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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 which was nourished by peroneal artery. The flexor hallucis longus muscle was used for obliterating the dead space in cheek, retromolar, mouth floor region or 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-SLN; 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