

=Abstract=

**Treatment in Septic Arthritis
with severe articular destruction of Metacarpophalangeal joint
after Traumatic Suppurative Tenosynovitis of Finger Extensor**

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Septic arthritis of metacarpophalangeal joint which were occurred after fight injury or penetration wound around the metacarpophalangeal joints is a disabling disease unless it is managed properly. And, sometimes the sacrifice of the affected finger may be required in severe cases to salvage the hand. The hand may retain little useful function if it is involved the thumb and index fingers.

In cases of established ankylosis of finger joints and the surrounding soft tissues such as extensor and flexor tendons were necrotized, reconstruction of the joint could be attempted. From 1985 to 1998, we experienced four posttraumatic septic arthritis of metacarpophalangeal joint and reconstructed the joints using free joint transfer in two cases. The results were good and functional hands without residual infection were achieved. But, to prevent these tragedies of secondary joint transfer procedures, careful management of laceration wound around the metacarpophalangeal joints is mandatory. The optimal management should include not only antibiotic therapy but also early aggressive surgical management of the wound.

Key Words : Septic arthritis, Metacarpophalangeal joint, Joint transfer

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(咬傷; human bite injury) 가 2, 3 가 2, 가 1, 가 2, 가 1 (Table 1).

(clenched-fist injury) 3, 4, 5 (metacarpophalangeal joint) (proximity) 가 가 33, Methicillin-resistant *Staphylococcus species*, *Streptococcus species* 가 가 1 가 (Gram negative bacilli), *E. coli*, *Enterobacter cloacae* 1 가 가 2, 가 2 (Table 2).

1985 1998 14 가 1. 1 33 4 1985 1998 , 48 가 4 2

Table 1. Data on the patients with traumatic metacarpophalangeal joint septic arthritis.

Sex	Age	Intervals from injury to medical attention	Site of lesion	Mechanism of injury
M	34	12 hours	Left thumb MP*	Cutter machine injury
M	33	48 hours	Left ring finger MP*	Penetration by wire
M	55	48 hours	Right middle finger MP*	Fight injury
M	31	24 hours	Right middle finger MP*	Fight injury

*; Metacarpophalangeal joint

Table 2. Data on the results of Septic arthritis.

Case No.	Last management	Follow-up period	Causative organism	Last F/U ROM of MP joint (degrees)	Last F/U ROM of PIP joint (degrees)
1	2nd toe MP joint free transfer	14 years	Gram negative bacilli, (<i>E. coli</i> and <i>E. cloacae</i>)	20 (7-27)	8 (24-32)
2	3rd toe PIP joint free transfer	17 months	<i>Streptococcus</i>	30 (15-45)	21 (14-35)
3	Curettage and secondary closure	12 months	Mixed infection (G+ and G-)	24 (12-36)	Full
4	Curettage and secondary closure	12 months	Methicillin-resistant <i>S. aureus</i>	0 (15 fixed state)	Full



A



B



C

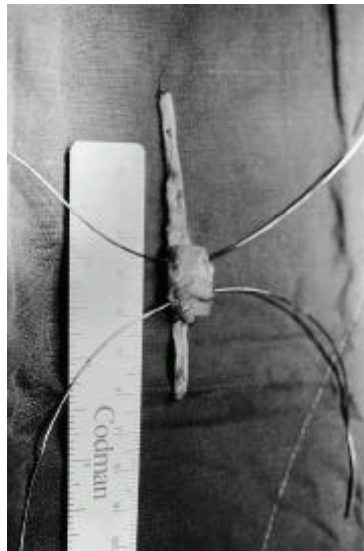


D

Fig. 1. A. Initial radiograph shows no bony destruction of 4th MP joint at first visit. B. After drainage and curettage, fixation was performed with one Kirschner's wire. C, D. Mini-external fixator was applied to the 4th MP joint for joint space preservation.



