Plastic and Reconstructive Surgery

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COSMETIC AND RECONSTRUCTIVE SURGERY OF THE BREAST

The most common breast deformities for which surgery is sought

- Breast hypertrophy
- Breast hypoplasia
- Breast asymmetry
- Breast ptosis
- Postmastectomy deformity

Breasts come in different shapes, sizes, and degrees of symmetry and continue to change in the wake of pregnancy, fluctuations in body weight, aging, and breast disease. Women react in different ways to natural or pathological variations in breast form, and, though some may accept the deformity and scarring that follow radical mastectomy and radiotherapy for carcinoma of the breast, others will be unable to tolerate minor loss of breast shape and bulk after pregnancy and seek restoration. Given that restorative and reconstructive surgery of the breast is objectively not essential it can sometimes be difficult for a medical practitioner to sympathise with the motivation of a woman requesting surgery. Experience and sound psychological evaluation have, however, shown that plastic and reconstructive surgery of the breast in carefully selected and primed patients is an important and gratifying service.

Augmentation of the breast

Alternative sites for breast prosthesis

Augmentation of the breast in the treatment of breast hypoplasia is the commonest form of breast surgery. It is a simple and safe surgical procedure in which an appropriately sized silicone gel prosthesis is implanted to a submusculofascial pocket dissected between the chest wall and the pectoral muscles or to a pocket between the muscles and the breast tissue by a small incision made behind the anterior fold of the axilla, within the areola, or, most commonly, just above the submammary crease. The pocket is usually drained during the two days in hospital.

At body temperature the silicone has the consistency and mobility of normal breast tissue but, unfortunately, it has a natural tendency for encapsulation by a mesothelial lined membrane that, if sufficiently thick and fibrotic, transforms the breast into a hard, ugly, and tender sphere. This phenomenon of spherical fibrous contracture develops in about 10 to 20% of all women after augmentation of the breast. The thick capsule can be dispersed by manual compression under sedation or light anaesthesia ("breast popping") but may recur, in which case readmission to hospital becomes necessary to excise the capsule, redissect a larger pocket, and replant the prosthesis. There is no reliable means of predicting or preventing spherical fibrous encapsulation, but routine daily massage of the prosthesis to maintain the capacity of the dissected pocket does seem to reduce the incidence and should be continued for at least three months.

Reduction of the breast

Operational steps in most common style of reduction

Very large breasts are not only a source of embarrassment but a cause of submammary intertrigo, postural compensation leading at a later age to cervical arthropathy and deep grooving of the shoulders as a consequence of the great weight suspended from the straps of a brassière. The technique of surgical reduction whereby a large sphere is converted to a smaller one is not easy to explain but basically requires the dismantling of the breast and excision of excess breast tissue and skin (routinely sent for histological examination) before resiting the nipple and areola complex and reassembling the remaining breast into a smaller and more manageable form.

The price a woman has to pay is periareolar scarring together with an anchor shaped scar on the lower half of the breast and a nipple and areola that, as a result of being resited, may have altered erotic sensation as well as the guaranteed inability to act as a milk conduit having been detached from the underlying lactiferous ducts. (In particularly large breasts the nipple and areola are replaced as a free graft so that loss of breast feeding and sensation are inevitable.) The stay in hospital is around four days with interruption of normal daily routine for up to four weeks.

The common early complications are dehiscence at the junction of the vertical and longitudinal component of the scar and partial loss of areola skin. Both these complications can be managed conservatively with the encouragement of secondary epithelialisation. A later and more persistent complication is called low grade fat necrosis: patchy and poorly diffused areas of the breast become lumpy and tender but gradually soften after a few months.

Mastopexy

Mastopexy Correction of breast ptosis without reduction of breast volume

The appearance post partum of ptotic, striae spattered breasts of reasonable volume may be improved by reducing the skin envelope, along the same lines as for a reduction of the breast, to leave an identical pattern of scarring except for a shorter length to the horizontal scar. As the breast tissue itself is not reduced the nipple and areola can be resited without being detached from the underlying ducts and glands, thus allowing a woman to breast feed at a later date. Having, however, acquired the original ptosis as a result of post lactational involution she is unlikely to go through another pregnancy. There is no effective surgical treatment for striae except including them within the excised areas of redundant breast skin during mastopexy. A woman has to come to terms with residual striae on the upper pole of the breast.

