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A Challenging Case of Gynecomastia

S. El Harrak[1*], H. El Kamch[1], D. Jaadi[1], H. Moslih[2], J. Hafidi[1], N. Gharib[1], A. Abbassi[1], S. El Mazouz[1]

[1]Department of Plastic, Aesthetic, Hand and Reconstructive Surgery, Ibn Sina Hospital, Rabat, Morocco
[2]Department of Radiology, Ibn Sina Hospital, Rabat, Morocco

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***Corresponding author:** S. El Harrak

Abstract **Case Report**

Gynecomastia is a benign enlargement of male breast; many techniques have been described for management but none have gained universal acceptance. In this article, we have described a challenging case of gynecomastia, which benefited from mastectomy, mastopexy and nipple reduction surgery, and we compare it with other therapeutic options in terms of complications and aesthetic outcome.

Keywords: Gynecomastia, mastopexy, mastectomy, nipple reduction.

INTRODUCTION

Gynecomastia is the most common benign proliferation of the glandular tissue of the male breast and is caused by an alteration of the balance between estrogen and androgen concentrations. In most cases, and if left untreated, especially among adolescents, are often associated with psychological stress like anxiety, social phobia and depression.

There are tree peaks of physiologic gynecomastia. The first occurs during the neonatal period and the second occurs during puberty, usually regressing by approximately age 17 years. In both cases, gynecomastia usually regresses spontaneously. The third peak occurs in older men and seems to have a variety of causes, such as a decrease in testosterone due to testicular aging [3]. Gynecomastia must be differentiated from Pseudo gynecomastia, which is defined as an excessive development of the male breast from sub areolar fat deposition but without glandular proliferation [2].

The treatment of choice is surgery, which can be very complex associating liposuction, mastectomy, mastopexy and nipple reduction.

The ideal surgical approach aimed not only to reduce the breast mound size but also to obtain an accepted breast shape and restore masculine chest contour by resecting excessive glandular tissue, fatty tissue and excess skin, reducing and adequately relocating the NAC, and removing the sub mammary fold while avoiding residual unsightly postoperative scarring to the chest [9].

CASE PRESENTATION

A 19 years old male patient with hormonal imbalance was presented to the Department of Plastic, Aesthetic, Hand and Reconstructive Surgery of Ibn Sina Hospital, Rabat with a bilateral gynecomastia.

His medical history denoted to an initiation in 2018. He was treated for undescended testis. According to operation notes, laparoscopy was performed and left orchidopexy were done for him. Because of delayed puberty, loss of body and facial hair, azoospermia and micro penis, the patient referred to an endocrinology department of our hospital for investigations.

His laboratory results showed low testosterone levels while the liver function test (LFT) and beta HCG and alpha-fetoprotein were in normal range.

His karyotype finding was 46 and XY was compatible with an apparently normal male from cytogenetic point of view. Scrotal sonography showed a small and atrophic testis.

The patient was treated with testosterone and was closely followed in endocrinology clinic every 3 months. After two years, testosterone level have become normal with increased facial and body hair and libido, and his mild gynecomastia status progressed to a severe type.

On clinical examination, the gynecomastia presents a purely glandular component, associated with a ptosis of the nipple-areolar complex, an increased

inframammary fold and a prominent size of the nipple, classified grade 2B according to Simon's classification (Figure 1).

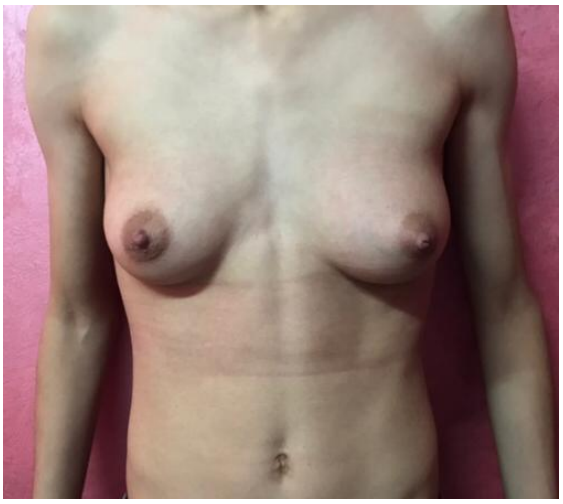

Figure 1: Bilateral gynecomastia grade 2B (Simon's classification)

Simon classified true gynecomastia [7] into:

- Grade 1: Minor enlargement and no redundant skin
- Grade 2A: Moderate enlargement and no redundant skin
- Grade 2B: Moderate enlargement and minor skin redundancy
- Grade 3: Gross enlargement and major skin redundancy

Breast sonography showed severe glandular dominant without any suspicious mass associated. We decided to perform mastectomy, periareolar mastopexy and nipple reduction (Figure 2).

