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Short Running Title: gigantomastia

Guarantor of Submission: I am Dr. Faisal Alotaibi giving the guaranty for submission if this case report.
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ABSTRACT

Introduction
Gigantomastia is a rare disorder characterized by excessive breast growth. Classified according to the etiology to Idiopathic or hormonal stimulation and drugs induced. The differential diagnosis of gigantomastia include fibroepithelial tumors such as fibroadenomas and cystosarcoma phyloides and less likely malignant breast carcinoma. As the majority of gigantomastia cases are bilateral a malignant process is unlikely. Histopathologically the breast tissue shows varying degrees of stromal and ductal hyperplasia with dilatation. Collagenous fibrosis and cellular myxoid hyperplasia can sometimes be seen. There is often prominent ductal proliferation with cystic degeneration. Oedema is a characteristic finding in both the interstitium and periductal regions. [1] Anne Dancey, et all. 2006

Case Report
We are reporting a case of 32 years old lady G4, P2 +1 who presented with bilateral progressive breast enlargement over 4 months complicated by ulceration/ infection and milk secretions. She underwent bilateral segmental mastectomy and started on bromocriptine, and the plan of management to be continued after delivery by reduction mammoplasty.

Conclusion
Gigantomastia defined as excessive breast growth of over 1.5kg per breast. Classified to 3 groups according to the etiology. Diagnosis of this disease needs a histopathology and treatment always by surgical intervention with other modalities [1]. Anne Dancey, et all. 2006

Keywords: Gigantomastia, Stromal Hyperplasia, PASH
TITLE: Gestational gigantomastia, Case report and literature review

INTRODUCTION
Gestational Gigantomastia is a very rare condition, which is related to pregnancy. This condition mainly presenting with progressive and massive enlargement of breasts bilaterally, sometimes ended by tissue necrosis and breast skin ulceration and infection. In most of the cases acute enlargement of breast resolved in the postpartum period. The authors present a 32 years old female with Gestational hypertrophy of breasts for who combined medical and surgical management successfully treating her acute presentation [2]. Gresik et al.,[3] Bloom et al.

CASE REPORT
32 Y/O lady refereed to breast and endocrine clinic C/O sudden progressive BL breast enlargement for 4 months. Associated with hotness and redness. There was no history of palpable breast masses, nipple discharge nor skin changes. Past medical history and surgical history was unremarkable. Her physical examination revealed a normal vital signs.Breast Examination showed large bilateral breast, Redness discoloration, No skin dimpling, No nipple retraction Tenderness all over the breasts, No palpable masses, No nipple discharge, No palpable axillary lymph nodes (Figur1). Her labs investigations showed WBC: 10.5 and Hgb: 13.4. Her pregnancy test came to be positive. Other investigations were within normal.

Imaging:
Ultrasound showed bilateral breast masses, heterogeneous echogenicity, significant edema. Appearance could be due to granulomatous mastitis. Fibroadenomas associated with infiltrating disease of the breast.( Figure 2 )

Based on the result of U/S and the skin biopsy and core needle biopsy which showed Fibroadenomatous hyperplasia. Negative for malignancy. Patent discharged home as a case of Gestational hypertrophy of the breast with F/U in the clinic. 6 Weeks later patent presented to the clinic with F/U US which showed mild improvement of breast edema but still the size of breasts the same, patient
reassured. 6 Weeks later patent presented to ER with ulceration and fungation of breast tissue and milk secretions. Patent admitted under obetstatric & gynagology as a case of G4 P2 +1 at 28 weeks G.A with BL breast masses. Her investigation upon presentation showed WBC: 11.4 HGB: 13, Prolactine level was 3233. Culture from the ulcers: staphylococcus aureus and klebsiella pneumonia. The case discussed in multidisplinary team including obstetric & gynecology, breast surgeon, plastic surgery, and endocrinology. The plan was to start her on Bromocriptine to minimize milk secretion and to help in wound healing and decrease breast engorgement and antibiotic and to do for her bilateral segmental mastectomy to treat her acute presentation and to consider reduction mammoplasty post-delivery. Patent underwent bilateral segmental resection, her postoperative course was uneventful and she was discharged home. The histopathology final report was extensive mammary hyperplasia. No in situ or invasive carcinoma seen. The patent delivered a healthy baby girl. She refuse the option of reduction mammoplasty.

