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Case Report

The enigma of gestational gigantomastia: Implications for pregnancy and treatment

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Abstract

Gigantomastia, a rare condition characterized by a rapid and massive enlargement of both breasts, primarily occurs during pregnancy and is referred to as gestational gigantomastia. It significantly affects the physical, psychological, and social well-being of pregnant women. Although the condition generally follows a benign course, fatal outcomes are reported in only 2% of cases. The exact cause and development of this condition are not fully understood, making management during pregnancy challenging. Treatment options are limited, and surgical intervention is often necessary; however, accessing such procedures can be difficult in low-resource settings. In this report, we present a unique case observed for the first time at our tertiary teaching hospital.

Keywords: Pregnancy, Breasts, Gigantomastia, Macromastia, Mammoplasty, Mastectomy.

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1. Introduction

Gestational gigantomastia, a condition characterized by a significant enlargement of the breasts during pregnancy, is a rare and debilitating condition with an unknown cause. It is also known as Gravid Macromastia (GM).[1] To date, approximately 100 cases have been reported globally in the medical literature.[2] The reported incidence of gestational gigantomastia ranges between 1 in 28,000 to 1 in 100,000 pregnancies.[3]

While gigantomastia is considered a benign condition, it can lead to significant physical, psychological, and social morbidity in pregnant women, making its management during pregnancy challenging. Dafydd et al. provided a definition of gigantomastia as the presence of excessive breast tissue that contributes to more than 3% of the patient's total body weight.[4]

Gestational gigantomastia typically affects both breasts, although it can also occur unilaterally. In some cases, this condition may persist beyond pregnancy, necessitating surgical intervention such as reduction mammoplasty or simple mastectomy.[3] In this report, we present a case of a woman who experienced rapid and excessive breast enlargement during pregnancy and discuss its management within our healthcare facility.

2. Case Report

A 27-year-old woman, gravida 5, para 2, with two previous uneventful vaginal deliveries, presented to our outpatient department at 26 weeks of gestation. She complained of bilateral progressive breast enlargement since the third month of pregnancy, accompanied by severe back pain, breast pain, and chest heaviness. The breast enlargement became so significant that she could no longer find a brassiere in her size. Her medical history was unremarkable except for hypothyroidism, which was being managed with replacement therapy. She had no significant surgical history.

Upon local physical examination of her chest, we observed distended and prominent veins over the upper thorax, along with massive hypertrophy of both breasts, which hung abnormally by the sides of her chest. No palpable lumps were detected in the breasts or axilla, and there was no abnormal discharge from the nipples. The overlying skin appeared normal. Baseline blood tests, including complete

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blood count, coagulation profile, and liver function tests, were unremarkable throughout her pregnancy. Her serum calcium level was 8.5 mg/dL, and serum prolactin level was 2034 mIU/L. Breast sonography revealed bilateral enlarged breasts (right breast volume: 1897 ml, left breast volume: 2007 ml) with excessive fibroglandular tissue, fast lobules, skin thickening, fluid accumulation, subcutaneous tissue edema, and dilated ducts. Before seeking our medical care, the patient had also undergone fine needle aspiration cytology, which suggested an epithelial proliferative lesion consistent with fibroglandular hyperplasia in the breast.

The patient's management involved providing breast support and utilizing a breast binder. Additionally, she was started on tab bromocriptine 2.5 mg twice daily for the remainder of her pregnancy. Throughout her pregnancy, she received psychological support. She went into spontaneous labor at 38 weeks and 6 days of gestation, delivering a live male baby weighing 2.6 kg with a normal Apgar score via vaginal delivery. In the postpartum period, she continued to use the breast binder and tab bromocriptine and made an informed decision not to breastfeed her child. At the six-month follow-up, there was no resolution of breast size, and she was advised surgery. However, she did not opt for surgical reduction.

Figure 1: Displays the clinical photograph of the patient showing bilateral gestational Gigantomastia

3. Discussion

Gestational gigantomastia is an uncommon benign condition that occurs during pregnancy. The exact cause and development of gestational gigantomastia are still unknown.[5] It has been suggested that hormonal factors, such as excessive production of estrogen and prolactin or increased hormone receptor sensitivity, may play a role, possibly triggered by pregnancy. Additionally, an underlying autoimmune condition triggered by pregnancy has also been considered as a possible factor.[6] Cases of gestational gigantomastia have been more commonly observed in Caucasians and multiparous women, and recurrence in subsequent pregnancies has been reported. However, in the present case, although the patient had previous pregnancies, there was no history of similar complaints. High serum prolactin levels in our case indicated a hormonal etiology, although no features of autoimmune conditions like Systemic lupus erythematosus (SLE), myasthenia gravis, rheumatoid arthritis, or Graves' disease were observed.[7-9] Our case did not exhibit any characteristics associated with the mentioned conditions, and the patient chose not to undergo further evaluation due to financial constraints. Some cases of gestational gigantomastia have been associated with hypercalcemia, which could be attributed to excessive production of PTHrP by hypertrophied breast tissue. However, in our patient, serum calcium levels were normal.

Non-surgical management of gigantomastia involves various approaches such as providing appropriate breast support using binders, maintaining good skin hygiene, ensuring adequate nutrition, offering psychological support, and implementing prolonged medical treatment with bromocriptine therapy. Bromocriptine can be continued during the postpartum period to suppress lactation and breast growth, if desired by the patient. However, spontaneous resolution of gigantomastia is rare, and most cases require surgical intervention. The surgical options include reduction mammoplasty or bilateral mastectomy with breast reconstruction.[10] Reduction mammoplasty allows for the possibility of post-operative breastfeeding, but it carries the risk of recurrence in future pregnancies. On the other hand, bilateral mastectomy with reconstruction is the preferred treatment for women who plan to have future pregnancies.

4. Conclusion

Gestational gigantomastia is an uncommon benign condition with diverse causes. While this condition can have significant physical and psychological effects, prompt diagnosis and treatment can lead to a positive outcome. It is important to conduct a comprehensive evaluation to exclude any underlying medical conditions. Achieving a successful outcome for both the mother and the baby requires a multidisciplinary approach involving professionals from various fields such as obstetrics, pediatrics, anesthesia, and surgery.

5. Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given /her consent for her images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

6. Financial Support and Sponsorship

Nil.

7. Conflicts of Interest

There are no conflicts of interest.

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