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Combined Flexor Hallucis Longus Muscle and Free Fibular Osteocutaneous Flap for Head and Neck Reconstruction

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**BACKGROUND:** Reconstruction of head and neck defect after tumor ablation is challenging. The aim of reconstruction is not only repairing the defect, but maintaining functional demand and a pleasing facial contour. In some cases, the conventional fibular osteocutaneous flap may not provide sufficient soft tissue for obliterating dead space after tumor ablation. Increased incidence of fluid accumulation, poor wound healing and unsatisfactory cosmetic results perplex both patients and surgeons. In this study, we used a combination of a segment of fibular bone osteocutaneous flap and flexor hallucis longus muscle for reducing recipient site complication and achieving better cosmetic results in head and neck reconstruction after tumor ablation.

**MATERIALS AND METHODS:** This retrospective study evaluated 212 consecutive patients (201 males and 11 females) with an average age of 52.75 years (range, 26–78 years) who required mandibular reconstruction for aggressive benign or malignant disease with a free fibula osteocutaneous flap at Kaohsiung Veterans General Hospital (Kaohsiung, Taiwan) between February 1998 and December 2017. In each case, a segment of fibular bone (range, 5 to 22 cm, mean 10 cm) was harvested with single or double skin paddle (5.5x3.5 to 13x10 plus 12x8 cm² in size) in combination of flexor hallucis longus muscle for reducing recipient site complication and shaping the mandibular contour.

**RESULTS:** All flap survived except total flap failure occurred in 7 patients (3.3 percent of the flaps) and orocutaneous fistula occurred in 2 patients (0.9 percent of the flaps). Patients had achieved satisfactory contour without significant donor site morbidity at a mean 12-months of follow-up. The flap related complication (wound infection, poor healing and fistula) is reduced. However, the flap failure rate is slightly higher (no significance) than conventional osteocutaneous fibular flap (4.1 percent of 121 flaps) due to complexity of the chimeric flap harvest and inset.

**CONCLUSION:** This refinement of free fibula flap for mandibular reconstruction can reduce surgical complication and achieve better aesthetic results when combined with flexor hallucis longus muscle.

Multiple Lymphaticovenular Anastomoses in Preventing Lymphedema Following Complete Lymph Node Dissection in Melanoma Patients

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**PURPOSE:** Sentinel lymph node biopsy (SLNB) is an essential surgical procedure in staging and management of intermediate-thick melanomas. Although recent studies have shown that complete lymph node dissection (CLND) does not improve 3-years specific survival, its usefulness in increasing disease-free period and control of local disease remains confirmed. The most frequent complication related to CLND is lymphedema, that could affect, in either its clinical or subclinical form, up to 40% of patients undergoing CLND. Our purpose was to assess the preventive use of lymphatic-venous micro-anastomoses in avoiding such complication.

**MATERIALS AND METHODS:** We performed a single-institution retrospective case-control study, including patients treated with CLND from June 1994 to December 2016. CLND was proposed to all subjects with positive-SLNB; from 2012, a preventive procedure with preparation of multiple lymphaticovenular anastomoses, which we named preventive multiple anastomoses (PMA) was proposed to subjects undergoing CLND. Frequency of
lymphedema was compared among subjects that were or were not treated with PMA during CLND.

RESULTS: Database evaluation revealed 26 patients treated with PMA during CLND (PMA group) and 138 subjects who underwent CLND without PMA (control group). In patients with almost 3-years of follow-up, frequency of lymphedema was significantly lower in PMA group than in control group (4.3% vs 24.1%, p<0.05). Patients of PMA group and control group showed similar 3-years recurrence-free period (65.2% vs 62.5%, log-rank test p=0.80) and 3-year overall survival (73.9% vs 72.5%, log-rank test p=0.89) and frequency of nonsentinel-node metastases (26.7% vs 30.4%, p=0.71).

CONCLUSION: We have demonstrated that PMA represents a useful and safe procedure in prevention of lymphedema in melanoma patients undergoing CLND. PMA could sensibly reduce complication related to CLND, while allowing the control of regional disease and an increase in diseases free-period.

Patient Reported Satisfaction and Quality of Life in the First Year Following Immediate Breast Reconstruction: A Comparison of Microsurgical and Implant-Based Procedures in a Minority Population

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PURPOSE: Autologous breast reconstruction after mastectomy has been shown to result in higher patient satisfaction persisting from short- to long-term. However, this finding has been demonstrated primarily in non-minority women. The aim of this study was to evaluate short-term patient-reported outcomes in women undergoing implant-based and microsurgical reconstruction in a largely minority population.

METHODS: Women undergoing immediate breast reconstruction after mastectomy were enrolled at Montefiore Medical Center between June 2015 and September 2017. Patients completing preoperative and one year postoperative BREAST-Q surveys were included for analysis and divided into two groups of breast reconstruction: implant-based and microsurgical (flap). The outcome measures of interest were BREAST-Q (Reconstruction Module) scores for psychosocial well-being, abdominal physical well-being, chest physical well-being, sexual well-being, satisfaction with breasts, and satisfaction with overall outcome. Survey scores were compared between groups using t-tests or Mann-Whitney tests after assessing for normality of score distribution.

RESULTS: Seventy-five women were included for analysis (implant-based n=40 (52.3%), flap n=35 (46.7%). Mean body mass index, race/ethnicity (overall 87% Black or Hispanic), education, income, procedure laterality, and mastectomy weight did not differ between groups. Reconstructive timing differed between groups (implant-based 100% immediate, flap 43% immediate 57% delayed-immediate; p<0.001). Median survey follow-up time was 11.8 (IQR 5.8–13) months from the date of first reconstructive procedure. Women undergoing microsurgical reconstruction had higher median postoperative satisfaction with breasts (implant-based=55 [IQR 38–62], flap=58 [IQR 54–67]; p=0.02) and greater mean difference in satisfaction with breasts between postoperative and preoperative scores (implant-based=−11±27, flaps=+11±26; p<0.001), despite a higher median preoperative satisfaction with breasts in the implant-based group (implant-based 58 [IQR 48–70], flap 43 [IQR 33–63]; p=0.04). Median postoperative psychosocial well-being, abdominal physical well-being, chest physical well-being, sexual well-being, and satisfaction with overall outcome did not differ between groups.

CONCLUSION: Patients undergoing microsurgical breast reconstruction have superior patient-reported outcomes at one year compared to those with implant-based reconstruction. Additionally, patients undergoing microsurgical reconstruction display improved satisfaction with breasts postoperatively as compared to the preoperative state.

Functional Reconstruction of the Full Thickness Medial Canthal Defect with Periosteum Flap, Dacryocystorhinostomy and Local Flap

Presenter: Nuh Evin, MD