DISCUSSION

Gigantomastia is a rare condition characterized by excessive breast growth (>1.5kg) and can be physically and psychosocially disabling for the patient. The first paper we could find using the term gigantomastia was by Lewison et al. in 1960. However there is still no concordance in the literature, with terms used including macromastia and hypertrophy. [1] Anne Dancey, et all. 2006

Symptoms of these condition usually progressive breast enlargement, mastalgia, ulceration/infection, postural problems, back pain, loss of nipple sensation. The deferential diagnosis includes malignant breast tumor and fibroepithelial tumors. As the majority of gigantomastia cases are bilateral a malignant process is unlikely. Usually the imaging investigation will show bilateral breast masses, heterogeneous echogenicity, significant edema. Appearance could be due to granulomatous mastitis. Fibroadenomas associated with infiltrating disease of the breast. [5] An Overview. [6] Nathan. [8] Christine M. Gresik
Classification (according to the etiology) is Idiopathic gigantomastia, endogenous hormone stimulation and drug induced. Histology of these diseases vary degrees of stromal and ductal hyperplasia with dilatation. Collagenous fibrosis and cellular myxoid hyperplasia. There is often prominent ductal proliferation with cystic degeneration. Oedema is a characteristic finding in both the interstitium and periductal regions. There have also been reports of lymphatic dilatation. Treatment options include surgical and medical. Medical treatment in form of hormonal therapy bromocriptin is dopamine agonist, resulting in a significant decrease in the release of prolactin from the anterior pituitary gland. High doses of bromocriptine can cause involution of the breasts with slowing or reversal of growth during pregnancy. [8]

Christine M. Gresik

Surgical intervention in form of reduction mammoplasty and mastectomy include subtotal mastectomy with breast implants, staged procedures employing tissue expanders or indeed autologous breast reconstruction. Gigantomastia defined as excessive breast growth of over 1.5kg per breast. Group 1 is idiopathic in nature which can be managed with a breast reduction in the first instance and tend to have a good prognosis.

Group 2 is a result of endogenous hormone imbalance and present with aggressive and unremitting breast growth. They often require multiple reduction and consideration should be given to a primary mastectomy with breast reconstruction.

Group 3 is drug induced and responds well to cessation of therapy with or without breast reduction. Gestational. [8] Christine M. Gresik

CONCLUSION

Gigantomasia is a rare condition. The acute presentation can be treated by bromocriptine and segmental mastectomy if needed. Mastectomy and reduction mammoplasty can be delayed after delivery.

CONFLICT OF INTEREST

None
AUTHOR’S CONTRIBUTIONS

1. Faisal Alotaibi, MD

   Group 1 - substantial contribution to concept and design, analysis and interrupting the data

   Group 2 - drafting the article, revising it critically for important intellectual content.

   Group 3 – final approval of the version to be published

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Christine M. Gresik, MD,a Constantine Godellas, MD, FACS,a Gerard V. Aranha, MD, FRCSC, FACS,a Prabha Rajan, MD,b and Margo Shoup, MD, FACS,a Maywood, IL

FIGURE LEGEND

Figure 1: Rt breast mass with heterogenous echogenicity, significant edema. Appearance could be due to granulomatous mastitis. Fibroadenomas associated with infiltrating disease of the breast.

Figure 2: large bilateral breast, Redness discoloration, No skin dimpling, No nipple retraction Tenderness all over the breasts, No palpable masses, No nipple discharge, No palpable axillary lymph nodes

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U/S showed:

Figure 1: Rt breast mass with heterogenous echogenicity, significant edema. Appearance could be due to granulomatous mastitis. Fibroadenomas associated with infiltrating disease of the breast.