8 kilogram of breast tissue from both sides. Samuelov *et al*., reported similar cases with good results.[4] The only fault in planning of the reduction mammoplasty was under estimation of the amount of stretching of the skin which resulted in a superior location of the areola, about 1-1.5cm superior to its normal location, but this can be corrected when the skin of the breast settles. There were also some scar marks which may become acceptable later on. There was an asymmetry as the right breast looks larger than the left one. Above all, the patient and her mother were satisfied with the aesthetic result.

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