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Severe Bilateral Breast Hypertrophy in a Pregnant Patient: A Case Report

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ABSTRACT

Background: Bilateral breast hypertrophy, ranging from mild to severe, can lead to various complications, including pain, ulceration, infection, and psychological distress. Swift surgical intervention is often necessary to address the mechanical and psychological challenges associated with excessive breast weight. While treatment approaches for this condition are debated, recent advancements favor surgical strategies like mastectomies with reconstruction to improve clinical and psychological outcomes. We present a unique case of bilateral breast hypertrophy successfully managed through breast amputation and NAC (nipple-areolar complex) graft using wise patterns incision mammoplasty.

Case Presentation: This report details the case of a 30-year-old female with hypothyroidism and lupus who experienced significant bilateral breast enlargement during her second pregnancy. The patient faced pain, hyperpigmentation, and limited mobility, along with abnormal laboratory findings. Bilateral reduction mammoplasty (breast amputation) was performed, leading to successful outcomes and improved quality of life for both the patient and her newborn. Follow-up assessments showed no recurrence or complications postoperatively.

Conclusion: This case highlights the challenges of managing breast hypertrophy in pregnant patients with autoimmune conditions. Early recognition and multidisciplinary management are crucial in such cases. The positive results of the interventions underscore the importance of timely and comprehensive care for patients facing similar conditions.

INTRODUCTION

Gestational gigantomastia is a rare condition characterized by excessive breast growth during pregnancy, leading to physical and psychological complications.[1] This case is the first documented occurrence in southern Iran in the past 20 years. The condition, with a global incidence of 1 in 28,000 to 1 in 100,000 pregnancies[2], is often associated with hormonal changes, particularly prolactin[1], and has been linked to autoimmune diseases and impaired hormonal function.[3] Symptoms include rapid breast tissue enlargement, pain, skin breakdown, immobility, tissue necrosis, sepsis, deep vein thrombosis, hemorrhage, mastalgia, ulceration, infection, backache, postural problems, chronic traction injury to intercostal nerves, neck and back pain, bleeding from breast ulcers, and lower limb swelling.[7-11] While some cases may resolve after pregnancy, most require medical or surgical intervention.[2] Medical therapies aim to avoid surgery during pregnancy and have been successful in 39% of cases.[12] If significant morbidity is present, surgical intervention is warranted. Surgical options include

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breast reduction or mastectomy with delayed reconstruction.[12] Mastectomy offers the lowest risk of recurrence and is recommended for future pregnancies.[4] Techniques such as Thorek reduction mammoplasty and nipple-areola complex grafting have shown good results.[13] The occurrence of gigantomastia in one pregnancy significantly increases the risk of its recurrence in subsequent pregnancies, especially when concurrent autoimmune diseases are present.[2] Effective management and treatment are essential due to the substantial effects on both the mother and the fetus. Providing necessary care and support is crucial, as the mother may encounter psychosocial stress, physical debilitation, pain, skin breakdown, and immobility.[7]

CASE PRESENTATION

A 30-year-old woman, gravid 2, para 1, presented at 16 weeks gestation with severe bilateral breast swelling. She had a history of hypothyroidism and lupus. This was her second pregnancy, and the breast enlargement was more severe than in her first pregnancy, causing significant discomfort and mobility issues. There were no signs of discharge or skin color changes, but she had pain, hyperpigmentation, and bruising. Her medications for hypothyroidism and lupus were continued throughout her pregnancy and her condition was controlled. She had no family history of breast cancer or gestational breast hypertrophy.

Physical examination showed significant enlargement and sensitivity in both breasts, with the left breast measuring 55 cm from the sternum to the areola, and the right breast 45 cm. (Figure 1)

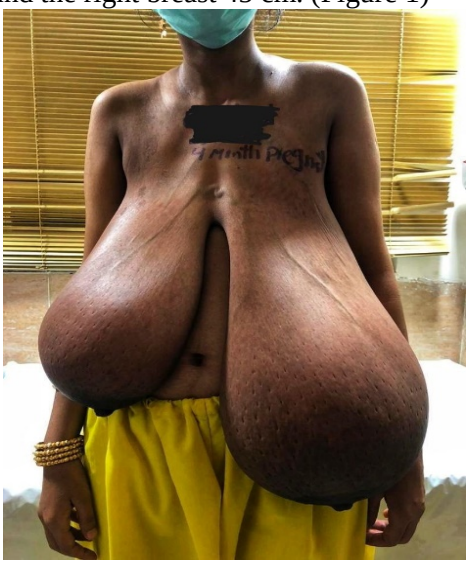

Figure 1. The patient with asymmetric gestational gigantomastia at 16 weeks (initial presentation)

