

(,) 23 , 18
(78.2%) , 5 (21.8%)

(,) 15 , 10 (66.7%) narrow LC-DCP
, 5 (33.3%) broad LC-DCP

15 , 8 ,
40.9 (21-66) . 37
(:21-60), 48 (:28-66)

가
7 , 8
53.2 (:42-72) , 41.1
(:14-61), 53.2 (:42-73)

Ilizarov

38 가
28 (73.7%) 가 , 가 8
(21.0%), 가 2 (5.2%)

2 (8.9%)
AO group , Gustilo 1 . 1 ,
(DCP) 1 (6.6%) , Gustilo I
(LC-DCP)

38 2
, 1 가 30 ,
1 2 가 8 . 1 2

8)

18 (78.2%),
5 (21.7%) ,
19 (82.6%) 2 , 4 (17.3%) 1
22
(95.6%), 14 (93.3%)

15
4
2

1998 08 2001 8

12 .
1 , 4 가

가 38

7.5 (:6-8)

Table 1. Functional classification (Klemm & Borner)

| RESULT | | IM nailing | LC-DCP |
|-----------|--|------------|-----------|
| Excellent | Full knee and ankle motion | 10 (43.4%) | 8 (53.3%) |
| | No muscle atrophy Normal radiographic alignment | | |
| Good | Slight loss of knee or ankle motion | 8 (34.7%) | 5(33.3%) |
| | Less than 2cm of muscle atrophy Angular deformity less than 5 ° | | |
| Fair | Moderate loss of knee or ankle motion | 4 (17.3%) | 2 (13.3%) |
| | More than 2cm muscle atrophy Angular deformity 5-10 ° | | |
| Poor | Marked loss of knee or ankle motion | 1(4.3%) | 0 |
| | Marked muscle atrophy Angular deformity greater than 10 ° | | |

Gustilo-Anderson³⁾

Tscheme¹⁴⁾

1.

Klemm

가

(Table 1.)

18 (78.2%)

13 (86.6%)

Klemm & Borner⁷⁾

가

2.

20 (86.9%),

1 (4.3%),

2 (8.6%)

11 (73.3%),

3 (20%),

1 (7.7%)

Robinson

1 12 (52.1%),

2a 11 (47.8%)

(33.3%),

1 7 (46.7%),

2a 5

2b 2 (13.3%),

2c 1 (6.7%)

가

6.9cm (:3.9-8.2cm),

4.2cm (:0-8.9cm)

16 (:13-

5

10mm

20) 20 (86.9%)

12 (:10-16) 15 (100%)

Robinson¹²⁾(type I=AO type 43A1, 43A2, or 43A3, type IIa=AO type 43A1.1, IIb and IIc=AO type 43A2.3 or 43A3.3)

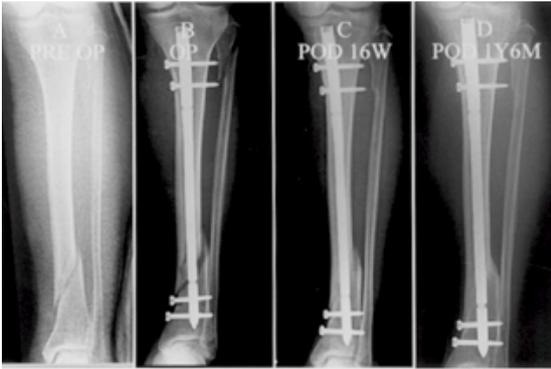


Fig 1

- A. 42-year old male radiograph showing distal tibia spiral fracture 4cm above ankle joint.
- B. Unreamed IM nailing was done at 2 days after injury.
- C. Bone union was not obtained in postoperative 16 weeks.
- D. Bone union was obtained in postoperative 1 year.



Fig 2

- A. 62-year old female radiograph showing distal tibia comminuted fracture.
- B. Anatomical reduction and internal fixation using narrow LC-DCP was done at 9 days after injury.
- C. Reduction is maintained well but not shows solid bony union at postoperative 8 weeks.
- D. Postoperative 1 year film reveals complete bony union.

3. 6 2
 1 10
 8 , 1 15 (Fig 1-B) 4
 , 10 16 (Fig 1-C),
 , 10 1 6 (Fig 1-D)
 Klemm Borner⁷⁾ 가
 12 . Broad LD-DCP
 2 가 가
 가 7 62
 . Narrow LC-DCP
 (Fig 2-A) 9
 (Fig 2-B) 14
 . 8 (Fig
 2-C) 1 6 Klemm Borner⁷⁾
 가 .
 |
 55
 4cm (Fig1-A) 가 가 ,

가

가

Anderson (73.3%) 20 (86.9%), 17), 11

Reichert¹⁰⁾ 6 가

Trueta¹⁶⁾ 6 가

Trafton¹⁵⁾ 가

Kessler⁸⁾ 가

Gregory²⁾ 95% 5)

Rezsca¹¹⁾ 12

16

May anatomical bone plate 가

2

1 , 1 가 , 가 가 가

anatomical bone plate, broad LC-DCP 가 , May 가

Bone Johnson¹⁾ 가

5cm

가

6.9cm, broad LD-DCP

4.2cm 가 가 , narrow

LC-DCP

23

18 (78.2%) 5 (22.8%)

1998 8 2001 8
23
15

가

가

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Abstract

Comparative Analysis of Interlocking IM Nailing and LC-DCP fixation in the Treatment of Distal Tibial Fracture

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Purpose : To compare the clinical results between interlocking IM nailing and LC-DCP fixation in the treatment of distal tibial shaft fracture.

Materials and Methods : From August 1998 to August 2001, 23 patients were treated by interlocking IM nail and 15 patients were treated by LC-DCP for distal tibial shaft fracture.

Results : According to Robinson classification, there were 12 type 1 fractures (52.1%) and 11 type 2a fractures (47.8%) in the interlocking IM nailing group, and 4 type 1 fractures (26.7%), 8 type 2a fractures (53.4%) and 3 type 2c fractures (20.07%) in the LC-DCP fixation group. The average time to bony union was 16 weeks in the patients treated with interlocking IM nail and 12 weeks in the patients treated with LC-DCP. In the functional outcome (according to Klemm and Borner), 18 patients treated (78.2%) with interlocking IM nail showed satisfactory results and 13 patients (86.6%) treated with LC-DCP had satisfactory results.

Conclusion : We concluded that more satisfactory results could be obtained with LC-DCP fixation compared with interlocking IM nailing in the treatment of the distal tibial fracture.

Key Words : Distal tibial fracture, Interlocking IM nail, LC-DCP

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