Developmental asymmetry of the breast

Minor degrees of asymmetry of the breast are common and virtually undetectable, but more obvious asymmetry, varying from Poland's syndrome to unequal breast size requiring some form of external padding, is not acceptable and deserves treatment. Poland's syndrome (the complete form is unilateral absence of breast and nipple and areola complex associated with a hypoplastic pectoralis major and ipsilateral anomalies of the hand) is managed along the lines of reconstruction of the breast after mastectomy, but other forms of asymmetry are treated by surgical augmentation or reduction of the relevant breast. In the knowledge of potential problems of spherical fibrous contracture after augmentation of the breast a surgeon is likely to try to sway a woman towards reduction of the larger breast to match the smaller one.

Reconstruction of the breast after mastectomy

The commonest method

Reconstruction with the latissimus dorsi myocutaneous flap, which transfers skin and muscle to the chest wall where it is used in combination with a silicone gel prosthesis

About 10% of women who undergo mastectomy afterwards have persistent serious anxiety, depression, or sexual problems that justify rehabilitation by reconstruction of a breast mound, and certain other women who are not so psychologically mutilated equally deserve reconstruction should they want it. Reconstruction is not, however, generally accepted to be advisable if the original tumour was staged at more than T₂N₀M₀, although some surgeons do not believe a more extensive breast carcinoma to be a contraindication.

Reconstruction is seldom planned before three months after the original mastectomy and is usually delayed for a year in the event of adjuvant radiotherapy. A few general surgeons, however, favour reconstruction at the same operation on the grounds that if the primary clearance of the tumour and affected glands is sufficiently radical the immediate introduction of flaps and prosthesis necessary for reconstruction can be done with sound justification.

Surgical reconstruction is essentially surgical arithmetic whereby structures lost during mastectomy are replaced in kind. Thus, after a simple mastectomy, when a sufficient volume of healthy skin and pectoral musculature remain, an internal silicone prosthesis can be inserted as for a cosmetic augmentation of the breast. After a radical mastectomy with associated radiotherapy, however, both bulk and healthy skin need to be replaced in the form of either a latissimus dorsi myocutaneous flap overlying a silicone prosthesis or a transposed abdominal flap that carries sufficient bulk of fat to obviate an internal prosthesis. (This property of the abdominal flap is particularly appealing as there is a built in bonus of a simultaneous abdominoplasty, but unfortunately the chances of flap necrosis are higher than with the use of a latissimus dorsi flap.)

Alternative method

Reconstruction with an abdominal myocutaneous flap, carrying skin and an ellipse of fat to the site of mastectomy

Whatever technique is used, a breast cannot be replaced; the surgeon's goal is to construct a convincing mound that matches as nearly as possible the volume, position, and shape of the opposite breast and that permits the display of a balanced cleavage and equal filling of the cups of a brassière. Should the opposite breast be large or ptotic a compromise has to be reached in which the volume and shape of the normal breast is adjusted by reduction or mastopexy to meet the shape and size of the reconstructed breast. The possibilities, limitations, and "trade offs" in added scars in the course of reconstruction of the breast must therefore be clearly explained to a prospective patient, with the help of illustrations as required. If she has doubts about committing herself she should be advised against the operation as she is likely to be disappointed with the final result. Follow up shows, however, that informed and wholly committed patients are delighted with the planned outcome.

Surprisingly few women in Britain request reconstruction of the nipple and areola, which, if demanded, can be done either with the help of a graft from the opposite nipple and areola, if there is enough to spare, or as a tailored split skin graft harvested from the inner aspect of the thigh and draped over raised dermal flaps to give the projection of a simulated nipple. Alternatively, an adhesive nipple and areola prosthesis can be used to give the necessary "button" beneath the blouse or brassière.

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