Laboratory findings were mostly normal, with elevated anti-dsDNA and CRP. Breast sonography revealed dense fibro glandular tissue with benign changes in both breasts, a hypoechoic mass in the right breast, and a fibrocystic patch in the left breast. No malignancy was detected, eliminating the need for a biopsy.

Due to the severity of her symptoms, the patient underwent breast amputation and nipple areolar complex graft during her pregnancy (Figure 2). The removed tissue weighed 1800 grams on one side and 1600 grams on the other. The breast tissue specimens showed no specific pathologic changes. The findings indicated normal breast tissue samples without concerning abnormalities.

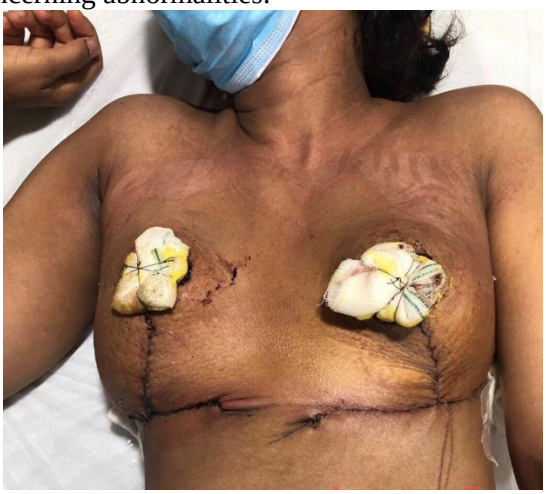

Figure 2. Breast reduction was performed by amputation and NAC grafting.

Subsequently, she delivered her baby naturally, with both maternal and infant outcomes being favorable. A 16-month post-delivery follow-up showed no recurrence of breast enlargement or complications, and the patient reported a good overall condition (Figure 3). This successful outcome suggests the effectiveness of the chosen approach in managing her condition. Ongoing monitoring for her underlying hypothyroidism and lupus is recommended to ensure comprehensive care and to address any potential future concerns.

DISCUSSION

Gestational gigantomastia was first described in 1684 by Palmuth.[16] This condition is characterized by a widespread and severe enlargement of one or both breasts that occurs during pregnancy.[17] There still needs to be a single definition for Gestational gigantomastia. Among authors, there is a divergence of opinions regarding the quantity of tissue excised to validate the diagnosis, with estimates ranging from 0.8 to 2 kg.[18]

The precise etiology of gigantomastia remains uncertain. Various theories have been put forth to elucidate the causes of its pathophysiology. Numerous hypotheses have been suggested, such as the overproduction of hormones like Prolactin,

