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Extended Abstract

The Posterior Scar Brachioplasty with Fascial Suspension vs the Double-Ellipse Technique

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ABSTRACT:

The traditional long medial arm incision with its resultant scar is not acceptable. The author confers his longstanding experience in performing the posterior scar brachioplasty with fascial suspension vs. the double-ellipse technique. The aim of the author is to demonstrate the reasons for the choice of the double ellipse technique.

INTRODUCTION:

There are now a variety of useful arm-rejuvenation methods available. Unfortunately, none of these methods have met with complete satisfaction. In these methods are dermolipectomy of the arm with a longitudinally oriented scar that is placed in the brachial sulcus, quadrangular flaps and T closure, W-plasties, fascial system suspensions, deep-helialized rolled-up flap and lipoaspiration.

The modifications focused mainly on improving the poor aesthetic outcome of scar sequelae, such as retractility, healing and scar widening.

Combination procedures including skin resection and liposuction and energy sources based on laser or radiofrequency are performed to facilitate skin contraction and improve the quality of the scar.

The demand of the brachioplasty has increased because of the increasing number of individuals who have experienced massive weight loss. Therefore, there is a constant search for new techniques to improve aesthetic outcome. In high weight loss patients, limited scar brachioplasty does not work well in the arm deformity. Thus, the plastic surgeon necessarily has to choose between a posteriorly or medially located scar on the upper arm.

METHODS:

Between 1999 and 2012, 205 patients with brachial deformities were treated with the posterior scar technique with fascial suspension. Age at operation ranged between 21 and 66 years. Each of the patient was inspected, and the author reviewed and revisited their medical charts during the follow-up period (29–98 Mo). The author shift to the double ellipse technique and used to treat on 200 cases till 2019. Age at surgery ranged between 26 and 60. Follow up ranged between 21-85 months. A Likert scale and an evaluation questionnaire were used to assess the aesthetic outcome of both techniques.

Furthermore, we used the pre- and postoperative photographs for evaluation that was judged by the senior author and the patient.

For the posterior scar technique, The amount of skin excised was marked with the arm at 90° to the body and patient is standing. The posterior landmark is marked midway between the olecranon and the medial epicondyle and extended to the axilla. The anterior landmark is All patients underwent general endotracheal intubation, and all procedures were started with infusion of 0.1% lidocaine in an epinephrine/saline 1:100,000 concentration to create a tumescence of 2:1. The liposuction was commenced by means of small, multiple stab wounds (0.5-cm long). We used the vacuum pump method (Wells Johnson, Tucson, Ariz.) with 4- and 6-mm (15- to 25-cm) cannulas. Suction was limited in depth to the superficial fascia and addressed the complete circumference of the arm. The procedure ended with superficial liposuction to eliminate irregularities and to enhance skin contraction placed 1 finger breadth below the brachial sulcus and meets the posterior landmark on both ends.

An incision was placed in the brachial sulcus (on the long axis of the arm) and extended from the axilla to the middle of the arm and located on the brachial sulcus. The incision was deepened to the honeycomb plane that was created by the liposuction cannula and then dissection proceeded inferiorly to the desired extent. Undermining should be limited to the cutaneous flap that needs to be excised. The skin and subcutaneous tissue of the upper margin of the resultant defect was pulled downward to the inferior landmark of the dissected lower flap and tacked to the deep fascia with 2-0 nylon suspension sutures . This created a low-lying posterior scar, which decreased tension on the suture line and prevented widening of the scar. The elevated flap was then excised . Multiple-layered closure was performed with absorbable sutures . The procedure was ended by liposuction of the lower medial, anterior, and posterior aspects of the arm with a 4-mm cannula to avoid dog-ear and to avoid lengthening of the incision. Patients with severe ptosis and no deposit of adipose tissue or relatively low fat; the incision may extend from the axilla to the back elbow. We use the compression garments for 3 weeks postoperatively.

	Very Dissatisfied	Dissatisfied	Moderately Satisfied	Satisfied	Very Satisfied
1. Location of the scar			13 patients (6.3%)	12 patients (5.8%)	180 patients (87.8%)
2. Symmetry of the scar			9 patients (4.4%)	20 patients (99.8%)	175 patients (85%)
3. Quality of the scar			20 patients (9.8%)	60 patients (29.3%)	125 patients (61%)
4. Arm contouring				15 patients (7.3%)	190 patients (93%)
5. Aesthetic outcome				23 patients (11.2%)	182 patients (88.8%)

Total number of patients is 205.