A



B



C



D



E



F

Fig. 2. A Extensor tendons and bone were exposed through dorsal incision. B. The third toe PIP joint and extensor tendons were harvested and prepared. C, D. MP joint was transferred and fixed with cerclage wiring and K-wires. E, F. Radiographs of 1 month postoperatively show no arthritic changes.

, 3 . 6 (Fig. 1-A
4 , B, C, D). 3 3 3
4
2 , (Fig. 2-A, B, C, D, E, F).
17

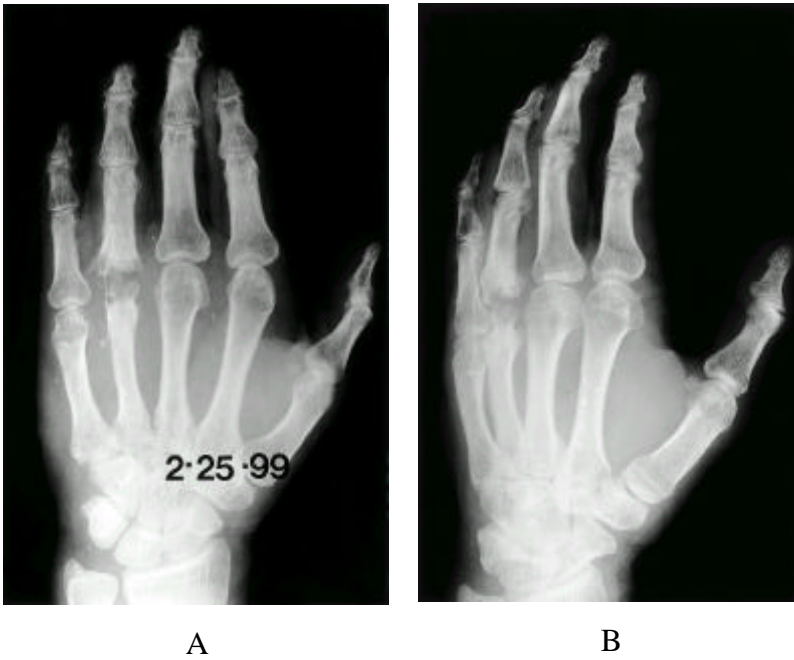


Fig. 3. A, B. Radiographs of 9 months postoperatively show that bony union of metacarpal bone and phalanx with the grafted bone.

