

## DONOR SITE MORBIDITY Of THE OSTEOCUTANEOUS FIBULA FLAP

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abstract :

Aims: Several studies show functional and aesthetic results as well as complications after osteocutaneous free fibula microvascular flaps. It was the aim of the present study to objectively measure tissue perfusion and -oxygenation at the donor leg in comparison with the contralateral site and to examine aesthetics, motor function and sensitivity of the donor leg after microvascular fibula flap transfer. Patients and methods: Since July 1997 osteocutaneous fibula flaps were harvested for reconstruction of the mandibula in 38 patients. 25 patients, 18 men and 7 women, were followed up. Patient satisfaction was evaluated using a questionnaire, and the vascular status as well as function of the donor leg were objectively examined. Motor and sensory examination was performed and skin defects as well as scars were measured. Using O2C (LEA-Medizintechnik, Germany), we analysed non-invasively hemoglobin oxygenation (SO<sub>2</sub>), hemoglobin concentration (Hbconc), blood flow and velocity on both lower legs in two different tissue levels. Results: SO<sub>2</sub> was regularly reduced on the donor site leg in the vascular territory of the peroneal artery. But there was no significant difference ( $p < 0.05$ ) in SO<sub>2</sub>, Hbconc., blood flow and velocity. Conclusion: Although the osteocutaneous fibula transfer offers many possibilities in maxillofacial reconstruction, the sacrifice of the peroneal artery is believed to be disadvantageous for perfusion of the foot, especially because of the higher incidence of occlusive vascular disease in the lower leg. Our results suggest that in the presence of a normal three-vessel-nutrition of the lower leg the peroneal artery can be sacrificed.

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