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EFFECT OF DERMAL EXCISION OFF INFERIORLY BASED FLAP IN REDUCTION MAMMAPLASTY

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Aim: *to study the effect of full thickness excision off the inferiorly based flap.*
Methods: *Reduction mammaplasty by the inferior pedicle technique used in two equal groups of 30 patients, 1st. group the flap based on dermoglandular tissue, 2nd. Group the flap based on glandular tissue only with excision of full thickness skin off the flap.*
Results*: Concerning the aesthetic results and complications there is no significant differences between the two groups. A comparative study between the two groups revealed that the retained dermis does not improve the vascularity of the nipple and areola but the operative time showed marked difference, in the first group (dermoglandular pedicle), the mean operative time was 207 minutes while in the second group (glandular pedicle) the mean operative time was 130 minutes.*
Conclusion: *Reduction mammaplasty by the inferior pedicle technique is versatile, safe and easy. Full thickness excision of the skin from the inferior pedicle save the time, avoid possibility of post-operative inclusion dermoid cyst formation and reduced anesthesia time without any effect on the breast projection and viability of the nipple areola complex.*

Keywords: *Breast Reduction, full thickness skin, inferior flap.*

INTRODUCTION

The primary objectives of reduction mammaplasty are to reduce the weight and volume of the breast, create a more aesthetically pleasing shape by excising the excess tissue and reposition of the nipple, areola complex.[1] In the United States and elsewhere the inferior pedicle technique and its variants currently are a popular, if not the most popular method of reduction mammaplasty.[2-7] The pedicle in the "inferior pedicle" technique can be of dermis, with glandular tissue at its base under the nipple and areola,[8] or it can be a glandular pedicle without dermis.[9] Robbins in 1990 mention that the retained deepithelialized dermis of the pedicle is probably not essential for the viability of the pedicle and the nipple but he has have always retained it because he do suspect that the sub dermal plexus is very important, and retention of the dermis ensures the safety of this plexus.[10] In my study I used both types of the flaps (dermoglandular and glandular) in two equal groups of patients, a comparative study is represented.

PATIENTS AND METHODS

Reduction mammaplasty (inferior pedicle flap technique) was done on 120 breasts of 60 patients in the period between January 2002 & December 2004. Patients ranged in age from 19-45 years, mean age 32.1 years, the weight of the patient ranged from 52 - 110 kg. (Mean wt. 78.3 kg.) 16 of the patients were single and 44 were married. All patients had a mammography prior to surgery in addition to the routine investigations. The pedicle in the inferior pedicle technique was based on the glandular tissue with the dermis in 30 patients (1st. group) & on glandular pedicle without dermis in the 2nd. Group. Patient follow up ranged from 9 to 28 months with an average follow-up of 12 months.

Pre Operative Marking: The new nipple and areola position was marked pre-operatively, with the patient in sitting position a line is drawn from the middle of the clavicle to the nipple. A finger is placed behind the breast in the inframammary fold with the breast partially

supported, the level of the fold is marked across the first line drawn, and this becomes the future upper level of the areola. Usually the nipple was located at 22 to 25 cm. from the sternal notch on the midclavicular line. In huge breasts the site of the nipple and areola are always marked lower than this level. Then the keyhole wire pattern is placed on the breast with its top at the upper level of the areola with equal horizontal length of the medial and lateral flaps (from 4-5 cm.). The inframammary crease is marked and the opposite breast is marked in similar manner.

Operative Technique: General Endotrachial anaesthesia was used; markings reinforced with No.23 needle. In the first group, after completion of deepithelialization, incisions were made along the vertical sides of the flap using cutting electrocautery. The dissection stops 1-2 cm. superficial to the chest wall leaving a strip of breast tissue overlying the pectoralis major muscle and connected to the inferior pedicle to ensure safety of the nipple sensation. After complete dissection of the pedicle (base 10 x 10 cm. and the length 15-20 cm.) The previously marked medial and lateral breast tissue excised. The rest of the tissues planned for excision were removed using the same procedur In the second group the same technique was used but with full thickness excision of the skin off the inferior pedicle & key hole area (Figs. 1,2) with preservation of circumareolar rime of Dermis about 1 cm. The final result is inferior pedicle flap based only on glandular tissue without the dermis except 1 cm. circumareolar dermal support (Fig. 3), after complete haemostasis a suction drain was inserted separately for each breast