Analysis of the Data of the Likert Scale, Posterior scar technique

	Very dissatisfied	Dissatisfied	Moderately satisfied	Satisfied	Very satisfied
1. Location of scar			7 patients(3.5%)	8 patients(4%)	185 patients(92%)
2.Symmetry of scar			3 patients(1.5%)	14 patients(7%)	183 patients(91%)
3. Quality of scar			11 patients(5.5)	55 patients (27.5)	134 patients((67%)
4.Arm contouring				patients 13(6.5)	187 patients(93.5)
5. Aesthetic outcome				20 patients(10%)	180 patients(90)

Analysis of the Data of the Likert Scale, Double ellipse technique

total number of patients is 200

RESULTS:

All patients who had undergone the technique of the posterior scar were free of postoperative contour deformities. Postoperatively, when viewed from the front of the patient and laterally, the scar was completely invisible, but was partially visible when viewed from the back of the patient. And 88.8% of patients accepted the scar with high satisfaction. Three patients developed postoperative distal edema, due to skin tightness, one patient experienced dysesthesia due to injury of the medial brachial cutaneous branches. Mean time of surgery was 90-100 minutes for both arms

Patients who underwent the double ellipse technique were also free of contour deformities, scar was also sited posteriorly, distal edema was reported in 2 patients, medial brachial cutaneous branch injury in 4 patients. 7 patients developed hypertrophic scars. And more than 90% of patients tolerated the scar with high satisfaction. Mean time of surgery was 60-75 minutes for both arms

CONCLUSIONS:

The loss of support structures to the lower arm curve results in brachial ptosis developing and subsequently the brachial sulcus appearance. Furthermore, patients with high weight loss are likely to develop marked ptosis.

The subsequent scar maneuver with fascial suspension prevented tension on the suture line and thus prevented scar widening and facilitated modeling by removing the appropriate amount of skin and subcutaneous tissues. When viewed from the front of the patient or the lateral patient it creates a low-lying, posterior, well-hidden scar. The scar is visible partially (top third) when viewed from the back of the patient. The technique controls the location of the scar on the desired location.

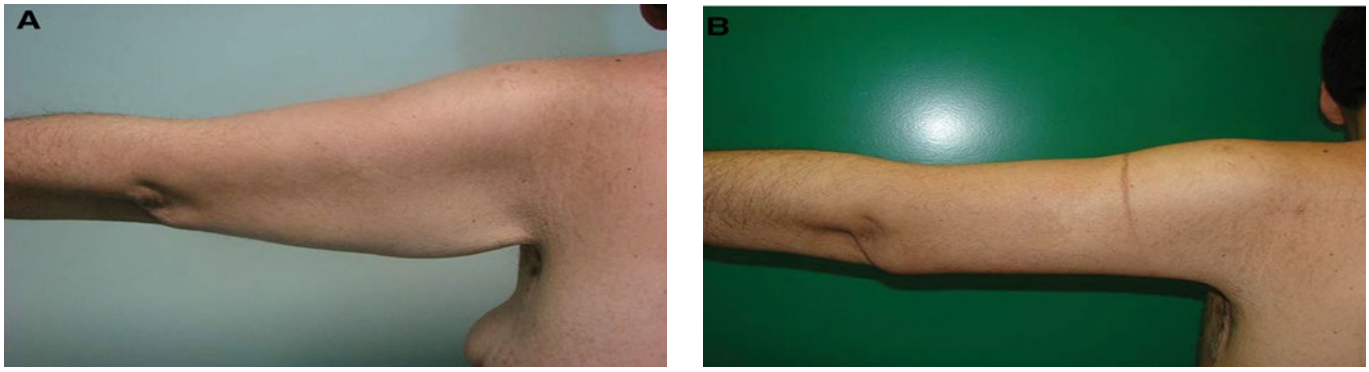
The double ellipse technique does not control the location of the scar on the desired location. But could be sited posteriorly. The dissection is more superficial avoiding the injury to lymphatics and cutaneous nerves, and time of surgery is shorter, it does not need more expertise. Mild migration of the posterior scar as well as hypertrophy also noted in 7 patients

Illustrations

Preoperative and one year Post-operative views

Fig. 1 Preoperative and one year Post-operative views

Fig. 2 Preoperative and 2 years postoperative views



Preoperative and 2 years postoperative views

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