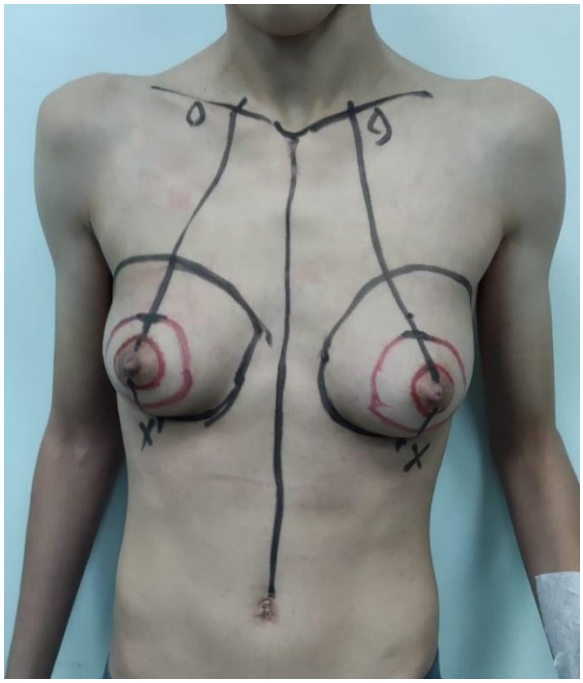

Figure 2: Pre-operative marking

Marking of the midline, meridian axis of the breast, the infra-mammary fold, the superior limit of mastectomy and the areola to a diameter of 25-30mm. After we draw a circle around the areola, which represent the outline of the periareolar mastopexy. The objective is to lift the areola 2-3cm and remove the excess of skin. The marking was done with the patient in upright position.

DISCUSSION

Gynecomastia surgery is very complex, sometimes requiring the association of several surgical techniques. In mild gynecomastia, the results are satisfactory while severe gynecomastia present a surgical challenge. As some postoperative frustrating problems still cannot be completely eliminated. The most common of these are a saucer-like deformity (over resection under areola), bleeding, followed by seroma, infection, ischemic necrosis of nipple-areola complex, residual gynecomastia (under resection), persistence of inframammary fold, contour irregularities, and asymmetries between breasts [5].

Gynecomastia may be unilateral or bilateral, symmetrical or asymmetrical. Pain or tenderness may or may not be present. In contrast to the male breast cancer, which is usually present as a hard mass with or without skin changes and may occupy a central or peripheral location it is usually centrally located [5].

Surgery is indicated for patients with gynecomastia that does not regress spontaneously or, with medical therapy, or causing considerable discomfort or psychological distress or is long-standing (beyond a 18 - 24-months period) [5]. Before any intervention is carried out pathological causes of gynecomastia must be ruled out [2].

In this case, we decided to combine tree surgical techniques to optimize the aesthetic result.

Gynecomastia surgery is performed under general anesthesia, and the patient is positioned on supine position with bilateral upper limb abduction on the operating table.

Bilateral breast was infiltrated with 500 normal saline + 1mg of adrenaline, successively 250mg in each breast, to realize hydro dissection and reduce bleeding.

We start with the periareolar mastopexy using a superior pedicle; the concentric circumareolar doughnut shaped skin ring was de-epithelialized with care to avoid injury or damage to the sub dermal blood flow to nipple-areolar complex (NAC) [3]. Then the glandular tissue is entirely excised through a small transdermal incision lower down at de-epithelized area, then NAC was relocated to a higher level at mid humerus level (figure3), and sutured to the skin in two layers with 4.0 Monocryl.

It is very important to leave a 1-1.5cm disc of breast tissue on the undersurface of areola to prevent development of depressed areola and preserve nipple sensation and vascularity [2].

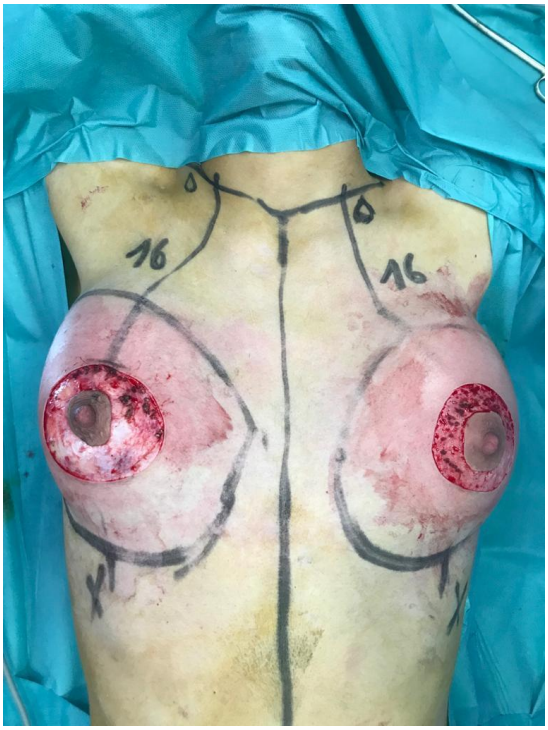

Figure 3: Periareolar mastopexy

The periareolar mastopexy is sufficient to correct ptosis of the breast, and any superior, inferior or medial extension of the scar was needed [3]. This technique is also indicated to correct an enlarged nipple-areolar complex [9].

Periareolar mastopexy/mastectomy has also been reported to treat a severe gynecomastia (grade 3) with only resection of periareolar skin and this technique achieve an aesthetic result while avoiding unsightly scars or serious complications [10, 11].

