

Assessment of Post-surgical Donor-Site Morbidity in Vastus lateralis Free Flap for Head and Neck Reconstructive Surgery: An Observational Study

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Abstract : Background: Vastus lateralis (VL) can be used to reconstruct defects of the head and neck. Whilst the advantages are documented, donor-site morbidity is not well described. This study aimed to assess donor-site morbidity after VL flap harvest. The results will determine future directions for preventative and post-operative care to improve patient health outcomes. Methods: Ten participants (mean age 55 years) were assessed for the presence of donor-site morbidity after VL harvest. Musculoskeletal (pain, muscle strength, muscle length, tactile sensation), quality of life (SF-12), and lower limb function (lower extremity function, gait (function and speed), sit to stand) were assessed using validated and standardized procedures. Outcomes were compared to age-matched healthy reference values or the non-operative side. Analyses were conducted using descriptive statistics and non-parametric tests. Results: There was no difference in muscle strength (knee extension), muscle length, ability to sit-to-stand, or gait function (all $P > 0.05$). Knee flexor muscle strength was significantly less on the operated leg compared to the non-operated leg ($P=0.02$) and walking speed was slower than age-matched healthy values ($P<0.001$). Thigh tactile sensation was impaired in 89% of participants. Quality of life was significantly less for the physical health component of the SF-12 ($P<0.001$). The mental health component of the SF-12 was similar to healthy controls ($P=0.26$). Conclusion: There was no effect on donor site morbidity with regards to knee extensor strength, pain, walking function, ability to sit-to-stand, and muscle length. VL harvest affected donor-site knee flexion strength, walking speed, tactile sensation, and physical health-related quality of life.

Keywords : vastus lateralis, morbidity, head and neck, surgery, donor-site morbidity

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