Donor site morbidity and flap perfusion of subfascial and suprafascial radial forearm flaps: A randomized prospective clinical comparison trial.

Abstract:

The radial forearm flap is still the most commonly used free flap for the reconstruction of intraoral soft tissue defects. Flap raising can be performed in two ways: with or without integrating the fascia antebrachii into the flap. A prospective randomized study was performed, comparing the outcomes of 25 subfascial and 25 suprafascial radial forearm flaps. Flap viability was assessed clinically and by measuring flap perfusion parameters. Additionally, donor site morbidity was evaluated for 3 months after surgery. Hemoglobin concentration was significantly higher in suprafascial flaps, whereas no difference in flap success rate was observed. No significant differences in donor site morbidity were found. Shrinkage of the full-thickness skin graft was tendentially higher in the subfascial group. Our results do not support the suggestion that subfascial flaps are associated not only with higher success rates but also with a higher donor site morbidity than suprafascial flaps. Despite relevant differences in flap perfusion, neither the flap success rate nor the donor site morbidity differed significantly. Both supra- and sub-fascial dissection techniques are reliable methods of radial forearm flap raising, with little clinical difference between them.