AUGMENTATION MAMMAPLASTY

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Many women are unhappy, and some are even psychologically disturbed by the fact that they have breasts below normal in size. These patients should be carefully examined and investigated. A few who present with obvious endocrine deficiencies can be helped by hormone therapy. Others in whom it may follow too rigid dieting can be remedied by attention to a correct diet. Most often, however, the patients have true small breasts of a phylogenic type, in which the nipple and glandular substance is well developed, but which are lacking in adipose and supporting tissue.

Although these are the patients usually subjected to aumentation mammaplasty, I would stress that other important indications exist, which should be borne in mind, especially by the general surgeon dealing with breast pathology. Trauma or burns, for instance, can cause partial loss or gross scarring with distortion and deformity, and repair of such a breast might require, and be greatly benefited by concurrent augmentation of the breast.

Secondly, simple mastectomy is often essential for a variety of benign pathological lesions, e.g. patients with chronic diffuse mastitis may present with:

(*a*) Persistent nipple discharge which originates from a widespread area throughout the breast.

(*b*) Severe persistent mastodynia.

(*c*) Recurrent nodules in which repeated incisions and biopsies have to be carried out for suspected possible malignancies, each assault being associated with an emotional crisis.

In the past, such indications have as a rule resulted in a simple classic mastectomy being performed, with a resultant cosmetic deformity and often associated emo-

tional depression. These patients were generally doomed to spend the rest of their lives with the absence of one or both breasts and to wear padded brassieres or 'falsies'. Any attempt to reform these breasts surgically, after the routine simple mastectomy operation has been done, is extremely difficult and the results are often most disappointing.[1]

With this in mind, the surgeon should be aware of the advantages of augmentation procedures, and in suitable cases should plan his initial mastectomy in such a fashion as to allow for immediate or delayed augmentation.

The Technique

The technique employed is an enucleation of the entire pathological breast through a thoraco-mammary incision placed in or just above the submammary fold, leaving the skin and nipple intact (Fig. 1).

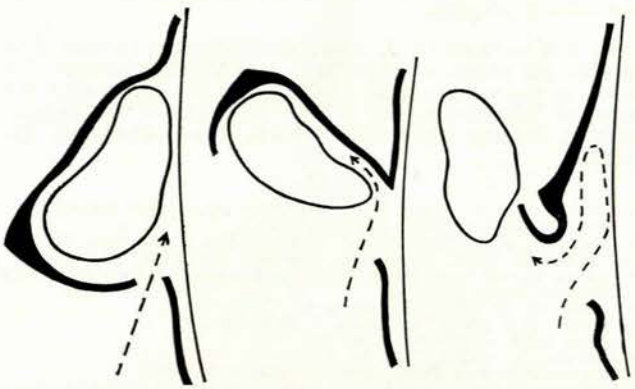

Fig. 1. Technique of enucleation of breast through submammary incision.

At this stage, because of the danger of infection, especially in those cases where there has been nipple discharge with positive culture of the fluid, it is generally advisable to close the incision, and carry out the augmentation procedure at a second operation several weeks later. This is then done through the same incision. I would stress that despite the necessity of 2 hospitalizations, 2 operations, etc., this is far safer than risking a one-stage procedure.

Augmentation Mammaplasty

A variety of methods have been and are used for augmentation mammaplasty.

Transplants of fat tissue, usually combined with attached layers of derma and fascial tissue have been extensively used, the buttock being the common donor site. While some series showing good results have been reported, the general consensus is that the results are disappointing, owing largely to varying degrees of reabsorption of the fat transplant.

Local dermo-fat pedicle flaps is another method used. These have the advantage of carrying their own blood supply and the resilience of the derma creates a breast which approximates the normal breast on palpation. Permanence can be expected, but this method is only practical in a few selected cases.

Artificial material. Recently extensive research has been carried out with a view to finding artificial material to which the body organism is indifferent, and which can be used as an artificial prosthesis to augment the existing breast, or replace a breast which has had to be removed for traumatic or pathological reasons, as discussed above.

The characteristics for an ideal implant can be listed as follows:[2]

1. It should be physically and organically inert.
2. It should look and feel natural.
3. It should remain soft.
4. It should not shrink.
5. It should not cause any inflammatory reaction, infection or formation of fluid.
6. It should become firmly attached to body tissues.
7. It should not be in any way carcinogenic.

