

Free split-cutaneous perforator flaps procured using a three-dimensional harvest technique for the reconstruction of postburn contracture defects.

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摘要

Abstract

With recent advances in free-tissue transfer, microsurgical techniques have been used more frequently for the reconstruction of postburn contracture defects. Traditional methods, including full-thickness skin grafts and local flaps, often result in a good outcome; however, multiple operative procedures, long periods of splinting, and physical rehabilitation are often required. Free split-cutaneous perforator flaps, consisting of one large cutaneous paddle with two perforating vessels split into two separate skin regions, were used for two kinds of postburn contractures: rectangular and spatially separate defects. From September of 2000 to October of 2002, seven patients underwent this method of reconstruction at Chang Dung Memorial Hospital in Taiwan. A three-dimensional flap harvest method, in which the skin paddle is circumferentially elevated early in the harvest, was used. Postburn scar contractures had resulted from flame burns in six cases and an electric burn in one case. The reconstructive regions included the neck in two patients, the breast in one patient, and the hand in four patients. There were six male patients and one female patient, with a mean age of 34.8 years (range, 25 to 49 years). The size of the excised scar ranged from 120 cm² to 308 cm² (mean, 162.3 cm²). The size of the unsplit flaps ranged from 144 cm² to 337.5 cm² (mean, 192.1 cm²). The average time for flap harvest using this three-dimensional harvest technique was 39.1 minutes. The average total operative time was 4.3 hours. The average total hospital stay was 7.3 days (range, 6 to 11 days). All flaps survived without major complications. The donor site was closed primarily in all cases. At a mean follow-up time of 9 months, the functional and aesthetic outcomes showed significant improvement as

compared with the preoperative condition. In this study, a new method of flap harvest using a three-dimensional technique is introduced, and its application in the reconstruction of postburn contractures is evaluated.

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