Full Thickness Skin Graft In Hand Trauma

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INTRODUCTION:
Hand traumatic injury often associated with skin defects of the hand or fingers. A simple method of full thickness skin graft provides a simple and reliable method of achieving closure of large skin defects in the hand.

MATERIALS & METHODS:
We had 2 cases of traumatic hand injury with large soft tissue defect. Crush injury of the right hand which. First case was traumatic hand amputation with avulsion of skin at 2nd-5th metacarpals. Second case was avulsion of skin over left palm after trauma. Both underwent wound debridement and a cycle of negative pressure wound therapy (NPWT). The wound size are 7x5cm and 5x4cm after NPWT. Wound swab was negative before we proceed with FTSG. FTSG was taken from anterolateral thigh for both patients with primary closure.

RESULTS:
After 5 days both grafts had good uptake. The first patient took 12 weeks for wound to heal completely while second patient took 6 weeks. The first patient has a Vancouver Scar Scale score 2 and the second patient has a score of 4. Both retain the normal sensation over the skin defect site and good wound healing over donor primary closure site.

DISCUSSIONS:
Avulsion of skin in hand trauma leads to large skin defect. In an interior hospital such as ours where access to microvascular surgery is not feasible covering for the skin defect is quite dilemma. One of option for such skin defect is FTSG. Traditionally such wound is treated by NPWT until good wound bed available for split thickness skin graft (STSG) \(^1\). However, current studies have support FTSG as wound coverage with better outcome.

FTSG offers better skin pliability with lower risk hypertrophic scar and retained skin sensation compared to STSG \(^2\). However there is limited donor sites for FTSG. STSG is readily available but has disadvantages of prolonged postoperative care and pain of donor site and hypertrophic scar and contracture.

CONCLUSIONS:
FTSG offers a reliable method of achieving skin closure for large skin defect in hand trauma with good outcome.

REFERENCES:
1. A Comparison of Full and Split Thickness Skin Grafts in Radial Forearm Donor Sites Wellington J. Davis
2. Large Stereotypy Full-Thickness Skin Graft for the Repair of Simple Limb Skin Avulsion Danping Yin

Figures (From left to right)
1. Traumatic hand amputation with skin avulsions at 2nd, 3rd, 4th, 5th metacarpals.
2. Wound achieved closure with FTSG (at 12 weeks) with VSS score 2.
3. Palm wound with FTSG after 6 weeks with VSS score of 4.