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= Abstract =

Comparative Analysis for Syndesmotic Fixation vs Non-syndesmotic Fixation of Distal Tibiofibular Diastasis

Duk-Yong Lee, M.D., Jae-Ik Shim, M.D., Taik-Seon Kim, M.D., Sung-Jong
Lee, M.D.,
Suk-ha Lee, M.D., Dong-ki Lee, M.D., Yeon-Sik Yu, M.D. and Jae-Yeon
Moon, M.D.

Department of Orthopaedic Surgery, Korea Veterans Hospital, Seoul, Korea

The ankle fracture with diastasis of distal tibiofibular joint is caused by an axial loading force with concomitant external rotation or other force. Many surgeons have treated this injuries by rigid fixation medial and lateral malleoli with syndesmotic fixation. But recently, syndesmotic fixation is not required to maintain the syndesmosis in cadaver study. The purpose of this study was to determine the effect of syndesmotic fixation on ankle fracture. Seventy-five patients of ankle fracture with syndesmotic injury treated at Korea Veterans Hospital from Jan. 1990 to Dec. 1996 were analysed in clinical and radiological aspect. The syndesmotic fixation was not

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Tel : (02) 225 - 0250 Fax : (02) 487 - 0754

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necessary if the both medial and lateral injury was rigidly stabilized by fixation or ligament repair.

Key Words Ankle fracture, Syndesmotic fixation

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. Petit²⁰⁾가

1,20)

3,13,14,22,23), Boden 7)

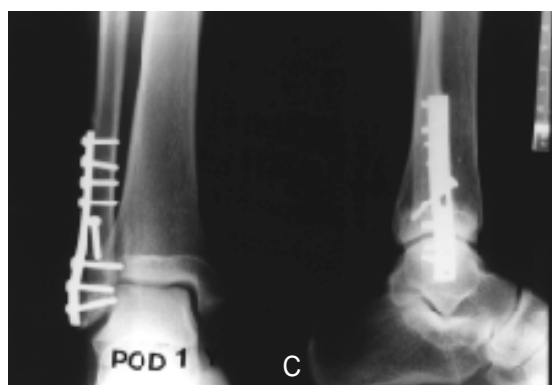
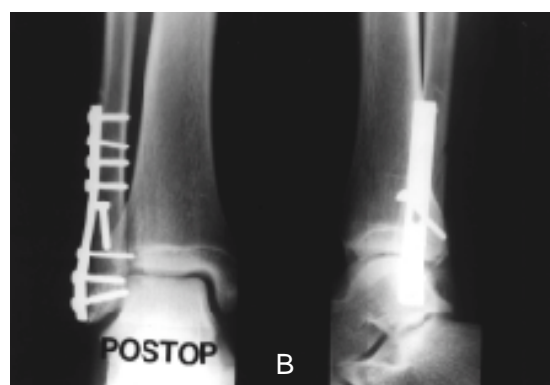
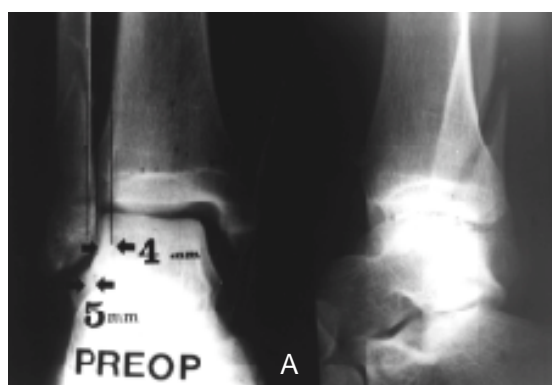


Fig 1-A. 42 years old male patient had right ankle fracture including lat. malleolar fracture, deltoid ligament rupture and diastasis of distal tibiofibular joint due to slip down. Syndesmosis A ; 4mm, Syndesmosis B ; 5mm
B. Lateral malleolar was rigid fixed and medial deltoid ligament primary repaired with anterior tibiofibular ligament repair without syndesmotic screw fixation.
C. There was no recurrence of diastasis at 1year follow up radiography.

