

=Abstract=

## Operative Treatment of Metacarpophalangeal Joint Avulsion Fracture

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The metacarpophalangeal avulsed fracture was rare and there was difficulty in diagnosing it. We evaluated 11 patients who had metacarpophalangeal avulsion fracture from May, 1996 to November, 1997. The mean age was 22.2 years and interval from initial trauma to operative treatment was 6.7 days. The involved site was index finger in two cases, middle finger in six cases and ring finger in three cases. The base of proximal phalanx was more frequently involved than head of metacarpal bone. And radial side was involved in seven cases. The shape of bony fragment were round, triangular or rectangular. We performed operative treatment in all eleven cases. We used K-wire fixation in eight cases and absorbable pin, small needle and pull out suture in one case, respectively. Postoperative immobilization was done for fourteen days. We removed the K wires in 3.9 weeks after operation. There were some complications in five cases such as limitation of motion, K wire extraction, displacement of extensor tendon and bony resorption. The postoperative results were excellent in six cases and good in four cases and poor in one case.

**Key Words** : Metacarpophalangeal joint, Avulsion fracture

:

1

가 11 1

(Table 1).

가 8 , 가 3

22.2 (12 47 )

11 20 가 8

가 1 , ,

15) 1 Brewerton view

가 Brewerton view 65

30

가 11 가

11 Bischoff 가

2mm Imm 가

가

1996 5 1997 10 1).

**Table 1.** Summary of Patients

No	Sex/Age	Site	Shape	Involved hand	Treatment	Complication	
1	m/15	3rd phalanx	radial	round	dominant	K-wire	bony absorption
2	f/47	5th phalanx	radial	triangular	nondominant	K-wire	none
3	m/17	2nd phalanx	ulnar	round	dominant	K-wire	none
4	m/12	2nd metacarpal	radial	triangular	nondominant	24 gauge needle	none
5	m/15	3rd metacarpal	ulnar	rectangular	dominant	K-wire	none
6	f/14	5th metacarpal	ulnar	rectangular	dominant	K-wire	none
7	m/17	5th phalanx	radial	round	dominant	pullout suture	LOM *
8	m/30	3th phalanx	ulnar	triangular	dominant	absorbable pin	LOM
9	f/47	3th metacarpal	radial	rectangular	nondominant	K-wire	deformity
10	m/16	3th phalanx	radial	rectangular	dominant	K-wire	none
11	m/14	3th phalanx	radial	round	dominant	K-wire	pin extraction

LOM \* : limitation of motion

가  
Perio  
free hand technique

1.

14 (1 3 )

가 가 . 11

3.9 . Bischoff 가

10 가

, 1 가

가 6 , 4 , 1

1 ,

. 가

1 . 11

85 ,

8

20

2 가 2 , 3 가 6 ,

. 1 11

5 가 3

3

2

4 가

, 7 가

가 60 70

7 , 4

가 1 ,

, , 1

가

4 , 3 ,

1 5

4

8

20% 80%

30%가

가 4

2.

1. 1

11

15

2

2 13

3, 4

6.7

. 11 9

2

3

4

180

9 8

25% 가

. 11 8 K

(Fig. 1-A). 4

2 K

1 suture

, 24 gauge

pull-out

(Fig. 1-B). 3 K

0.025 inch

. 9 K

4

. 6

2 1 K

가 1/3

7 2 K

가

1

6

, 1

가

**Fig. 1.** A. The round shaped bony fragment was avulsed from the base of 3rd proximal phalanx, which was involved about 25% of articular surface.  
 B. The avulsed fragment was fixed with two No. 1 Kirschner wires in the same direction.

**Fig. 2.** A. The bony fragment was involved about 50% of articular surface.  
 B. The bony fragment was fixed with two Kirschner wires in the opposite direction.

2. 2  
 14  
 4  
 50%  
 (Fig. 2-A). 2 K  
 K  
 4  
 (Fig. 2-B). 3  
 4  
 1  
 3. 3  
 47  
 3  
 80%

**Fig. 3.** A. On the initial film, there was metacarpal head fracture with bony avulsion fracture of 3rd finger. The articular surface was involved about 80%.  
 B. Open reduction was done with absorbable pins.  
 (Fig. 3-A). 6  
 2 (Fig. 3-B).  
 2  
 1  
 70

1  
1

가

가  
90 , 30

가

45 , 20 , 0

1  
100 ,

0

가

가

가

가

Ishizuki<sup>9)</sup>

Lane<sup>10)</sup>

Brewerton view<sup>2)</sup>

4)

7

Bre-

werton view

1

가

Cam

(game keeper's thumb)

, 2mm

가 <sup>11)</sup>

1

14)

12)

11

2, 13)

7 가

Wolf

Cervino

5)

(game keeper's thumb)

16)

Gee

Pho

7). Green 2 3mm

, ,

가

10%

6).

X-ray

가

11)

11

,  
가

Sakuma et al  
3가

12)  
가

가 2mm 3mm 25% 가

11  
가 2mm 3mm 25% K  
8 ,  
pull-out suture 가 1  
14  
4  
1

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