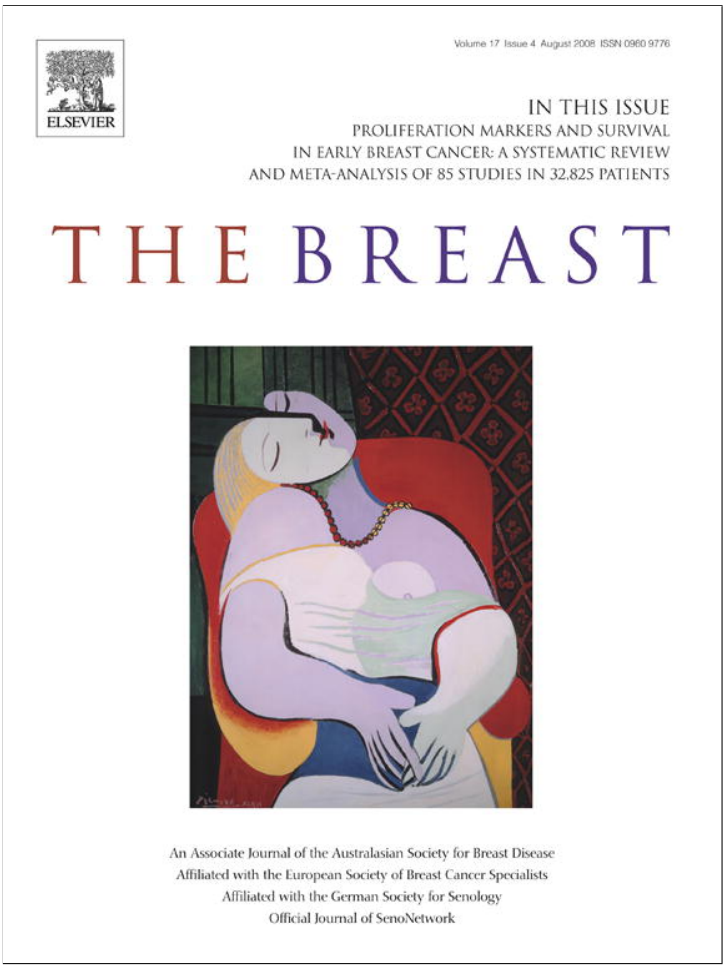

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Case report

Severe influence of early pregnancy on newly reconstructed breast

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Abstract

Since mastectomy may have a devastative effect on the patient's appearance, body image and psychology, especially in young women, immediate breast reconstruction is widely preferred to avoid the unpleasant results caused by the defect of mastectomy.

Presented here is the case of a 33-year-old patient. Considering her fibrocystic mastopathy, atypical ductal hyperplasia and a history of familial breast cancer, subcutaneous mastectomy and breast reconstruction using an implant was planned with skin reduction and repositioning of the areola–nipple complex. During her postoperative follow-up examinations which were conducted periodically, it was expected that the formation of the breasts in relation to the prosthesis would take place in the healing time. In contrast, an increase in the skin thickness and breast fullness, massive filling in the submammary fold, a vertical suture depression and consolidation were observed. These unexpected deformities were based on a pregnancy beginning just after the last operation. Later, the breast findings were followed both clinically and photographically. After termination of the pregnancy, reduction in the skin thickness, involution of the glandular tissue and changes in the shape of the breasts were observed to continue for 6 months. The end result was the development of an unacceptable breast appearance which required a major revisional surgery.

Early pregnancy after subcutaneous mastectomy with reconstruction severely affects development leading to distortions in the shape of the breast during pregnancy. Additionally, involution after delivery is not also good enough to provide acceptable outcomes.

Keywords: Pregnancy; Reconstruction; Subcutaneous mastectomy; Breast appearance

Introduction

Nowadays, immediate breast reconstruction after mastectomy is widely preferred especially in young women, to avoid any defect due to mastectomy that may exists such as distorted body image, appearance and psychology. Reconstruction with a breast implant has gained popularity during the last two decades because of the ability to carry out the implantation during the same mastectomy session, which only takes about an hour after the mastectomy. Satisfactory results that have been reported with this approach led to the rising attractiveness; this procedure has enjoyed albeit its risks of complications such as hematoma, seroma, skin necrosis, infection and implant exposition.

