

**Abstract**

**Reconstruction for Soft Tissue Defect of Dorsum of Hand or  
Foot with Free Temporal Fascial Flap**

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Vascularized tissue coverage is necessary for treatment of soft tissue defect with bone and tendon exposure on hand and foot dorsum, which cannot be successfully covered with simple skin graft or local flap. The temporal fascia is one of the most ideal donor for coverage of soft tissue defect of dorsum of hand or foot in term of ultra-thin, pliable and highly vascular tissue. Also, this flap offers the advantage of a well-concealed donor site in the hair-bearing scalp and smooth tendon gliding.

We have experienced 11 cases of reconstruction for soft tissue defect in the hand or foot using temporal fascial flap with skin graft. All cases survived completely and we could gain satisfactory functional results. There were no specific complications except one donor site alopecia

We think that the free temporal fascial flap coverage is a highly reliable method for soft tissue defect in hand and foot dorsum. However, the potential pitfalls is secondary alopecia and requirement of skin graft after its transfer

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**Key Words** : Dorsum of hand and foot, Soft tissue defect, Free temporal fascial flap.

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\* 1999

\* 1999

가 , 2

가 가

Doppler

가

(frontal branch)

(parietal branch)

(parietal branch)

가

가

3cm

가

가

Y

1998 4

1999 8

11

가

가 Gentian violet

1.

1998 4

1999 8

(loose areolar tissue plane)

가

11

7

5

, 2

5

3

18

62

37.2

7

가

2

2

2

가 7

가 4

2

가 8

1~2

5

7

2x5cm

8x14cm

(Table 1).

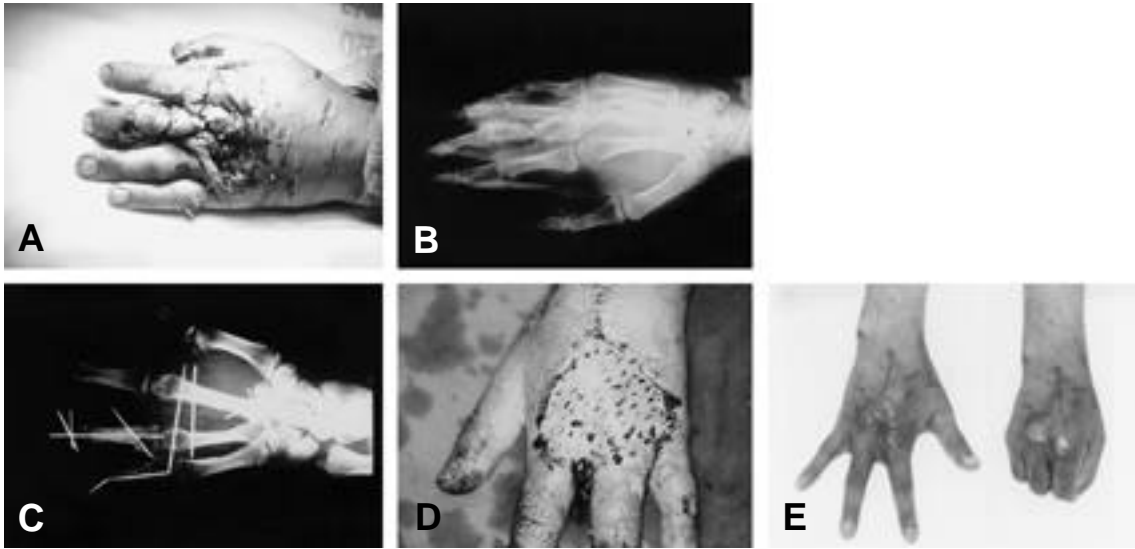
2.

