



15, 2, 2002 4

The Journal of the Korean Society of Fractures
Vol.15, No.2, April, 2002

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: 1996 5 2000 9

12

14

57.8, 50.8

1:1

18, 19.5

:

46.5,

25.3

1,

1

115.7, 48.3

2,

2

1,

2

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301-040

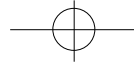
640

Tel. (042) 220-7351, 7342, 7343

FAX. 042-253-3010

E-mail. jyyang@cnuh.co.kr





• 287

57.8 , 50.8 ,

1:1 .

1950

2-

3cm
(Subcutaneous tunnel)

가

17)

가

9,13)

7-10

2

12

(Pilon)

7,10,11,16)

가

(A)

(B)

A 18 , B 19.5 ,
3 ,

1996 5 2000 9

12

14

가



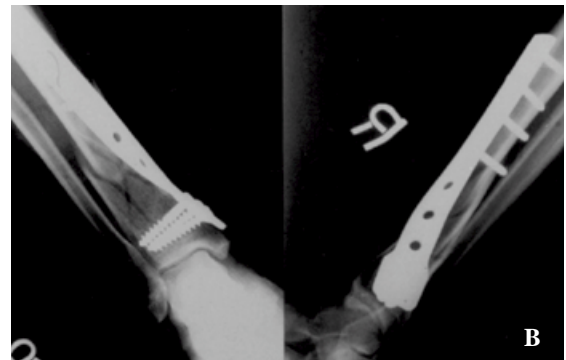
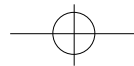


Fig 1. Sixty one years old woman, distal tibia shaft fracture (A), and then we operated by“ Minimally Invasive Percutaneous Plate Osteosynthesis” technique (B), and followed up to the postoperative 24 months (C).

Table 1. Complication (Cases)

	Group A	Group B
Nonunion	0	2
Delayed Union	2	5
Malunion	0	0
Superficial Infection	1	1
Osteomyelitis	0	1

(Table 1).

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가

가

A 1 , B 3
10

가

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(A)

46.5 (40-50), 25.3 (7-68)
(B)

115.7 (70-200),

48.3 (11-52)

A

2 , 1 가

12.5 (10-18)

(Figure 1). B

5 , 2 , 1 , 1 가

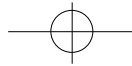
8).

¹⁰⁾. Rhinelander^{14,15)}

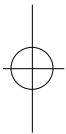
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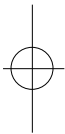


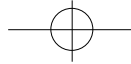
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 . 1978 가
 Mckibbin 가 ,
 6,7,9) . Collinge 3)
 12) , Edwards
 4) .
 Farouk , , ,
 가 ,
 80%가 ,
 ,
 5) . 7,17) 가
 10,11) .
 1) ,
 May Anatomical Bone Plate 3) .
 가 ,
 가 ,
 가 ,
 가 ,
 ,
 가 ,
 , Whiteside Lesker¹⁷⁾
 가 Helfet⁷⁾
 (Pilon) 20 , ,
 , 4 ,
 가





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Abstract

Minimally Invasive Percutaneous Plate Osteosynthesis for Distal Tibial Shaft Fracture

Jun Young Yang, M.D., Kwang Jin Rhee, M.D., June Kyue Lee, M.D.,
Deuk Soo Hwang, M.D., Hyun Dae Shin, M.D., Hyun Ho Lee, M.D.

*Department of Orthopedic Surgery, School of Medicine
Chungnam National University, Dae Jon, Korea*

Introduction : Minimally invasive percutaneous plate osteosynthesis(MIPPO) was performed to treat distal tibial shaft fracture, and the results were compared to those of open plate fixation to find appropriate treatments

Materials and Methods : Among the patients who visited the Orthopedics Department at our hospital and were diagnosed with distal tibial shaft fracture, 12 cases that received MIPPO and 14 cases receiving open plate fixation were chosen for the study. The average age of patients were 57.8 and 50.8 years, and the male:female ratio was 1:1 in both cases. The average post-operative follow up period was 18 months and 19.5 months, and simple X-ray was done to evaluate the fracture healing.

Results : The cases that received MIPPO, the operation time was 46.5 minutes and the average period of hospitalization was 25.3 days. There were no Nonunion, one case of delayed union, and one case of superficial infection. In the open plate fixation group, was 115.6 minutes and 48.3 days. Nonunion was in two cases, delayed union in two cases, superficial infection in one case, and deep infection in two cases. The nonunion cases were later given autogenous bone graft and fracture healing was attained.

Conclusion : By performing MIPPO quicker recovery of the patient can be made. Infection and nonunion, the most important complications due to operation, can be reduced. MIPPO thus seems to be the method leading to more close physiologic bone fusion in the treatment of distal tibial shaft fracture.

Key words: distal tibial shaft fracture, minimally invasive percutaneous plate osteosynthesis

Address reprint requests to _____

Jun Young Yang, M.D.

Department of Orthopedic Surgery, School of Medicine,
Chungnam National University, #640 Daesa-Dong, Jung-gu, Daejeon 301-040

Telephone number : (042) 220-7351, 7342, 7343

Fax number : 042-253-3010

E-mail address : jyyang@cnuh.co.kr