Several suitable plastic products are now commercially manufactured and 2 of them with which I am familiar are:

1. 'Polystan' (a biproduct of the polymerization of ethylene).
2. 'Silastic' (Dow-Corning's medical silicone).

Both of the above, as well as other products, have now been used in a large series of cases, and have generally conformed to the essential characteristics and are proving satisfactory.

These commercial implants are manufactured in predetermined sizes and can be obtained in either large, medium or small sizes to suit the particular case.

The general principle of a good implant is that its outer surface should be sealed, e.g. by heating or by being covered with suitable adhesive, to prevent invasion of its substance by ingrowth of cells. This will ensure its lasting resilience and reduce the chance of infection as well as changes in its consistency.

Possible Effects

The question of possible carcinogenicity is a very worrying factor. Extensive research and review of cases involving hundreds of implants carried out in large centres in the USA, have shown no known case of proven malignancy in humans. However, caution must still be exercised, as these implants have been in use for only 10 years or so, and in experiments, using laboratory animals, malignant tumours have been produced.[3]

Before embarking on any operation involving the use of artificial mammary prostheses, the following points should be discussed with, and made explicitly clear to, the patient, who should preferably be asked to sign a form indicating that she understands the implications. The implications and possible side-effects of augmented mammaplasty are:

(*a*) Possibility that the body will not tolerate the implants. That they then may have to be removed, but that this is likely in less than 5% of cases.
(*b*) Fluid may accumulate and require to be aspirated.
(*c*) The consistency of the implants may alter.
(*d*) No case of malignancy has been known to occur in humans, but further knowledge may possibly lead to recall and removal of the implants.

Operative Technique

With regard to operative technique, the incision should be placed just above or in the submammary fold, and its diameter should be slightly in excess of the diameter of the implant.[4] The incision is deepened to reach the pectoral

fascia. In those cases of micro-mastia, where the breast is still present, its posterior aspect should be undermined, and a 'pocket' formed between this aspect and the pectoral fascia, sufficiently large for the prosthesis to fit snugly. Tension should be avoided. With this technique the breast and mammary ducts are not damaged in any way, and galactogenous function fully preserved. In cases where the breast has already been removed, the space between the pectoral fascia and skin and nipple is reopened to allow the insertion of the prosthesis. The implant can, if necessary, be held in correct position by the use of a few sutures placed between the periphery of the implant and the pectoral fascia. Haemostasis should be meticulous and preferably no drainage should be employed. The wound is closed in layers, fine silk sutures being used for the skin.

Precautions

An aseptic technique is all-important, and with this in mind the following precautions are taken:

1. The prosthesis must be carefully sterilized, autoclaved, and/or soaked in antibiotic solution (250 mg. of intramuscular tetracycline added to 1,000 ml. of saline).

2. The chest wall must be thoroughly prepared before surgery. 'Savlon' or 'phisohex' washings are suggested.

3. During operation, after the 'pocket' over the pectoral fascia has been prepared, surgeon and assistant should reglove, the patient should be retoweled, and clean instruments used.

4. Systemic antibiotics should be exhibited pre- and postoperatively.

Postoperative Care

With regard to postoperative care, the breasts should be kept moderately firmly bound, the usual care of the wound exercised and the patient told to be relatively immobile, especially with regard to excessive use of the upper limbs for a period of 1 month after operation.

SUMMARY

The aetiology of abnormally small breasts is discussed and possible means of treatment are suggested.

A variety of indications for augmentation mammaplasty are discussed.

The general surgeon's attention is drawn to the fact, and special emphasis is made with regard to simple mastectomy for benign pathological breast lesions. A procedure described for 'enucleation' of such breasts in preparation for augmentation mammaplasty.

Various augmentation procedures are discussed.

Artificial prosthesis mammaplasty is reviewed with regard especially to the following considerations:

Plastic products which are in use today.
Ideal characteristics which apply to these products.
The question of possible carcinogenicity.
Factors to be discussed with the patient before operation.
The operative technique.
The importance of asepsis.
Postoperative care.

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