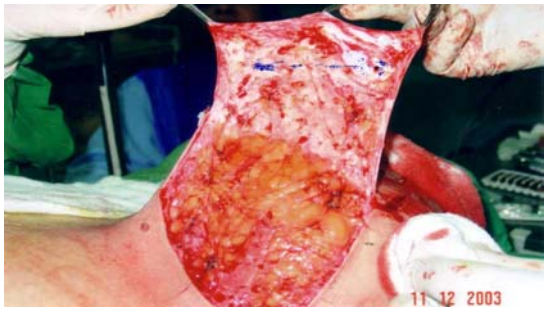

Fig 1. Full thickness excision of the skin.

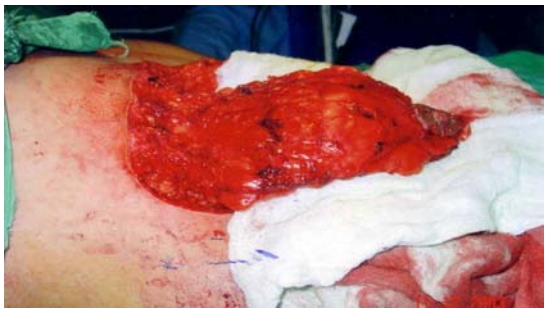

Fig 2. Pure glandular flap.

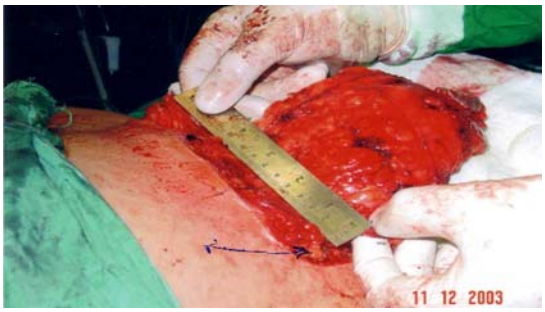

Fig 3. The base of the flap is 10 cm

Closure: Closure of the medial and lateral incisions was started at the medial and lateral limits of the wounds. This allows excision of any excess in the flaps at the mid point of the inframammary crease with good projection of the breast. Closure was done in two layers with 3/0 vicryl & 6/0 ethelon and 4/0 silk for the areola, dressing was applied and sterile bra for breast support was applied in the theatre.

Broad spectrum antibiotic was used for 5 days[11] the suction drains were removed on the second post-operative day. Areolar sutures were removed after one week & the rest of the sutures were removed after 10 days. Use of suitable bra was recommended for one month.

RESULTS

Three cases developed hypertrophic scars which were responded to Triamcinolone intralesional injection. Tow cases had asymmetry of the areola. Two cases needed scar revisions. Two cases developed transient diminished nipple and areolar sensation. One case had post-operative haematoma, which was evacuated on the same night of surgery and the patient had uneventful post-operative course Table 1. Concerning the complications and aesthetic results there is no significant differences between the two groups.

The operative time showed marked difference, in the first group (dermoglandular pedicle), the mean operative time was 207 minutes while in the second group (glandular pedicle) the mean operative time was 130 minutes (Fig. 4).

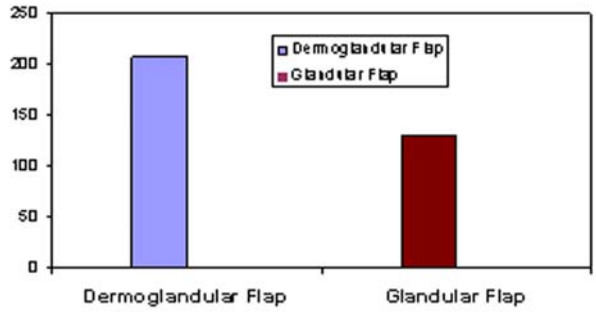

Fig 4. Operative time.

Table 1. Complications.