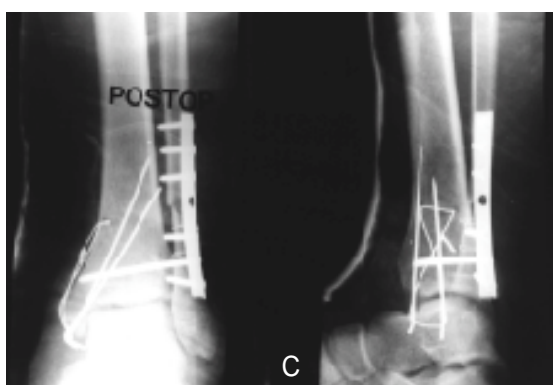
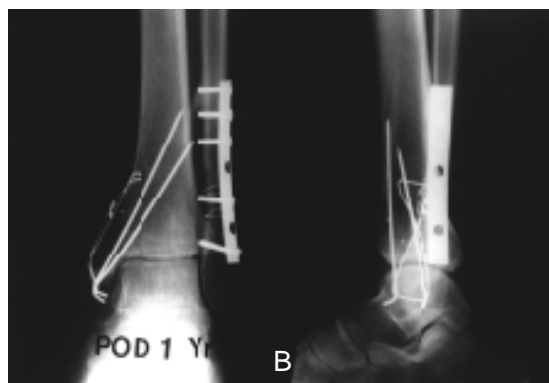
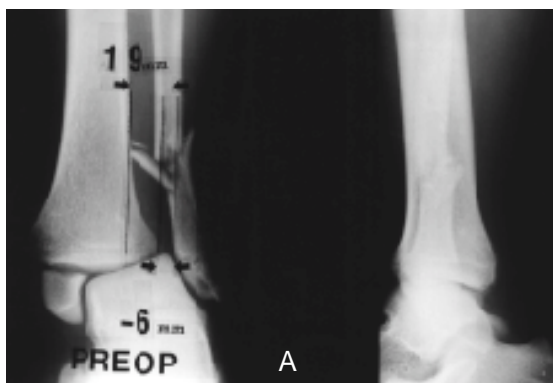
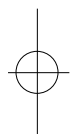


Fig 2-A. 25 years old male patient had left ankle fracture including lat. malleolar fracture and diastasis of distal tibiofibular joint due to fall down. Syndesmosis A ; 19mm, Syndesmosis B ; -6mm
 B. Lateral and medial malleolar was rigid fixation with syndesmotic screw fixation
 C. There was no recurrence of diastasis at 1year follow up radiography.



Petron ²¹⁾
 clear space가 5mm
 overlap 1mm
 mortise .
 1990 1 1996 12 7
 98 12 가가
 75 . ,
 20 (12 42
) 52 (18 - ,
 68) 가53 . 가 40
 38 (50.7%), 26 1 , 가
 (34.7%), 11 (14.6%) . 35 2
 Lauge-Hansen (Fig 1-A,B,C).
 41 (4.5mm
 7) - 29 (2cm
 2) - 5 30 3
 (Fig 2-A,B,C).



Table 1. Clinical and radiological result (by Meyer & Kumler)

Group	Clinical evaluation				Radiological evaluation			
	Excellent	Good	Fair	Poor	Excellent	Good	Fair	Poor
Group I	26	9	3	2	21	10	6	4
Group II	23	9	2	1	18	12	3	2
Total	49	18	5	3	39	22	9	6

Group I : with syndesmotic screw

Group II : without syndesmotic screw

Table 2. Result of quality of reduction of syndesmosis (Leeds & Ehrlich)

Group	Good	Fair	Poor
Group I	29	9	2
Group II	28	6	1
Total	57	15	3

Group I : with syndesmotic screw

Group II : without syndesmotic screw

Meyer ¹⁶⁾

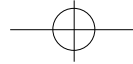
가 Leeds Ehrlich¹⁴⁾
paired T-test

1 40 29 (72.5%)가 , 9 (22.5%)
가 , 2 (5%)가 , 2 35
28 (80%)가 , 6 (17.1%)가 , 1 (2.9%)가
가
(P>0.05)

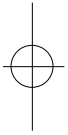
Meyer ¹⁶⁾
1 40 35 (87.5%), 2 35
32 (91.4%) (Table 1),
1 40 31
(82.5%), 2 35 30 (85.7%)
(Table 1), 가
가
(P>0.05) 가
(Table 2).
Leeds Ehrlich¹⁴⁾

3 ,
3 , 1 ,
Synostosis가 1 .

1).



,²²⁾, Close⁹⁾ 1)
mortise가 2mm
가 3.7mm 가 가
Ashhurst Bromer⁶⁾
, Lauge-Hansen¹³⁾ - , Close⁹⁾ 가
- , - Mast Teipner¹⁵⁾
- , 가
Pankovich¹⁹⁾ - 9 6
Weber²³⁾ Cotton¹⁰⁾
가 가
, type C
(1),
, mortise (2), Meyer¹⁶⁾
3)
Pettron²¹⁾ , Leeds Ehrlich¹⁴⁾ 가
(clear space)가 5mm 가 ,
Husfeldt¹²⁾ 가
(peroneal groove) 가
5.5mm 가 Bonnin⁸⁾
syndemosis A가 5m
Pettron²¹⁾ 1990 1 1996 12 7
75
Alldredge⁵⁾가 20
(40) (35)
가
11,17,18)
2,4) . Nielsen¹⁷⁾ C 1. 87.5%, 82.5%가 91.4%,
. Boden⁷⁾ 85.7%가
3-15cm 가
2.





95% ,
97.1%
가 .

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