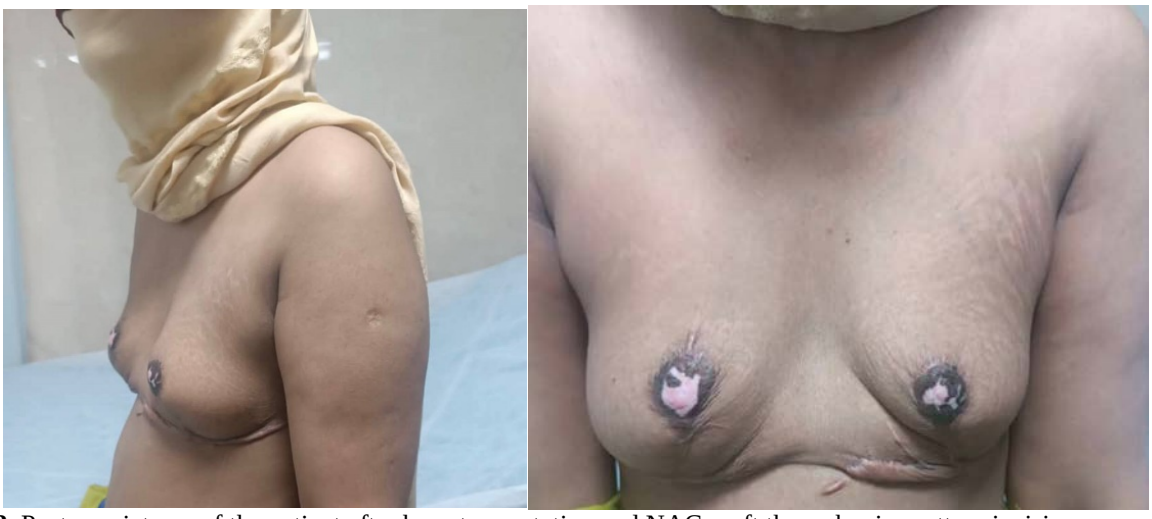

Figure 3. Post-op pictures of the patient after breast amputation and NAC graft through wise pattern incision mammoplasty, taken 16 months later.

estrogen, progesterone, and potentially somatotropin at the end of the first trimester in response to pregnancy.[19] In a study on 8 cases, a significant breast hypertrophy was observed, with an autoimmune or immune-related disorder as the underlying cause.[20] The occurrence of systemic lupus erythematosus (SLE) and gestational gigantomastia has been scarcely recorded in the current literature. The initial documented instance of gestational gigantomastia in lupus was reported in 1991 by Propper *et al.*, detailing the case of a 24-year-old woman with SLE who experienced extensive necrotic skin ulceration and significant enlargement of both breasts during a worsening of SLE in the final trimester of her second pregnancy.[21] In a study, the procedure of bilateral mastectomy was performed during the twenty-sixth week of gestation on a female patient aged thirty-three suffering from systemic lupus erythematosus (SLE).[22] In another case, in an individual with existing systemic lupus erythematosus (SLE), the condition of enlarged breasts, known as gigantomastia, was treated using methotrexate and a bilateral mammoplasty.[23]

Our case provides evidence for the hypothesis suggesting a relationship between gestational gigantomastia and autoimmune diseases such as SLE, but further studies are needed. Potential malignant factors contributing to bilateral gigantomastia during pregnancy, such as non-Hodgkin's lymphoma, should be included in the list of possible diagnoses for this condition.[24] In this case, malignancy was excluded by sonography, history taking and physical exam.

Bromocriptine is the first choice for the treatment of patients with gestational gigantomastia. There are different reports about the effects of the drug. Agarwal *et al.* documented a case in which the utilization of bromocriptine effectively circumvented the necessity for operative intervention in a patient exhibiting a regular hormonal profile.[25] El-Boghdadly *et al.* described a case of gestational gigantomastia characterized by an increased serum prolactin level that showed no response to bromocriptine.[26]

The current surgical choices that exist include reduction mammoplasty and simple mastectomy with delayed reconstruction.[27] Mastectomy provides the advantages of a shorter duration of surgery, reduced blood loss, and decreased exposure time for the fetus to teratogenic medications in comparison to breast reduction surgery.[28] Following mastectomy, the majority of women encounter a decline in self-assurance to their physique, consequently resulting in a simultaneous decrease in their level of self-esteem.[29] On the other hand, breast reduction surgery decreases the volume of breast tissue; however, it does not eradicate the possibility of recurrence during subsequent pregnancies.[12] Different methods exist for breast reduction mammoplasty, and the most suitable technique is determined by considering the patient's needs and the surgeon's assessment.[30] Amputation utilizing a free nipple-areola graft represents a prompt and efficient approach for reducing mammary size, particularly in cases involving extensive reductions.[31] In this case, based on the surgeon's recommendation, as well as the benignity of the tissue and patient selection, breast reduction was performed by amputation and nipple-areolar complex (NAC).

CONCLUSION

In summary, we have described an uncommon instance of gigantomastia in a patient with systemic lupus erythematosus (SLE), effectively managed through bilateral reduction mammoplasty using breast amputation with NAC graft during her pregnancy.

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CONFLICT OF INTEREST
None to be declared.

ETHICAL CONSIDERATIONS
Informed consent was obtained from the patient for the publication of this case report and any accompanying images.

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