

FREE LATISSIMUS DORSI FLAP FOR LOWER LIMB DEFECTS

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Fasciocutaneous local flaps, free flaps.

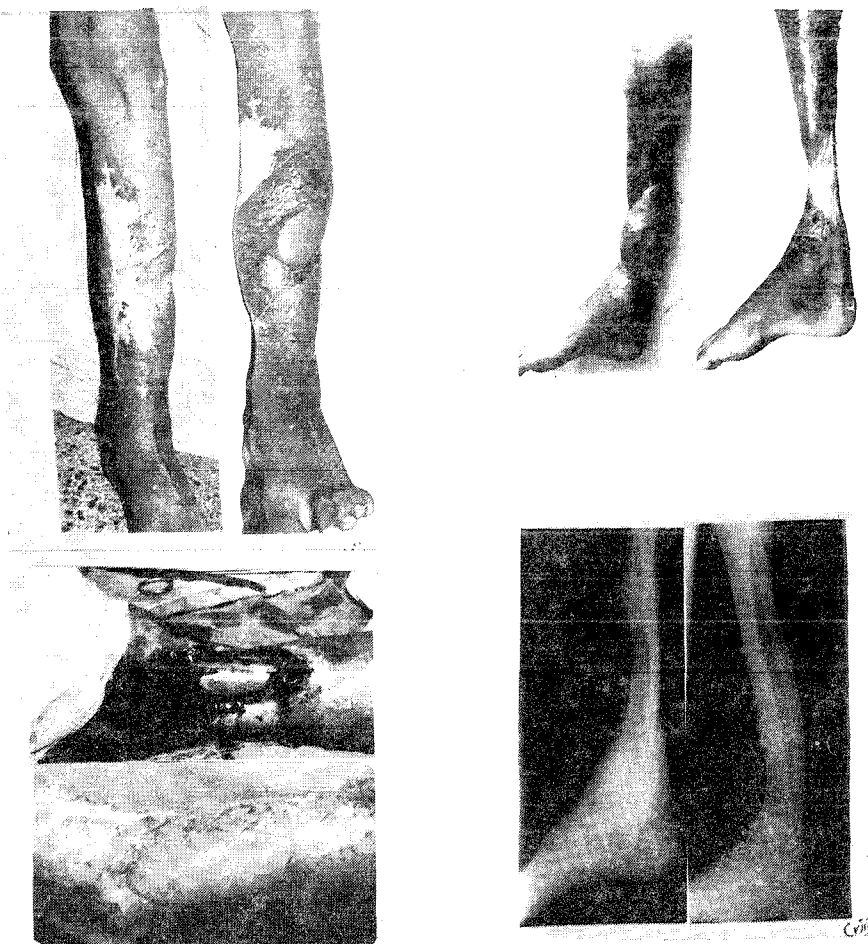
ABSTRACT :

Large defects, soft tissue or composite, in foot ankle and lower 1/3rd of leg, are difficult to treat. With advent of fasciocutaneous flaps, inferiorly based fasciocutaneous flaps have gained popularity in such repairs. It is not always possible to raise such flaps and alternative has to be then considered.

In competent and experienced hands free flaps are dependable, and offer a single stage repair. 26 free Latissimus Dorsi myocutaneous flaps are raised in present series, and used for variety of reconstructions in lower limbs.

INTRODUCTION :

Lower Limb injury of serious nature can necessitate amputation when mutilation is beyond repair.



Photograph showing :

- (i) Defect over lower limb.
- (ii) With latissimus dorsi free flap.
- (iii) Unstable scar.
- (iv) With latissimus dorsi free flap.
- (v) Defect lower limb.
- (vi) Post - op.

completely despite re-exploration. In patients with defects on the leg or dorsum of foot without any raw area, the wounds healed primarily as anticipated. The patients who had chronic non healing ulcers on the plantar aspect of the foot, had excision of the ulcer done down to healthy margins and were covered with latissimus dorsi musculocutaneous flap. The wounds healed satisfactorily. However, despite proper care the ulcers reformed when the patients started weight bearing on the flaps. These ulcers were then excised down to muscle after a period of conservative treatment and were split skin

grafted. However, there was persistent problem of recurrent ulceration despite care.

