

Ilizarov

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Ilizarov

: Ilizarov

17

1

12,

5

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Gustilo

type 3A가 3, 3B가

2,

Melis

1

5

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2

4

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3

8

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7

Ilizarov

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5

Ilizarov

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가

5

7.5 가

Tucker

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:

,

20.5

.

Melis

,

2,

1,

10 가 .

11,

5,

1 .

:

Ilizarov

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: , , Ilizarov

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Ilizarov

가

가 ,

1995 1 1998 1 Ilizarov

17 1

가 (Table 1). 15 , 2

18 65 45 .

Ilizarov 11 , 3 , 2 ,

1 , 3 ,

2 , 2 가 ,

¹⁶⁾ 1 , 1 ,

2 가 . 12 , 5

Table 1. Patient data

Case	Sex/age (yrs)	Type	Closed/Open (type)	Bone graft	Complication	Functional result
1	M/45	III	Closed	+	Pin infection	Excellent
2	M/29	I	Closed	-	Pin infection	Excellent
3	M/60	III	Closed	-	Pin infection	Excellent
4	F/39	III	Closed	-		Excellent
5	M/18	III	Open (IIIa)	-	Pin infection	Good
6	M/56	II	Open (IIIb)	+	Angulation Pin infection	Fair
7	M/48	II	Closed	-		Good
8	F/52	III	Closed	-		Excellent
9	M/25	III	Open (IIIa)	-	Shortening Pin infection	Good
10	M/43	I	Open (IIIa)	+	Pin infection	Excellent
11	M/50	II	Closed	+	Shortening Pin infection	Good
12	M/65	I	Closed	-		Excellent
13	M/47	I	Closed	-		Excellent
14	M/50	III	Closed	-		Excellent
15	M/35	I	Open (IIIb)	+	Pin infection	Good
16	M/55	II	Closed	-		Excellent
17	M/45	II	Closed	-	Pin infection	Excellent

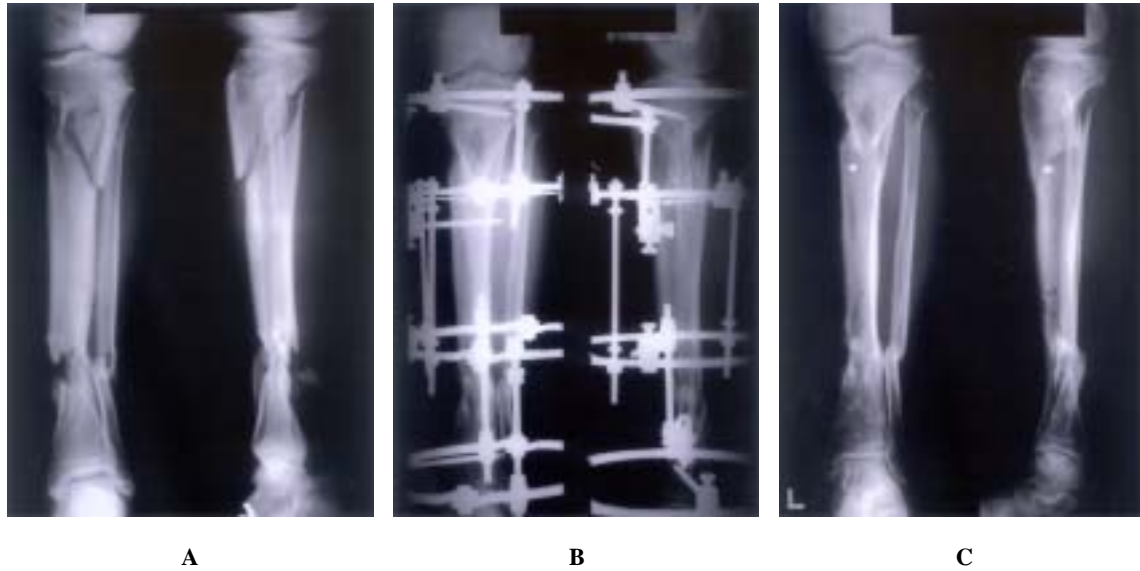


Fig. 1A. Preoperative anterior and lateral roentgenogram shows Meilis type III segmental tibial fracture of the left tibia.
1B. Postoperative 20 weeks roentgenogram shows union of the fracture.
1C. Fracture was consolidated without complication.

, Gustilo type 3A가 3 , 5 , 1
 3B가 2 , 2 ,
 2 .

Meilis¹¹⁾ . 1
 1/3 , 1 , 2
 , 2
 1/3 ,
 , 3 가 .

(Fig. 1), 1 5 , 2 4 , 3 8 . 4, 5

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 2
 , 1
 7 Ilizarov , 12 .
 5
 Ilizarov , 3 -B ,
 2 , Tucker²⁰⁾
 . 가
 5 7.5 가

Ilizarov 9,16,17,20)

가 (internal trans-

20.5 , 18.2 , port) 5), 3,13,14)

24 3,8)

. Melis 1 .

19.4 2 21.3 , 3 20.8 가 Ilizarov

20.3 .

20.9 .

2 , 1 , , Ilizarov

10 가 2

2 cm

75%

1 8 10 가

가 가

15 95 2 25%

16)

17),

Tucker 11 , 5

1 .

Sharker 16)

Tucker 20)

100%

19)

26.2

bumper 4- (4-point bend-

ing) 8).

가 9~11,15), , 1~3 , 4 가

11,15) .

가 4 Ilizarov

가 , 1~3 . Melis 11)

11),

가
half pin
half pin
Ilizarov
가
가
Ilizarov
ring
Ilizarov
2
2 cm
가
가
5 가
2
Ilizarov
3

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- 가
Ilizarov 가
가
drilling
10 (58.8%)
(pes anserius) 9 (90%)가
가
8
2
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Abstract**Treatment of Segmental Fractures Associated with Periarticular Fracture of the Tibia by Ilizarov External Fixator**

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Purpose: We analyzed the results and complications of the treatment of segmental fractures of the tibia associated with periarticular fracture by using Ilizarov external fixator.

Materials and Methods: We reviewed 17 patients of segmental fractures of the tibia were treated by Ilizarov external fixator and were followed for a minimum one year. There were twelve closed fractures, three type 3A, and two type 3B open fractures. According to Melis classification, there were five type I, four type II, and eight type III. All closed fractures were reduced and fixed with Ilizarov external fixator within seven days. Open fractures were performed immediate wound irrigation and radical debridement and fixed with Ilizarov external fixator. Autogenous iliac bone graft was done in five severe comminuted fractures. Average time in bone graft was 7.5 weeks after operation. We analyzed bony union time according to configuration and site of the fractures, results of the treatment, and complications. The functional outcome was assessed with rating system of Tucker.

Results: In all cases, bony union was obtained, and average union time was 20.5 weeks. According to modified Melis classification, our results showed no difference between each criteria with respect to bony union and there was no difference bony union time between proximal and distal fracture site. There were two leg-length discrepancy less than 2 cm, one partial ankylosis of the knee joint, and ten pin tract infections. The functional results was excellent in 11 cases, good in 5 cases, and fair in one case.

Conclusion: Ilizarov external fixator can be useful method for the treatment of segmental fractures of the tibia associated with juxtaarticular fracture in respect of bony union and functional results.

Key Words: Tibia, Segmental fractures, Ilizarov

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