Subcutaneous mastectomy is usually performed for the treatment of benign breast disorders and as a prophylactic treatment against invasive breast cancer.[1,2] Most aspects, including surgical techniques, wound healing, complications and esthetic outcomes have been described clearly in the literature. Immediate reconstruction using either prosthesis or autologous tissues in almost all patients is usually performed during the same surgical operation session.

As it is well known, pregnancy affects the whole body, with the breast being particularly targeted, resulting in glandular hyperplasia and hypertrophy due to the hormonal stimulation that alters the breast anatomy completely during the pregnancy and lactation. Breast hypertrophy, ptosis, areolar enlargement, nipple hypertrophy and increased pigmentation of the areola–nipple usually occur during pregnancy. In this study, an unusual patient who underwent subcutaneous mastectomy and immediate reconstruction using a breast implant is presented in whom severe effects of early pregnancy on the newly

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reconstructed breast developed, while wound healing and formation of the breasts were still going on.

Case report

The patient was a 33-year-old woman, who reported with complaints of breast masses. She had previously undergone operations for excision of bilaterally occurring masses in both breasts over the last six years before presentation to our clinic. Two masses in the right breast and one in the left breast had been removed previously because of the fibrocystic disease. On examination, several masses of varying sizes were found in both breasts, suggesting recurrence of generalized fibrocystic disease. Later, an ultrasonography and biopsy clearly confirmed these findings while cytopathological investigation showed atypical ductal hyperplasia. Additionally, her mother and maternal aunt had suffered from breast cancer, suggesting a strong family history of breast cancer.

Considering her fibrocystic mastopathy, atypical ductal hyperplasia and history of familial breast cancer, subcutaneous mastectomy and breast reconstruction using an implant was planned with skin reduction and repositioning of the areola–nipple complex to correct the breast ptosis and to thicken the excessive skin. Leaving a vertical scar after subcutaneous mastectomy was desired with vertical mammaplasty marking on the lower breast, which might have better esthetic outcomes.[3]

During the operation, a previously marked periareolar and infraareolar breast skin was de-epithelialised in the usual manner to create a safe areolar pedicle, and then an incision along the lateral margin of the de-epithelialised area in the lower breast was made into the breast tissue, allowing us to remove the breast tissue completely leaving an extremely thin subdermal fat layer. Thus, subcutaneous mastectomy was performed while preserving the integrity of the muscular fascia and ensuring the thickness of the flaps similar to those dissected for radical mastectomy.

The pocket for the breast implant was carried out under the chest muscles which consisted of the pectoralis major, serratus anterior and rectus abdominis muscles carefully following precautions for hemostasis. An anatomically shaped implant of 375 cc with textured surface was inserted into it making sure it spread comfortably in the space permitting the entire muscular coverage over the implant (Fig. 1).

Superficial necrosis that healed spontaneously in two weeks without any surgical intervention occurred in the right areola. While postoperative examinations were carried on periodically, it was expected that formation of the breasts in relation to the prosthesis would take place in the usual time we were accustomed to. However, an increase in the skin thickness and breast fullness, filling in the submammary fold, vertical suture depression and gathering were observed a few weeks after the intervention. These were revealed firstly on the left breast only and were initially thought to be a problem with the left breast only. A few days later, similar changes occurred on the other breast, with rapid deformation in both breasts. A pregnancy test conducted six weeks after the operation that turned positive resolved the problem. Thereafter, her follow-up included clinical examination and photographical evaluation of both breasts for every 2 months, until 6 months after delivery. At 5 months post-mastectomy remarkable peak was observed in the deformation as each breast seemed to have doubled in size, as if one was placed in the upper and the other in the lower margins of the breast and the implant itself lost, with the shape attaining its worst view during the pregnancy. Both the patient and the surgeon were very dissatisfied with this finding.