. 1

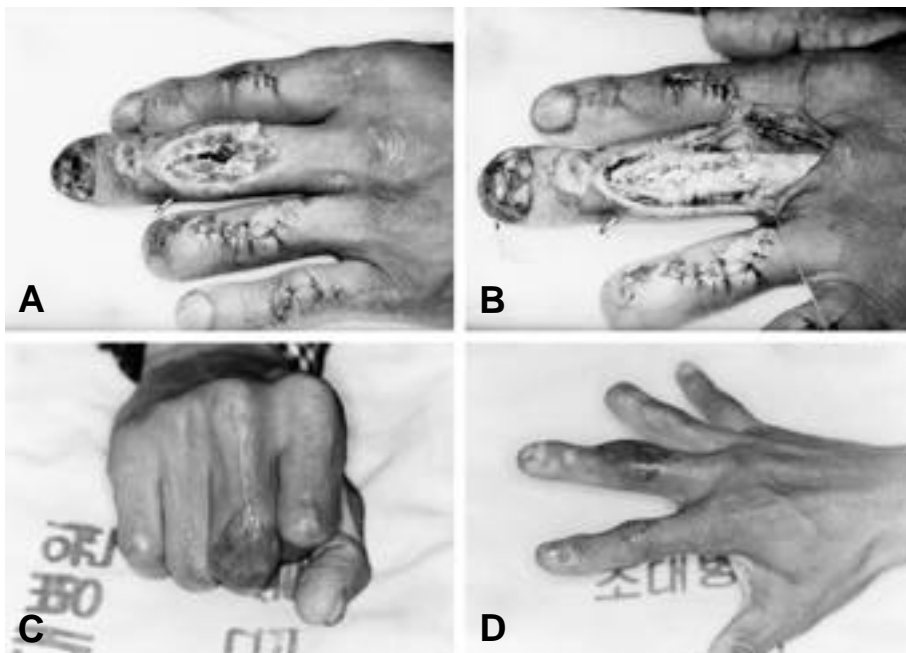
10

**Table 1.** The patients list.

Case	Age	Site	Associated injury	Defect site(cm)	Recipient vessel Artery	Recipient vessel	Associated procedure Vein	Complication
1	37	Hand dorsum	Multiple fracture & dislocation, extensor loss	6×7	Radial	Cephalic	Ray amputation & index transfer	
2	25	Hand dorsum		4×5	5th proper distal	Dorsal superficial		
3	18	Hand dorsum	Multiple fracture & dislocation, bone loss, extensor rupture	8×9	Radial	Cephalic	Bone reconstruction, tendon repair	
4	62	Hand dorsum	Extensor loss	4×6	Radial	Dorsal superficial	Tendon graft	
5	51	Hand dorsum	Metacarpal fracture	5×7	Radial	Cephalic		
6	44	Hand dorsum		6×4	Radial	Cephalic		
7	37	3rd. finger dorsum	PIP dislocation, extensor loss	2×5	3rd proper digital	Dorsal superficial	Tendon graft	
8	31	Foot dorsum	Metatarsal fracture, extensor rupture	7×10	Dorsalis pedis	Venae comitantes	Bone fixation, tendon repair	
9	35	Foot dorsum	Metatarsal fractures, 1st M-P dislocation	8×14	Dorsalis pedis	Greater saphenous vein	1st. M-P amputation, bone fixation	Alopecia
10	42	Foot dorsum	Metatarsal fracture	6×4	Dorsalis pedis	Venae comitantes	Bone fixation	Venous insufficiency
11	27	Foot dorsum	Metatarsal fracture	7×8	Dorsalis pedis	Greater saphenous vein	Bone fixation	



**Fig. 1-A.** Pre-operative photograph shows a extensive soft tissue injury on hand dorsum by farming machine injury  
**B.** Initial X-ray shows multiple phalangeal and metacarpal fracture.  
**C.** Ray-amputation was done for irreparable third finger and index finger transferred to third ray.  
**D.** Free temporal fascial flap and skin graft was performed for soft tissue defect of hand dorsum.  
**E.** At 12 months follow up, good functional and cosmetic result was achieved.



**Fig. 2-A.** Pre-operative photograph shows extensor tendon loss, 2 × 5cm soft tissue defect and K-wire fixation for dislocated PIP joint.  
**B.** Extensor tendon reconstruction with free palmaris longus tendon graft  
**C, D.** Postoperative results. Good flexion and extension was showed.

1 2cm 가 가 가 가  
 가 가  
 2 3,8,9),  
 7,17), 6,20,23 )  
 18,21), 16,19)

1 37 15)  
 2 가 가  
 가 3 Ray 가 가  
 2 3  
 6x7cm 12 가 ,

(Fig. 1-A,B,C,D,E).

2 1976 Fox Edgertoff<sup>10)</sup>  
 37 ( ) 가  
 3  
 2 4,14,22) Brent 5) Upton 24)

2x5cm 가 가 1.8 ~ 2.5mm,  
 1 가 2 ~ 4mm 가 2 ~ 4mm

(Fig. 2-A,B,C,D).

가 가 가 가  
 가 가 가  
 11-13)  
 (tendon  
 gliding)  
 가 가  
 1.9mm  
 1cm 가

2

가 3

REFERENCES

1

가 11  
가 6  
가 3  
2cm  
가

(frontal branch)

가  
1.5cm

가

(zygomatic arch)  
(orbital rim)

가

1 2cm 가

가 가

가

가 가

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