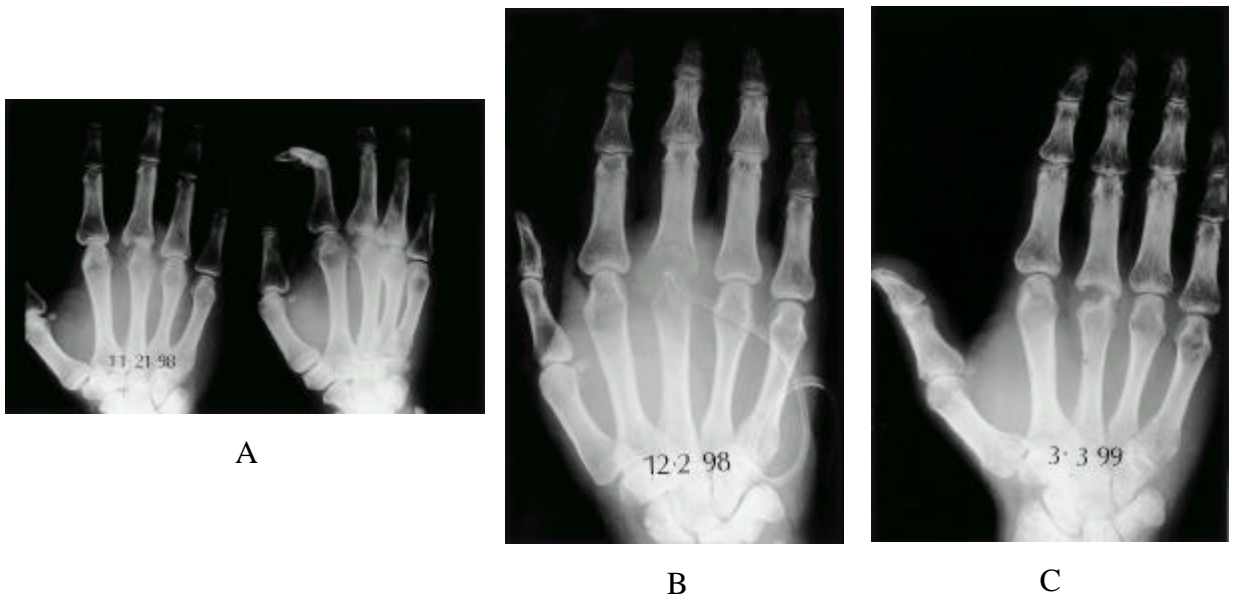


Fig. 4. A Initial radiographs of right hand AP and oblique show no bony abnormalities. B. After debridement and irrigation, articular cartilage was severely damaged. C. Radiographs of post trauma 5 months show articular cartilage was destroyed state.

30
35 , - 14
2. 2

45 , - 15 55
(Fig. 3-A, B).

3
가
48

16 *Staphylococcus sp.*, *Eikenella*, *Neisseria*, *Micrococcus* (Fig. 5).

5). 가

가

(Fig. 4-A, B).

(Toxic shock syndrome)

5

3
3
(Fig 4-C).

¹³⁾

¹⁰⁾

Chuinard D'Ambrosia⁵⁾ 51

24

가

⁶⁾

4

가

가 ¹⁴⁾

Bousted ³⁾ Wittels ²¹⁾ 가

Patzakis ¹⁵⁾ 191

(45%) 3
, 16.5%

(right hand) 3, 4

가

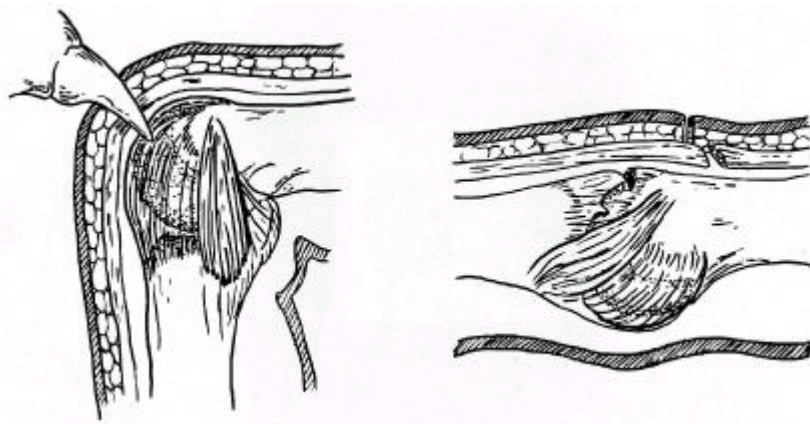


Fig. 5. Entry of tooth is made through skin, tendon, joint capsule, and cartilage with finger flexed state. And, when extended, these shift to occupy a different site.

(*Staphylococcus aureus*),
(*Strep-*

Streptococcus, *Staphylococcus*, *Eikenella Corrodens*,
Eikenella Corrodens

,
가 ,
(4, 7, 8, 11)

, 10% CO₂ 가
가¹⁹⁾

가 ,
(2, 19)

Schmidt Heckman¹⁷⁾ *Eikenella corrodens* 가
penicillin , 2

Seradge¹⁸⁾ 36
1984
20, 30

100% , 2
¹⁶⁾
Streptococcus, *Staphylococcus*

,
가
가¹⁾ ,
40

aureus 가 가
가⁹⁾ ,

(Case No.1)

(Case No.2)

2

²⁰⁾ ,

^{12, 20)} , 1980

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