The Effect of Direct Revascularization of a Target Vessel on Improving Wound Healing

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Introduction: the angiosome model proposes a theory of a three dimensional block of tissue that is supplied by a certain vessel, so revascularization of that vessel may improve the outcome for ischemic ulcers or wounds.

Aim of the Work: To assess the healing process of foot wounds after revascularization of the tibial vessels depending on angiosome model.

Patients and Methods: This is a retrospective study of 176 limbs with chronic limb threatening ischemia having only tibial disease in the period of June 2013 till June 2018. Patients were subjected to revascularization for one or more of the tibial vessels, they were divided into three groups according to the ability to revascularize the target vessel according to the angiosome theory. Group (A): revascularization of only the target vessel, group (B): revascularization of one tibial other than the target vessel, and group (C): revascularization of more than one tibial.

Results: Technical success was achieved in 96.02% (169 limb), group (A) 27.2% (46 limbs), group (B) 29% (49 limbs), and group (C) 34.8% (74 limbs). During follow up a total of 12 (7.1%) limbs has had below knee amputation, 3 (6.5%) in group (A), 7 (14.3%) in group (B), 2 (2.7%) in group (C). Healing of wounds and / or ulcers was achieved by more than 50% in less than 6 weeks in 22 (47.8%) limbs in group (A), 15 (30.6%) limbs in group (B), 51 (68.9%) limbs in group (C) respectively.

Conclusion: The ability to revascularize more than one tibial appears to be better for healing of wounds as well as the amputation rate. Also target vessel direct revascularization considering the angiosome model leads to better wound healing rates than indirect revascularization.

Key words: angiosome, target vessel.

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