Vascularized Lymph Node Transfer for Patients With Secondary Inferior Limb Lymphedema

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Abstract

Background: Lymphedema affects as much as 28 to 47% of patients treated for gynaecological cancer [1]. New reconstructive approaches to the lymphatic system have been gaining a lot of interest by a growing number of microsurgeons [2]. Authors have reported the use of free lymphatic flap transfer to treat secondary lymphedema of the upper limb [3].

Methods: Files from 38 patients with secondary inferior limb lymphedema submitted to autologous lymph node transplantation at the senior author’s (C.B.) practice were retrospectively reviewed. Data related to the lymphedema diagnosis and history, surgical treatment and clinical assessment were collected. Surgical technique and flap anatomy have been previously described [4]. Records of limb perimetry measured at 6 different levels during pre-operative and follow-up consultations were used to estimate the approximate volume of the leg with the truncated cone formula [5].

Figure 1. Truncated cone formula

Results: Thirty-four women and 4 men were treated. The average age at the time of the procedure was 52.1±12.4 years and patients had been suffering with lymphedema for an average of 9.1±7.3 years. Thirty-five patients presented with unilateral lymphedema while 3 patients had both limbs affected, with a total of 41 limbs treated. Hysterectomy for uterine cancer was the leading cause of secondary lymphedema (57.9%). Eleven patients (28.9%) presented with minor complications (seromas or hematomas), of either the donor or recipient sites, which were treated conservatively. No major complications were seen on this series. Files from twenty patients presented enough data to follow limb volume evolution after the procedure. Total volume reduction in eight legs (2 patients with no measures of the healthy limb and 3 bilateral) ranged from no improvement (3 legs in 2 patients) to 17%, with an average reduction of 12%. Nine of 15 patients with unilateral lymphedema and measurements of the contralateral healthy limbs presented with a reduction of more than 30% of the excess volume of the affected leg. All of these patients had a lymphedematous limb volume that would not exceed 50% of the healthy leg, while 4 of the 6 remaining patients had more than 50% excess volume.

Conclusions: Patients with secondary leg lymphedema can benefit from autologous lymphnode transplantation. Results in patients with mild presentations seem to be more expressive that in more severe cases.

References

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