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Augmentation of the Breast : A Study of 500 Cases

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THE breasts are important as sex characteristics against which the growing individual measures herself in her quest for identification. Growing children are often faced with the problem, namely : How male or female am I ? Psychologically too, the breast is important because of its role in sexual identification and motherhood.

It is very traumatic for a woman to lose a breast, which is every day experience of surgeon dealing with breast carcinoma.

We are all aware of the fact that in the past, attempts have been made to augment the breast by various methods. However, this aspect took a different dimension about 30 years ago when rubber foam and liquid paraffin were used for the purpose of augmentation. Many of these produced breasts pleasing to the eye, but invariably characterized by hardness—sometimes rocklike, but always unnaturally firm. In the last one year, we have taken out three very hard foam rubber prosthesis introduced by Humby. However, in the sixties, a silastic gel prosthesis came into use which has improved over the years through study and research. Therefore, in our opinion, we have now come to a far more modified prosthesis which is soft, non-carcinogenic and well tolerated by the body.

Material and Methods

The present paper is based on our study of 100 cases treated in the last 12 months : in addition, there is a study of 400 cases treated in the last six years.

The prosthesis we are using consists of a non-inflatable silastic gel which is seamless around the base and does not contain patch at the back. The most commonly used prosthesis, in our practice, is low-profile round-shaped, although in certain cases we have also used the low-profile L-shaped prosthesis.

In our series, the average age-group of the patient was 30 years. Of these 70 per cent were patients who had already borne two or three children, had a small breast to begin with, and had become conscious of its size and appearance at a later stage. In the second group came about 15 per cent of patients who had requested augmentation before marriage or pregnancy. In the third category, there was a small percentage but a very significant group of patients who had suffered from asymmetry of the breast. The fourth group, an even smaller number and percentage than third one mentioned earlier, comprised those patients who had undergone mastectomy for fibrocystic disease or carcinoma of the breast.

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Among the various existing approaches, we commonly use the "infra-mammary approach', which is easy, simple, less time-consuming and can attain a perfect haemostasis. No doubt this includes the disadvantage of a visible scar but it is accepted by almost all except those patients whose profession demands exhibition of that part of the body.

In this particular approach, the incision is given two inches in length and the breast tissue is cut through until it reaches the pectoral fascia. From then onwards, the cutting cautery is used, coagulating at the same time all bleeding points until an adequate cavity is formed for the prosthesis. The plane is between the breast tissue and the pectoral fascia. It is felt that the cutting cautery has made a great difference to the rate of good results and that the loss of blood is reduced, being only 20 cc to 40 cc. The prosthesis should fit with ease ; therefore, we usually go medially up to the lateral border of the sternum, avoiding injury to the perforating branches of the internal mammary vessels, laterally about one centimeter beyond the lateral border of the pectoralis major, avoiding injury to the branch of the nerve supplying the nipple of the breast, above up to the second rib and the lower is limited by the incision itself. After fitting the prosthesis, we close the incision in three layers; the first is, breast to breast; the second is sub-cutaneous; and the third is skin closure.

After surgery, a light elastic adhesive dressing is used to keep the prosthesis in position and to also serve the purpose of a "pressure dressing". This dressing is removed on the fifth day and replaced by a firm brassiere without stiff wires or struts to avoid erosion.

The most commonly used prosthesis, in our practice, is manufactured by the Medical Engineering Corporation Racine which is 175-185 cc in size. This is at variance from the American experience, in which case 225 cc to 265 cc is being used. I presume that this is because of the difference in the size of the physical standards of that country. Of course, the size depends on the patient's height, weight, chest contour and the desired expectations.

In regard to the post-operative stage, the patient may go home if there is no complication on the fifth day. Even then, it is advised that there is a minimum movement of the shoulder, especially abduction for two weeks from the time of surgery. This procedure, we feel has cut down the seroma formation and the capsule formation. Later, the patient is allowed gradual increase in movement and in six weeks time she can lead a normal active life including swimming, tennis and other sports, In other words, the patient feels that the prosthesis has become a part and parcel of the body.

Anaesthesia

Normally general anaesthesia is used as this is preferred by a majority of patients. On the other hand, local anaesthesia is equally good.