DISCUSSION

The latissimus dorsi muscle flap has proved to be the most reliable free tissue transfer. Large flaps utilizing split skin graft over the muscle will cover near circumferential defects in the lower extremity with almost no donor site morbidity. For distal third defects and problems around the ankle, a good contour is achieved with muscle flaps and skin grafts (Swartz et al, 1985). The use of free flaps is

However, extensive soft tissue loss accompanied by broken exposed pieces of bones, calls for salvage efforts.

Limbs that survive after such an effort often end up with non-union due to poor vascularity of the repair and due to extensive scarring of the affected area. When such a case is offered to reconstructive plastic surgeon to improve vascularity of the region and to add suitable soft tissue cushion, Multistage myocutaneous or fasciocutaneous flaps commonly used, take time to achieve desired results.

Microvascular anastomosis of a free flap in such cases offers much needed help. Single stage reconstruction is possible and treatment period is substantially reduced.

MATERIAL AND METHODS

Twenty six free latissimus dorsi muscle and musculocutaneous flap transfers were done from July 1989 till June, 1992. The age of the patients ranged from 10 to 50 years. Twenty were men and six were women. The majority of patients in this series had a defect in the lower third of the leg. Except two, all were post traumatic cases. The two non-traumatic cases followed snakebite leading to extensive necrosis and fibrosis with resultant deformity and unstable scars.

None of our patients presented were less than two months after initial injury. Six patients in the lower third, five patients in the middle third and one in the upper third of leg presented with extensive, exposed and fractured bone ends with infection and surrounding raw area. The other six patients in the lower third had healed wounds with extensive scars and underlying bone gaps were in need of a bone

graft. Six patients had chronic non-healing ulcers on the planter aspect of the foot.

The two patients in which flap coverage was done on the dorsum of foot had severe bony deformity requiring osteotomy for which a full-thickness healthy flap cover was essential.

Ten cases in the lower-third and two cases in middle third required secondary bone graft procedures. The recipient artery was selected by clinical examination and doppler studies and in four cases by femoral angiography. The cases requiring angiography were operated more than two weeks after the investigation.

The Latissimus dorsi flap was selected because of its large size, long pedicle, adequate sized vessel diameter, consistent pattern of vasculature and minimal donor site morbidity.

In 18 cases, the anastomosis was done with posterior tibial artery, in six with anterior tibial artery and in two patients with peroneal artery. Post operatively the patients were heparinized with Heparin 5000 I.U. in drip every 8 hours for 5 days.

Donor site was closed primarily in all cases with suction drains to prevent hematoma formation.

In leg defects with exposed bone and raw area, the flap was applied after thorough removal of all the dead and necrotic bone and scraping the unhealthy soft tissue. The flap provided adequate coverage and helped in clearing the infection. The wounds healed satisfactorily within 2 weeks time.

RESULTS

Six cases required re-exploration, four for vein and two for artery. Two flaps (7.7%) failed

a viable alternative to cross leg or abdominal tube because

- (i) the total time of immobilization in highly demanding postures and hospitalization period is less
- (ii) total number of anesthetic procedures is less and
- (iii) morbidity and costs are less. (Serafin et al, 1977).
In addition, it also provides
- (iv) excellent vascularized bed for secondary bone grafting procedures. Even non-vascularized bone grafts are also accepted rapidly. Thus, Mr. S; A 10-year old child with extensive crush injury to leg who was at one time considered for below knee amputation was taken up for free flap coverage and later for a bone graft. High vascularity provided by the free flap helped in early incorporation of a long non-vascularized bone graft, thus, salvaging the limb.

CONCLUSION

Planter aspect of the foot in the weight bearing area the results leave much to be desired.

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