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= Abstract =

## Surgical Treatment of the Bimalleolar Ankle Fractures

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We designed this study to evaluate the functional outcome and to suggest the guidelines in the treatment of bimalleolar ankle fractures with clinical and radiological analysis after operative treatment.

We analyzed 36 patients with bimalleolar fractures among 90 ankle fractures and followed up for more than 1 year. All 36 fractures were classified according to Lauge-Hansen system and the Meyer criteria was used for the clinical and radiological assessment.

Seventeen cases(47%) were supination-external rotation(47%); 9 cases(25%) were supination-adduction; 6 cases(17%) were pronation-abduction and 4 cases(11 %) were pronation-external rotation type. Satisfactory results was obtained in 32 cases(89%) according to the criteria of Meyer in the viewpoint of clinical and radiological analysis.

Satisfactory results could be obtained with early anatomical reduction and rigid internal fixation for the treatment of bimalleolar ankle fractures. Distal tibiofibular syndesmosis disruption could be spontaneously reduced without trans-syndesmotomic screw fixation by early

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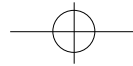
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open reduction and rigid internal fixation for the bimalleolar ankle fractures. Early and more accurate anatomical reduction can reduce the post-traumatic arthritis in cases with moderate talar displacement and open fractures.

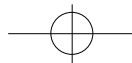
**Key Words :** ankle bimalleolar fracture, anatomical reduction, rigid fixation

가 (mild), (mortise) 1/2 (moderate), (severe) 가 32 (90%), 가 1 (2.8%) 가 20 (56%) 가 3 (7.2%),

2,6,13,15)

가 Lauge-Hansen<sup>16)</sup> Chamley<sup>9)</sup> Burwell Meyer<sup>10)</sup>

1. 1991 3 1997 12 1 90 36 19) AO 27 , 9 16 75 44 tension-band wiring, 51-60 가 14 (38 %) 가가 tension-band wiring 17 (47 %) 가 15 (41 %), 2 (5.5 %) , 33 (93 %), 3 (7 %) . Lauge-Hansen<sup>16)</sup> 4 (Table 1). - 17 (47%) 가 9 (25%), - , 4 가 6 (17%), - 4 (11%) .



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**Table 1.** Methods of fixation of the bimalleolar fracture.

Implants/site	Medial malleolus	Lateral malleolus	Distal tibiofibular joint	Total
Screw	32	7		39
K-wire	2	0		2
Tension band wiring	2	10		12
Transfixation screw			4	4
Plate and screw		19		19
Total	36	36	4	76

8

12

10,12)

Lauge-Hansen<sup>16)</sup>Meyer<sup>10)</sup>

(Table 2).

32

(89%)

(Excellent or Good)

-  
2,4,6,8,16)

가

32 (89%)

2,4,6,8,16)

17 (47%) 가

가 4

2 ,

가

2

2 가

2 ,

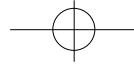
2,3,6,14,21)

. Brodies Denham<sup>8)</sup>, MeyerKumler<sup>18)</sup>

가

**Table 2.** Criteria used in assessment of result (Meyer)

Result	Clinical	Radiological
Excellent	No pain, full range of motion	Normal X-ray
Good	Pain after strenuous activity, less than 15 ° of motion lost	Calcification of interosseous ligament or deltoid ligament
Fair	Pain with normal activity, 15-30 ° motion lost	Malunion or nonunion
Poor	Consistant pain, Over 30 ° motion lost or ankle arthrodesis	Joint narrowing or marginal osteophytes



가  
2  
Wilson  
Meyer Kumler<sup>18)</sup> Yablon Heller<sup>23)</sup> Skilbred<sup>22)</sup> 가  
Yablon<sup>23)</sup> 가  
, tension-band wiring  
24,11)  
가  
가  
tension-band wiring  
(diastasis)  
Cedel<sup>10)</sup> Hughes<sup>13)</sup> 가  
Nielson  
20) C  
가  
Heim Pfeitter<sup>11)</sup>

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