Complications

The usual complications that could be encountered in a surgery of this nature are :

Scar forming tendency in each individual ;

haematoma (either gross or sub-clinical ;

low-grade sub-clinical infection ;

inadequacy of the pocket to receive the implant (stretching rather than clean dissection) ;

trauma to the tissue stimulating over production of fibrous tissue ;

external trauma ; and

rejection (as seen in two cases, without the presence of clinical or bacteriological infection).

Management of Complications

In view of the limitations of the extent of this paper, we will state here the management of only some of these complications. Early recognition and early institution of conservative treatment is important. In this the common complications are in the immediate category, that is, haematoma, infection and popping out of the prosthesis. In the late complications is a keloid formation of the scar and capsule formation around the prosthesis.

Haematoma

With the use of the electro-cutting cautery we have managed to cut down to a negligible degree the haematoma formation. In the last 100 cases we have only had one haematoma and that was in the superficial sub-cutaneous tissue. We feel that this happened because we were using "POR-8", a very powerful vaso-constrictor into the superficial layers to give us a bloodless field but it also masked small bleeders, which when the effect of the drug was gone, caused haematoma. Since then we have discontinued the use of "POR-8". Nevertheless, in some cases when absolute haemostasis has not been attained, a small sero-sanguinous collection can take place which may later aid in the formatian of a capsule. Hence, absolute haemostasis is a must and should be ensured.

Infection

Again, fortunately, a very rare complication in our series, Frank infection took place in one case in which the prosthesis had to be removed but in 10 cases the infection could be controlled by antibiotics. An interesting observation was that in all these 11 cases a further interrogation revealed the evidence of either breast abscess or mastitis in the past.

Popping out of the prosthesis

This was encountered in two out of 100 cases. In these two cases, we could not find any evidence of infection—clinically, bacteriologically or histologically—and yet, there could be a possibility of the rejection of the prosthesis. This matter is being studied further and, consequently, I would not delve on the subject any more.