In the initial operative strategy for gynecomastia grade 1 and 2a according to Simon we used the subcutaneous mastectomy approaching through the semilunar incision in every case and liposuction was used routinely for additional contouring or in cases of pseudogynaecomastia. Larger amounts of skin excess as they could be found in 2b grades were initially treated by periareolar mastopexy. Breast reductions of 3rd degree gynecomastia have been treated by classical approaches with resulting inverted t-scar [8].

As regard the circumareolar incision we found that it is a suitable modality to deal with excess redundant skin, also excessively large NAC got benefit from this excision by reducing its diameter. But excessive skin resection might lead to place too much tension on the suture line with subsequent a greater potential of early wound dehiscence or late scar broadening or hypertrophic scarring [9].

Liposuction is often associated with mastectomy, because it releases the density of fibro connective tissue and thus may remove residual parenchymal tissue and fat after mastectomy. Furthermore, the alteration of the subdermal layer with ultrasound will lead to a sufficient postoperative skin retraction [8]. Liposuction was not performed because the gynecomastia had a purely glandular component and so as not to alter skin retraction

Different techniques have been reported to reduce the size of the nipple, we have chosen a fairly simple technique which consist of performing a lower semicircular excision, and then the upper part was fold and sutured (Figure 4).

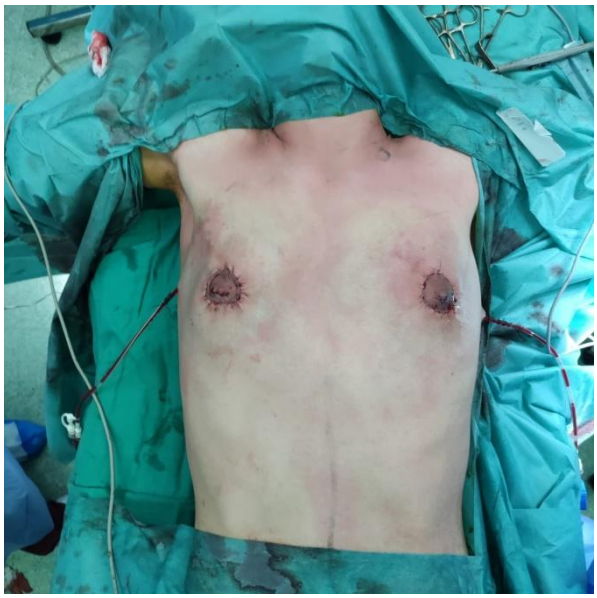

Figure 4: Postoperative aspect

After meticulous hemostasis, negative drain was inserted and secured in each breast to avoid any complications such as hematoma or seroma.

Compression dressing was applied postoperatively, and it's maintained 1 month after surgery.

The patient was discharged at the third postoperative day, the drains were removed 48 hours after surgery.

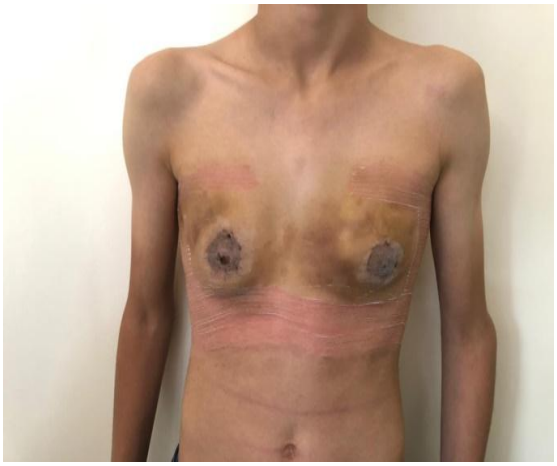

Figure 5: 2 weeks post-operative aspect

This may temporarily lead to persisting skin excess directly postoperative but will diminish after 6–12 weeks. At that time, we informed patients about these distinct circumstances and that secondary surgery could be performed if required.

Patients who underwent excision were generally very satisfied, returning the highest overall scores for satisfaction, chest shape and self-confidence levels. The periareolar scar was well accepted and faded with time [13].

CONCLUSION

Management of gynecomastia is very challenging; it difficult to choose the technique that will achieve the best results. The choice of the technique should be individualized according to the patient's needs and expectations as well as the specific indication for surgery.

Surgery is indicated for patients with gynecomastia that does not regress spontaneously in two years or, with medical therapy after identifying the cause.

The strategy of gynecomastia surgery is advocated to combine more than one procedure, mastectomy, mastopexy, liposuction and nipple reduction can be used separately or in combination.

According to the most used classification described by Simon, grade 1 and 2A should be treated by only a subcutaneous mastectomy. In grade 2B periareolar mastopexy is needed, and may also be indicated in grade 3 gynecomastia.

Our technique to treat gynecomastia is the combined periareolar mastopexy/mastectomy, this technque achieve the best aesthetic outcome and satisfaction level with minimal scars and complications. An upper, lower, medial or inverted T extension of the scar will significantly affect the aesthetic result.

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