

Abstract

**Reconstruction of the Face Defects Using Posterior
Interosseous Artery Forearm Free Flap**

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With esthetic concern in the reconstruction of skin and soft tissue defects of face, the use of local flap has been the method of choice. However, when there is extensive tissue loss in the face, local flaps do not provide satisfactory results. The amazing development of microsurgical technique has decreased the percentage of free flap failure, thus making free flap use in reconstruction of facial soft tissue defects. Many free flaps has been applied for reconstruction of face defects. Especially, the radial forearm flap has numerous advantages with which facial reconstruction is made possible. But, its disadvantages are ; the sacrifice of one major artery supplying the hand and donor site complications. In order to circumvent these disadvantages, we employed posterior interosseous artery(PIA) forearm free flap for the reconstruction of the face defects. The posterior interosseous forearm island flap was first described by Zancolli and Angrigiani(1985). Currently, the PIA island flap and free flap have been used for hand reconstructions. The disadvantages of the PIA flap are ; the small caliber of the pedicle, different locations of the perforating branches, and the proximity of the motor branch of the radial nerve. But, its advantages lies in preserving the major artery of the hand, minimal donor site morbidity, and fairly well matched skin texture and color, and that the flap volume is sufficient, not too bulky with convenient handling. By using this flap, we performed 1 case of tumor resection and 1 case of traumatic defect. From our experiences we conclude that it is one of many useful methods in the reconstruction of the skin and soft tissue defects of the face. We also have discussed advantages and some limitations of various free flaps for reconstruction of the face.

Key Words : Posterior interosseous artery(PIA), Face defects

lateral epicondyle) 2 ~ 4cm

7.6

3

가

5cm

2 ~ 3

1/3

가

1/3

7)

가

1.5

가

mm

18)

2.2mm, 2

가

2.7mm, 2.2mm

3.5cm

1

1

(PIA)

가

8cm

(1/3)

가

가

(common interosseous artery)

2.5

(ulnar artery)

(extensor

(interosseous membrane)

carpi radialis brevis)

(extensor

(supinator)

digitorum comminus)

(extensor

(recurrent interosseous artery)

digiti minimi)

(deep

(extensor digiti comminis)

fascia)

(extensor digiti minimi)

(intermuscular septum)

(extensor carpi ulnaris)

(intermuscular septum)

2

(extensor carpi

ulnaris)

(multiple fasciocutaneous perforator)

(medial &

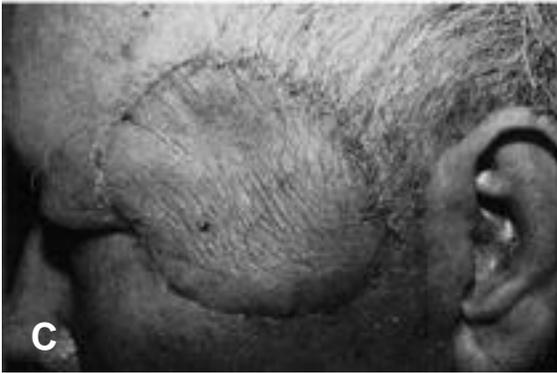
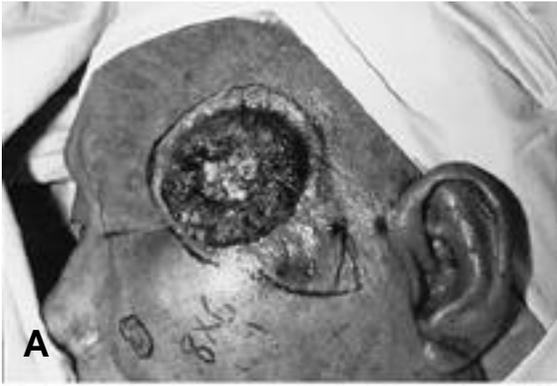


Fig. 1. Case 1. A 78-year-old man with squamous cell carcinoma on the left temporal area.
A. Design of excision of tumor.
B. Design of 8 × 6cm sized posterior interosseous artery forearm flap.
C. Postoperative view(POD # 28 days).

8 × 6cm

3cm

2.5mm

2mm,

1

refilling

5

3

(Fig. 1).

2

42

5 × 4cm

6 × 5cm

3.5cm

2.5mm

2.2mm

6 × 5cm

time Doppler

dextran 500cc 24

aspirin

1

78 3



Fig. 2. Case 2. A 42-year-old man with skin and soft tissue defect of left lower lip area due to industrial injury.

A. 5 × 4cm sized defect.

B. Postoperative view(POD # 21 days).

C. Postoperative donor site view(POD # 21 days).

2
15 , 23
가

(Fig. 2).

23)

가

가 , ,
가 , 가
가
가

18)

10×5cm

가
가

가

3.0 ~ 3.5m

2.0 ~ 2.5m

가

2

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