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Abstract

**Biologic Arthroplasty of Elbow with Free
Metatarso-Phalangeal Joint Transplantation**

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Author report a case of double metatarso-phalangeal joint transplantation to the elbow joint in the 31 years old female patient who have large bone defect associated with skin and soft tissue defect. The donor joints were second and third metatarso-phalangeal joint as double joint transfer fashion to enhance stability of graft. The graft based on dorsalis pedis vessel to anastomosed with radial artery of recipient site.

The result is unsatisfactory because of long lasting lateral instability of reconstructed elbow joint in spite of 40 degree flexion motion and fair axial stability.

We can conclude that joints from foot can not be an effective donor for biologic joint arthroplasty of elbow joint even though double metatarso-phalangeal joint were harvested.

Key Words : Biologic Arthroplasty, Elbow, Metatarso-phalangeal joint

³⁾ Fouche²⁾, Tsai⁵⁾

2-5)

1967 Bunck⁴⁾

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2 3
 1)
 2,3 dorsalis pedis vessels
 1,3-5) 3)

(Fig. 2)

31
 15cm
 x 6cm

(Fig. 1).

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Fig. 2. Harvested second and third metatarso-phalangeal joint from foot.



Fig. 1. Soft tissue defect and large bone defect on the medial side of the elbow joint filled with bone cement in pre-operative finding.



Fig. 3. Harvested toe joints with dorsal skin of the foot transplanted to the defective elbow joint in place before fixation.



Fig. 4. Lateral radiographic finding of the trasplanted elbow joint with multiple K-wire fixation.



Fig. 5. Elbow joint after 6 months shows 40 degree axial motion with lateral instability and weakness of joint power.



Donor defect replaced with iliac bone graft

Fig. 6. Donor foot radiography shows fused iliac bone graft in the second and third toe.

(Fig. 3)

(Fig. 4)

4 × 9cm

10cm

2

2 3

(Fig. 6)

8

8

가

, K-

가

6

8

80 가 가

40

가

(Fig. 5).

가

16

4

가

12

(Fig. 6)

가

1,3-5)

1. 가 (Total joint replacement)

2. 가 (Biologic joint reconstruction) (Total joint replacement) (Hemiarthro-plasty) (Partial joint transplantation)

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3)

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(total joint replacement)

(fibular head)

¹⁾ 가

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