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Case Report

Recurrent Gestational Gigantomastia After Reduction Mammoplasty: A Case Report

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Abstract:

A case of recurrent gestational gigantomastia requiring blood transfusions following extensive hemorrhaging secondary to large ulcerations was encountered at Mount Sinai Hospital in Chicago, IL. Our patient was a 34 year old female who presented to our Emergency Department at 33 weeks gestation due to progressive skin ulcerations to bilateral breast and persistent bleeding from these sites as a sequelae of her enlarging breast tissue. She had previously undergone a reduction mammoplasty after gestational gigantomastia during her first pregnancy.

Bleeding was initially mild at her home and progressively worsened as a result of enlargement of her breast ulceration. The patient's hemoglobin was compromised creating a need for blood transfusion for hemoglobin correction. Our surgical team saw this unique case as an opportunity to highlight that this rare condition, although typically considered benign, can have complications beyond physical discomfort and cosmetic impact.

Key words: immunosuppression ; cancer immunotherapy; myeloid-derived suppressor cells （MDSC）; cancer cachexia; immunosuppressive cells

Introduction

Gestational gigantomastia, sometimes referred to as gestational macromastia, is a rare condition in which breast tissue rapidly enlarges during pregnancy. This disorder is considered benign and involves continued and progressive enlargement of one or both breasts, most commonly during the first trimester of pregnancy.[1] It is reported to affect approximately 1 in 100,000 pregnancies.[2] The underlying mechanism is not well understood, however it has been proposed that an underlying inappropriate response of breast tissue to the altered hormonal state may be the culprit. Though considered a benign condition, gestational gigantomastia can lead to devastating complications including hemorrhage, infection and death.[3]

Case

Our patient was a 34 year old female G2P1001 at 33 weeks gestation who presented to our emergency department with complaints of bilateral breast pain and persistent bleeding from breast ulcers. She had a past medical history of gestational gigantomastia during her first pregnancy and had undergone a reduction mammoplasty. On physical examination, she was found to have skin ulceration on the right breast measuring ~7x5cm, superolateral to the nipple with involvement of the areola with active venous bleeding. This ulceration involved the prior mastoplasty incision. In addition, the left breast contained a superficial skin ulcer measuring ~7x5cm as well with a similar location on the breast with slightly more involvement of the areola with no active bleeding at that time. There was no evidence of induration, fluctuance or purulent drainage. Her CBC was significant for a hemoglobin of 7.1 g/dL. On her initial presentation, a figure-of-eight suture was placed to control the site of venous bleeding and hemostasis was achieved. She was admitted for observation under the OB/GYN team. The following morning, her Hgb was found to be 6.9 g/dL and was transfused with one unit of packed red blood cells. On repeat exam, her skin ulceration remained hemostatic. During her hospitalization, she was presented with various options regarding her obstetric course of which she decided to undergo a Cesarean section to deliver her child at ~34 weeks gestation. She remained stable following her surgical procedure and was stable at time of discharge with an improved hemoglobin of 9.2g/dL at that time and close follow up at our breast clinic. During her clinic visit at our breast clinic, various options were discussed including surgical intervention. After careful deliberation, our patient elected to undergo bilateral mastectomies with delayed reconstruction.

Discussion

Gestational gigantomastia remains a rare condition with fewer than 100 case reports. No clear guidelines exist for the management of gestational gigantomastia. Management of gestational gigantomastia is dependent on the severity of disease and may require an interdisciplinary team including the obstetrician/gynecologist, a breast surgeon and plastic surgeon.[4] In milder cases, supportive measures such as breast binders and analgesia are sufficient. Bromocriptine has been used for medical management of gestational gigantomastia by inhibiting the production of milk.[5] Cases with ulceration of breast tissue require local wound care to prevent infection. Patients may develop bleeding from the engorged breast tissue and ulcerated wounds requiring transfusions, as seen in our patient. In these cases, if a patient develops life threatening blood loss, then induction of delivery followed by surgery may be necessary.[6] [There are reports of patients who have elected to terminate pregnancy due to gestational gigantomastia.] Some cases of gestational gigantomastia spontaneously resolve after pregnancy or termination of pregnancy, while other patients have persistence of gigantomastia and elect to undergo reduction mammoplasty or mastectomy. [7,8]

There are even fewer reports of cases of recurrent gestational gigantomastia during subsequent pregnancies and thus there is little insight into optimal management of these patients. The rate of recurrence of gestational gigantomastia in subsequent pregnancies has been reported to be 93%. One literature review found that out of four patients who underwent breast reduction and then became pregnant again, 100% had recurrence of gestational gigantomastia.[9]They also found two patients who underwent mastectomy for gestational gigantomastia, one of which developed small areas of recurrence requiring surgical excision and another who did not have recurrence.[9]Another case study reported a patient who had undergone reduction mammoplasty who developed recurrence of gestational gigantomastia and required bilateral mastectomies.[10] Vidaeff et al. described a case of gestational gigantomastia in a woman who had previously undergone reduction mammoplasty which was then complicated by breast necrosis, sepsis, acute respiratory distress syndrome and renal failure who underwent bilateral simple mastectomies.[11]

Our patient developed ulcerations along the prior incisions of her reduction mammoplasty and ultimately required bilateral mastectomies with delayed reconstruction. Given this high rate of recurrence among patients with gestational gigantomastia who underwent breast reduction and then became pregnant, strong consideration for a total mastectomy with or without reconstruction should be given in patients who develop this condition. Particularly in patients who desire future pregnancies, patients should be counseled on the high risk of recurrence with a reduction mammoplasty. Instead, we propose that patients should be counseled on total mastectomy with or without reconstruction after their first incidence of gestational gigantomastia to prevent the potentially devastating complications of recurrence. Cases of patients who underwent total mastectomy with reconstruction show good cosmesis and high rates of patient satisfaction.[12-16] While conservative management with medications and local wound care can be pursued, definitive management is mastectomy.

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