Fig. 1. Early postoperative appearance of the patient lying back.

In the latter parts of the pregnancy, a gradual but incomplete improvement in the deformation of the breasts was observed. On the 2nd day before delivery, although there was obvious ptosis caused by the glandular hyperplasia, some improvement in appearance of the breasts was observed with areolar hypopigmentation noted in the right breast. There was obviously some movements of the implants at the superior aspects of the breasts below the pectoralis muscles which were more pronounced in the right side, and were thought to be the result of early closure of the lower pocket, a feature frequently observed after total submuscular coverage of the prosthesis. The increase in intraabdominal pressure due to pregnancy might have promoted the obliteration of the lower muscular pocket. However, the patient had been specifically instructed not to wear a brassiere to avoid possible obliteration of the submuscular pocket, which would result in a movement of the implant superiorly under the pectoralis muscle. Upon delivery, a change in appearance continued for 6 months with involution of the glandular tissue leading to a reduction of the skin thickness. In the end, presence of an unacceptable breast structure necessitated a major revisional surgery (Fig. 2).

Discussion

Pregnancy severely affects all parts of the body with the breasts being one of its main targets in the body. Glandular hyperplasia and hypertrophy is a well-known pregnancy effect in the breast, which can lead to complete distortion of the whole breast contour during pregnancy and lactation. Additionally,

Fig. 2. The last appearance of the breasts in the 5th month after the delivery. Note that remaining deformations after involution were ptosis, asymmetry, areolar discrepancy, rough submammary fold on the right and upper breast fullness corresponding to the lower.

breast hypertrophy and ptosis, areolar enlargement, nipple hypertrophy and hyperpigmentation of the nipple–areola complex are the most common effects on the breast. Naturally, with time, gradual but complete return to the normal is observed within six months following the cessation of both pregnancy and lactation. However, in some cases breast atrophy may take place after lactation. The effects of pregnancy on the breast and flap donor sites have been shown in patients who underwent flap reconstruction from several studies.[4–8] However, little information exist, demonstrating the changes in breast structure and shape that occur in pregnancy in women with newly reconstructed breasts with an implant following subcutaneous mastectomy.

Many women now tend to choose to have a more natural breast reconstruction to correct the potential defects of their mastectomy in the same surgical session. Especially, in patients who undergo mastectomy for benign breast disorders or as prophylaxis against breast cancer, immediate breast reconstruction is performed in almost all cases using an implant that is the most preferred method corresponding to using of autologous tissue. Some of the advantages of this approach to the flap reconstruction include its short operation time, less bleeding, early healing and satisfactory results and no donor site morbidity.

In this case, it seems that newly reconstructed breast is prone to be affected more severely by pregnancy commencing too early enough to allow for complete healing after the operation. Unless both the patient and the surgeon are unaware of the pregnancy in the early postoperative period, the obvious cause of malformation of the breasts may pose an unpleasant challenge. Our failure initially to discover the pregnancy in this case just after the surgical intervention led to our assumption that the distortion would resolve spontaneously with time in the usual manner to allow for an acceptable appearance in the end. Contrary to our expectation the distortion in breast development progressed very rapidly during the first 5 months of her pregnancy with less rapid progression thereafter until delivery. Glandular involution could also provide some improvement in the appearance of the breasts after the delivery. However, enough involution to create a nearly normal contour of the breast was not observed. Although definitely not intended to be a cosmetic operation, we still found that the outcome was neither satisfactory nor esthetically acceptable. Revisional surgery was deemed inevitable in an attempt to correct the deformities to achieve an acceptable result. Although it is the aim of every surgeon to achieve good outcomes, generally, cosmetic results of breast reconstruction after subcutaneous mastectomy may vary tremendously from one patient to another depending on the preferred surgical technique, features of the implant and implantation, skin elasticity, breast size, incision site or any of the other well-known factors.

Finally, we emphasize that early pregnancy is a severe factor that alters the progression of the breast shape after reconstruction and may result in permanent deformation of the breasts which requires surgical correction.

Conflict of interest statement

None declared.

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