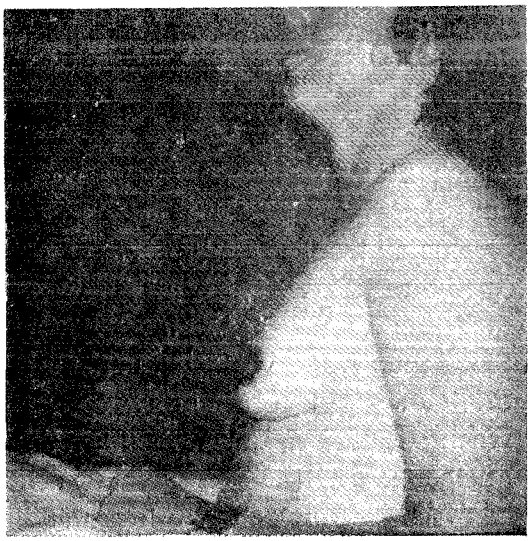

Fig. 1—Preperative Photograph

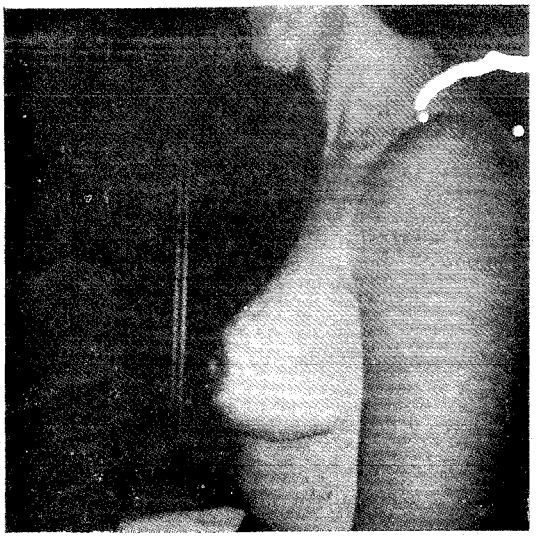

Fig. 2—Post-operative appearance Scar is not visible

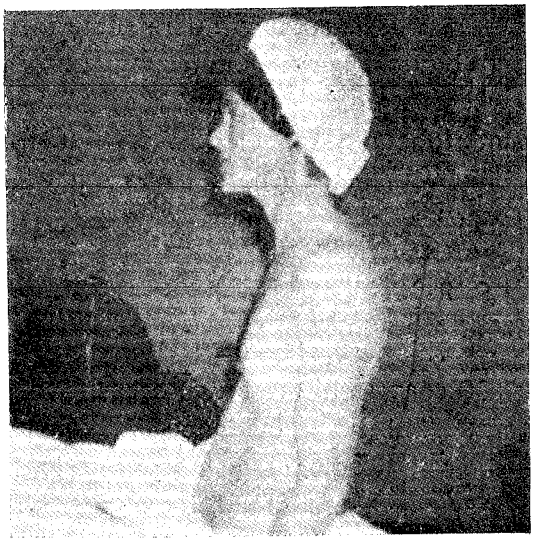

Fig. 3—Preoperative appearance—Note the Small breast

Fig. 4—Post-operative Marked improvement by prosthesisim photograph.

Capsule formation

This is one aspect that every plastic surgeon dreads. As you know, this is a a form of "keloid" formation around the prosthesis and is indicated by the firmness of varying degree around the breast. In our earlier series, the average was 25 per cent but with all the precautions taken, and the use of improved prosthesis, we have managed to cut down to 10 per cent. In this the precautions are :

—absolute haemostasis ;
—adequate pocket formation ;
—aseptic technique to avoid any infection, clinical or sub-clinical ;
—rest to the part of the body to avoid serum collection ; and
—improved prosthesis.

However, then too (in spite of the above) there could be a 10 per cent occurence. For this purpose, during the last few months we have started evaluation of the use of a "kenacort injection" at the time of surgery. In this connection, it should be clarified that once the capsule is formed, it can be of varied extent. If we get a hint of this in the beginning, a cortizone cream is locally applied. The one most commonly used, in our practice, is the "aristocort cream". The advantage of this is two-fold ; one, that the patient psychologically feels that something is being done and two, that it does react positively in some cases leading to good results by softening the capsule.

Open Capsulotomy

Once we are convinced that this is not effective, we start by re-opening the breast to remove the prosthesis and to incise the capsule at the circumference, inject the kenacort and replace the prosthesis. This process of capsulotomy is an effective measure. based on 110 cases of capsule formation and recurrence has not been seen. This measure, effective as it is, has the psychological disadvantage of re-surgery.

Close Capsulotomy

Therefore, we have started a technique which you might think, and rightly so, contrary to the surgical principles which is what we call a "close capsulotomy." This entails squeezing of the capsule from the surface, under anaesthesia until we feel that the capsule has given way and the breast has become soft. After this manipulation, a firm dressing is applied with adequate padding and is kept in place for 72 hours. When the dressing is removed, if all is well, the patient is allowed to go home and is advised the local application of the "aristocort cream" to safeguard against any further chance of reformation of the capsule. In this case, we agree that the reformation of the capsule can take place but in the 10 cases during the last six months (three of which were our own and the other seven of other plastic surgeons of Australia) so far there has been no evidence of the reformation of the capsule after this manoeuvre. We do not believe that this manoeuvre is an office procedure because of the possibility of bleeding within the tissues, as we have seen two cases in which bleeding took place and were dealt with by us as an emergency.

In this connection, we should also like

to mention one observation which we have made in that after the sub-cutaneous mastectomy and immediate replacement with prosthesis, an early firmness is seen which after a couple of months tends to become softer. In view of this observation, we wait for a reasonable time for the softening to appear. In the case of a hypoplastic breast, after augmentation, the first indication of the firmness appears any time after three months. When this does appear, we cannot expect any softening on its own, that is, the beginning of capsule formation.

Keloid in the scar

Fortunately, a very rare complication in our series, we have seen so far only one case in our 100 cases and the previous 400 cases there is evidence of three cases. All these four cases have been adequately controlled by a series of kenacort injection into the keloid.

Conclusion

In conclusion, it is recommended that the results of augmentation of the breast for various indications with the latest non-inflatable prosthesis and with the modification of the technique gives excellent results in majority of the cases. We feel that the approach described is simpler and the overall results are far superior than other techniques.