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ILIZAROV

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= Abstract =

Treatment of Intraarticular Calcaneal Fractures using Ilizarov External Fixation

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Open reduction and internal fixation (ORIF) is gaining in popularity as method of choice for the treatment of displaced intraarticular calcaneal fracture since diagnosis and classification of computed tomography have become routine. But early weight-bearing cannot be allowed by conventional ORIF, and delayed weight-bearing may contributed to heel pad pain and dystrophy.

We performed combined technique of limited internal fixation and Ilizarov external fixation to ten-cases of displaced intraarticular calcaneal fractures, between February 1994 and February 1996. The follow-up period in this study was at least two years. This method can provide not only anatomical reduction, but also stable fixation. None of patients complained of heel pad pain, which was attributed to the desensitization of the heel by early weight-bearing. None of

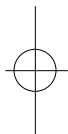
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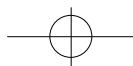
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patients went on to late collapse of the posterior facet. Clinical results were rated as excellent in six, good in three, and fair in one case. Pin-track infection, complicated operative technique, cumbersomeness and expensiveness of the external fixator itself were shortcomings of this method.

We consider this method as one of options for the treatment of displaced intraarticular calcaneal fracture.

Key Words : Calcaneus, Dispaced intraarticular fracture, Ilizarov external fixation

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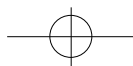
1. , 가 6 (1), 가3 20 50 42 .

가가 , 2. 1,3,4,6,14) , (4) 가 (2), (1) .

8 12 가 (heel pad) (dystrophy) 3. Paley Fischgrund¹¹⁾ , Ilizarov Sanders ¹⁵⁾ 10 2 4 , 3 6 .

4. Ilizarov 1 (5 12) .

5. 4cm cannulated screws 1994 2 1996 2 53 가 35 . Sanders 15) 2 3 27 , 9 10 , (C-arm) Ilizarov , Ilizarov 2



, 1/2 , 5/8 washer olive
1.8mm , 5/8 , plates, posts
5/8 3 1/2 , -
(rod) 1-2mm

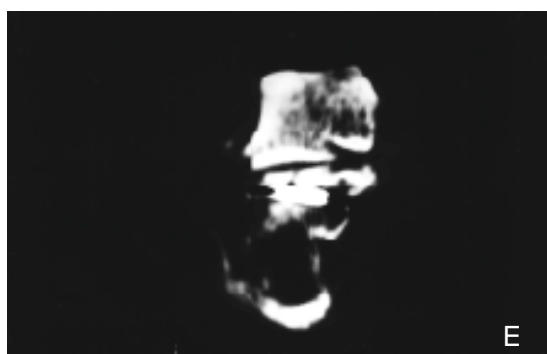
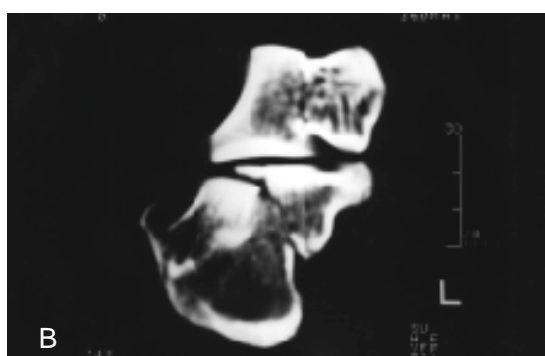
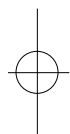


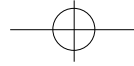
Fig 1. Radiographs of 37 years old man who had intraarticular calcaneal fracture.

- A. Preoperative lateral and axial radiographs showing joint depression type fracture.
- B. Preoperative CT image showing type II fracture by Sanders' classification
- C. Postoperative lateral and axial radiographs with the apparatus in place. The screw was used to fix the joint fragments in place. The arched wire was used to reduce the heel height, length, and alignment.

D. Lateral and axial radiographs after Ilizarov removal showing not only good union, but also reduction of the heel height, length, and alignment.

E. CT image after Ilizarov removal showing anatomical reduction of posterior facet.





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70-75%

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10 (9-12)

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dynamization

1,3,4,6,14)

Essex-Lopresti

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(Fig

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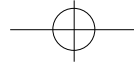
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13).

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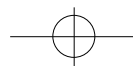
3)

. Paley Fischgrund¹¹⁾



가 , 8), 4 8 5,6,16), 10,11), Paley Fischgrund¹¹⁾ 가 , 가가 9,11), Ilizarov 10), ligamentotaxis 10 , 23 . , , , 가 가 Ilizarov 10 Ilizarov 2 . ligamentotaxis 가가 . Paley Fischgrund¹¹⁾ 7 8 10 (9 -11) , 5 가 , , 2 , 1 , 2 4 , 가 Ilizarov가가 1 1 9 10 10 (9 -12) 2 6 , 3 , 1 . 4 . 1 , 1 1) , , : (mechanical support) , 29:1438-1443, 1994.

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