psychological and cosmetic effect on the patients. Scar revision and laser treatment have been used over the past century for the improvement of many different types of scars. The purpose of this study is to evaluate the effectiveness of early combined carbon dioxide ablative fractional laser (AFL) and the pulsed dye laser (PDL) after scar revision.

**MATERIALS AND METHODS:** 14 patients underwent scar revision were enrolled for this study. All patients were treated with combined a 10,600 nm AFL and 595 nm PDL. The laser treatments were performed 2 weeks after scar revision surgery, which is the early remodeling phase, at 4 weeks intervals. Four treatments were performed. Vancouver Scar Scale (VSS) scores were evaluated before treatment and 5 months after final laser treatment.

**RESULTS:** Each VSS scores presented statistically significant improvements except height (Fig. 1). There were no adverse complications such as wound disruption, hyperpigmentation and hypopigmentation during the follow up periods.

**CONCLUSION:** This study shows that early combined ablative fractional CO2 and pulse dye laser treatments after scar revision are an effective and safe method to minimize scar formation.

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The Effects of Botulinum Toxin A on Fibrotic Activity and Cell Cycle Modulation in Keloid Fibroblast

Young Seok Kim, MD, PhD

**INTRODUCTION:** There are many studies showing antifibrotic effect of various methods in keloid fibroblast. The purpose of this study was to find out the antifibrotic effect and cell cycle modulatory effect of botulinum toxin A (BoTA) in keloid fibroblast. In order to reveal the effects, we have evaluated; 1) changes of collagen synthesis and degradation by BoTA, 2) effects of BoTA under fibrotic stimulation condition by TGF-β, and 3) effects on the cell cycle and apoptosis of keloid fibroblast.

**MATERIALS AND METHODS:** Human keloid fibroblasts were treated by 0, 1, 5, 10 uint/105 cells of BoTA (Allergan, Irvine, CA) for 48hrs with and without 10ng/ml TGF-β. Type I and III collagen were analyzed quantitatively by RT-PCR. Time dependent effect of BoTA on MMP-1,2,9, TIMP-1 were examined by RT-PCR and gelatin zymogram. Changes of cell cycle were evaluated by flow cytometry (FACS analysis). The effect on apoptotic activity was evaluated by quantitative analysis of p53 and Bcl-2 through western blot. The effect on cell cycle modulation factors was analyzed by western blot of p21 and cyclin B.

**RESULTS:** When TGF-β was added simultaneously with BoTA, type III collagen mRNA expression significantly decrease in the keloid fibroblasts (p<0.05), however, type I collagen expression was not affected by BoTA. MMP-1 mRNA expression increased by BoTA, however, was not affected by adding TGF-β. MMP-2 activities increased by BoTA and even after adding TGF-β. TIMP-1 and MMP-9 activities were not affected by BoTA. The flow cytometric analysis for BoTA-induced cell cycle in keloid fibroblast showed the resting phase cells under BoTA were more than those in control. (Control: G0-G1:73.49%, G2-M:13.47%, S:13.04%. BoTA: G0-G1:75.67%, G2-M:16.56%, S:7.76%) p53, an apoptotic protein, showed significant increase in a dose-dependent fashion by BoTA under TGF-β(10ng/mL) (p< 0.05). p21, a cell cycle regulatory protein, showed dose-dependent increase by BoTA. However, Bcl-2 and cyclin B1 significantly decreased as antagonistic effects against p53 and p21.

**CONCLUSION:** BoTA has an inhibitory effect on type III collagen synthesis and can increase degradation of extracellular matrix. G0-M phase of keloid fibroblast was prolonged due to changes of cell cycle affected by BoTA. Additionally, BoTA can increase apoptosis of keloid fibroblasts but this effect can be promoted in just active proliferation phase of keloid.

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The Usage Of Adipofascial Anterolateral Thigh Flap For The Reconstruction Of Soft Tissue Defects At Extremities

Guzey Serbulent, MD; Sahin Ismail, MD; Mustafa Nisanci, MD; Isik Selcuk, MD

INTRODUCTION: Although reconstruction with adipofascial anterolateral thigh flap (ALTA) is commonly recommended treatment alternative for the extremity defects there are a few studies published in the literature. In this study it was aimed to show the advantageous and disadvantageous of ALTA flap due to experiences that we got from 9 patients at whom superficial extremity defects were reconstructed with ALTA flap.

MATERIALS AND METHODS: From 2008 to 2016, 9 patients with extremity defects were treated. All soft tissue defects are superficial and are localized on the hand dorsum in 2 patients, on the palmar aspect of left hand in one patient, on the right wrist in 2 patients, on the left wrist in 2 patients, on the knee in one patient and on the foot dorsum in remaining patient. Wounds were prepared by serial debridement and closed with ALTA flap as soon as possible. During the separation of the flap a minimum of 3 mm fat (a little bit more around the perforator vessel entry) should be preserved over the fascia to ensure the vascularity of the flap. The flaps were inset to the defect adipose side upward in three patient and downward in 4 patients.

RESULTS: Eight of nine flaps were supplied with musculocutaneous perforators, while the remaining flap was supplied with septocutaneous perforator. The overall flap survival rate was 100 %. In three cases, which all are adipose tissue upward inset flaps, partial skin graft loss occurred. Secondary skin grafting was performed and the wounds closed successfully. Other flaps have also minor graft loss due to minor hematoma, but these areas do not need any surgical intervention and epithelized spontaneously. No secondary debulking procedures were required in any of the flap. All of the donor sites were closed directly with acceptable appearance, minimal donor site morbidity and no contour deformation except in one patient. In that patient wound dehiscence was occurred in the donor site incision. The wound was closed with split thickness skin graft.

CONCLUSION: In this study we observed that ALTA flap is an appropriate choice for the reconstruction of soft tissue defects at the extremity. The main advantages of the flap are; sufficient size and pedicle length with pliable structure, minimal donor side morbidity, good aesthetic result and prevention of adhesions.

DISCLOSURE: None of the authors has a financial interest in any of the products, devices, or drugs mentioned in this manuscript

The Use of the Laser Level to Ensure Symmetry in Aesthetic Breast Surgery

Michael E. Kelly, MD; Giselle Prado, BS; Emma Kelly, BA; Jose Rodriguez-Feliz, MD

INTRODUCTION: Extensive research has been conducted into the ideal aesthetic lengths and heights of various body parts, but the methods of implementation to achieve symmetry in plastic surgery remain the same: a tape measure and our artistic eye. When performing mastopexy or breast reduction, the new Nipple Areolar Complex (NAC) is often marked by transposing the location of the inframammary fold (IMF) onto the anterior surface of the breast. Plastic surgeons use the range of 19-23cm from the sternal notch (SN) to the IMF as the ideal nipple height.1 The process of copying the height of the NAC from one breast to the other is complicated by differences in width and projection between breasts. We present our technique for marking the new NAC position during aesthetic breast surgery using a laser level.

MATERIALS AND METHODS: The new NAC position was marked on the right breast by transposing the IMF onto the anterior surface of the breast. The distance from the SN to this point was calculated with a tape measure and transposed to the contralateral breast. The laser level was then used to ensure symmetry. Adjustments in NAC height were performed as indicated by the laser level.

RESULTS: The new NAC position on the right breast was measured at 19 cm from the SN. When the transposed measurement on the left breast was verified with the laser level, we found the new NAC to be 1 cm higher as calculated by the tape measure. After adjustments, the correct nipple height was 20 cm from the SN on the left breast. Post-operative results show symmetric NAC placement.