	Hypertrophic scar	A symmetry of nipple and areola	Post-operative Haematoma	Transient diminished nipple sensation
1st group	6,67%	3,33%	3,33%	3,33%
2nd group	3,33%	3,33%	0,00%	3,33%

DISCUSSION

Developments in the technique of breast reduction has produced a number of procedures yielding satisfactory, long-lasting results in terms of shape and scarring. However, preservation of nipple-areolar sensation after breast reduction has become a greater issue. Surgical techniques using an inferior pedicle has been recommended to preserve the nipple and areolar sensation after surgery, based on anatomical studies of cadavers.[12,13] The advantages of the inferior pedicle flap technique are that: it has rich axial pattern of blood supply,[14,15] it allows the surgeon to resect breast tissue wherever required, and it preserve normal sensation to the nipple and areola.[16]

In my study non of the patient lost the nipple and areolar sensation except transient diminished sensation for two weeks in two patients.

The aesthetic results are generally excellent and the operation is relatively easy to learn.[9] Crepeau &Kllein noted that there is blind acceptance of the concept that the dermal blood supply around the nipple areola complex is important in assuring viability of these structures and that full thickness excision spells disaster.[1]

In my study non of the patients in the second group developed ischemic changes in the nipple and areola complex due to full thickness excision of the skin off the flap .

Reduction mammaplasty by the inferior pedicle technique is safe, simple and versatile. This procedure achieves excellent results and is associated with a high degree of patient satisfaction.[17]

In 1984 Kawland et. al. described that; if epithelial elements are retained within the enfolded dermoglandular structures, epithelial inclusion cyst (or squamous epidermal inclusion cyst) formation may occur.[18] Although the incorporation of dermis is probably not essential for viability, the dermis does offer stability of the pedicle with greater support to the medial and lateral flaps.[1]

In this study I used the inferior pedicle technique in two equal groups of patients each group 30 patients. I observed that full thickness excision of the skin off the inferior pedicle does not affect the viability of the nipple, areola complex, nor the wound healing or the support of the medial and lateral flaps (Figs. 5,6), but it save too much time and reduce the exposure time of the patient to general anesthesia & make the operation easy to done and to learn and reduce the possibility of post-operative inclusion dermoid cyst formation.

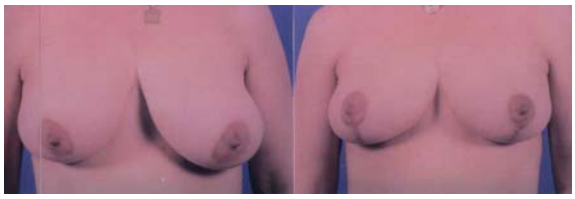

Fig 5a. Front view pre &post operative (dermoglandular flap).

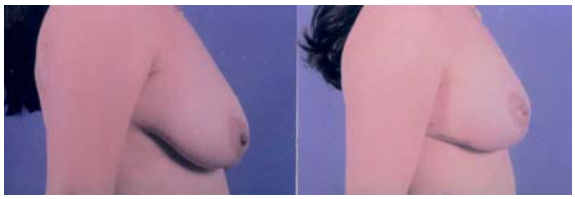

Fig 5b. Lateral view pre &post operative (dermoglandular flap).

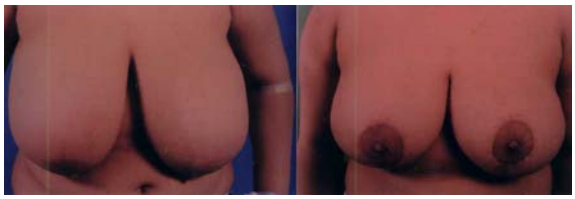

Fig 6a. Front view pre &post operative (glandular flap).

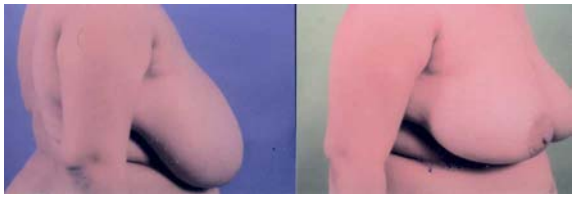

Fig 6b. Lateral view pre &post operative (glandular flap).

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