

65

[]

: 65 K -

K -

: 1998 1 2001 12 65

12 가 24

K - 14 , K - 10

Sarmiento Demerit Point

System (, ,)

: Demerit Point System K - 9.9 , K -

5.3 , K -

($p < 0.05$),

K - 23.2%,

12%, 41.7%, K -

11%, 5.9%, 27.4% K -

($p < 0.05$).

: 65 K -

, K -

:

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Table 1. Clinical details of 24 patients with distal radius fractures

Patient data	Percutaneous K-wire (n=14)	Percutaneous K-wire with external fixator (n=10)
Age (years) (range)	73.9 (66~83)	69.9 (65~80)
Female : male	12 : 2	8 : 2
Cause		
Slip down	10	7
Fall down	3	2
Traffic accident	1	1
Fracture type (Frykman)		
I	3	1
II	2	0
III	1	1
IV	2	2
V	1	1
VI	2	2
VII	1	0
VIII	2	3

Table 2. Results according to Demerit Point System

Demerit Point System	Percutaneous K-wire (n=14)	Percutaneous K-wire with external fixator (n=10)
Excellent (0~2)	1	2
Good (3~8)	8	7
Fair (9~20)	4	1
Poor (21~)	1	0
Total (mean score)	14 (9.9)	10 (5.3)

K-
2 , 7 , 1
1 Frykman VIII K-
, Demerit Point System
K- 9.9 ,
K-
5.3 , K-
(Table 2, p<
0.05).

Table 3. Results according to the radiographic evaluation

Radiographic index	Percutaneous K-wire	Percutaneous K-wire with external fixator
Radial length (mm)		
Postoperative	11.2	10.9
Last follow up	8.6	9.7
Loss (%)	2.6 (23.2)	1.2 (11)
Radial inclination (°)		
Postoperative	18.2	18.5
Last follow up	16.1	17.4
Loss (%)	2.1 (12)	1.1 (5.9)
Volar tilt (°)		
Postoperative	6.0	6.2
Last follow up	3.5	4.5
Loss (%)	2.5 (41.7)	1.7 (27.4)

,
,
,
(%)
, K-
2.6 mm (23.2%), 2.1° (12%), 2.5° (41.7%)
K-
1.2 mm (11%), 1.1° (5.9%), 1.7° (27.4%)
K-
(Table 3, p<0.05).
1
66 Frykman VI
, K-
, 2 ,
, Demerit point 19 ,
, 3.3 mm,
2.8°, 5.1° (Fig. 1).
2
70 Frykman III



Fig. 1. A 66 year-old woman with Frykman type VI distal radius fracture was injured by slip down.

1A. Initial preoperative radiograph.

1B. Postoperative radiograph after closed reduction and percutaneous K-wire fixation.

1C. Reduction loss was occurred 2 weeks after the operation.

1D. Radiograph of postoperative 12 months showing the union of fracture. Demerit point was 19. The loss of radial length, radial inclination and volar tilt was 3.3 mm, 2.8 degrees and 5.1 degrees respectively.

가 ,
 , K- 가 가
 , Demerit point 2 ,
 , 0.9 mm,
 1.3°, 1.4° (Fig. 2).

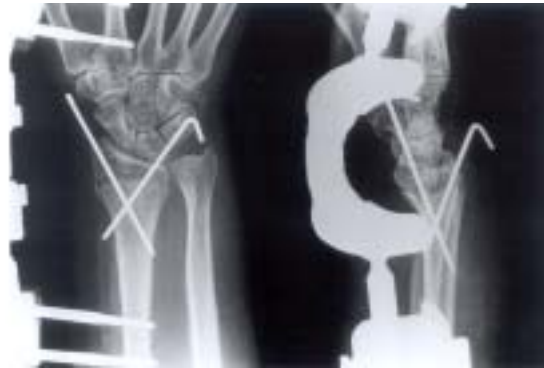
1814 Colles

^{1,16)}, ⁶⁾, algodystrophy²⁾

가 가



A



B



C

Fig. 2. A 70 year-old woman with Frykman type III distal radius fracture was injured by slip down.

2A. Initial preoperative radiograph.

2B. Postoperative radiograph after percutaneous K-wire fixation with external fixation.

2C. Radiograph of postoperative 15 months showing the union of fracture. Demerit point was 2. The loss of radial length, radial inclination and volar tilt was 0.9 mm, 1.3 degrees and 1.4 degrees respectively.

Horesh¹²⁾

가

가

가

Zagorski¹⁷⁾

가

K-

10

K-

14

K-

Frykman¹⁰⁾

Listrom¹⁴⁾

Knirk

Jupiter¹³⁾

가

3-5,9)

K-

K-

8,11)

가

가

가 가

K-

K-

2.6 mm

(23.2%), 1.2 mm (11%),

2.1°

(12%), 1.1° (5.9%),

2.5° (41.7%),

1.7° (27.4%)

Sarmiento¹⁵⁾

Deme-

rit point system

가

80%
 , Cooney^{6,7)} Horesh¹²⁾
 80% 90%
 , K -
 64%, K -
 90%

65

K -

K -

K -

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Abstract**Surgical Treatment of Fractures of the Distal Radius in Patients Older Than 65 Years****Jeung-Tak Suh, M.D., Dae-Woong Kim, M.D., Chong-Il Yoo, M.D.***Department of Orthopaedic Surgery, College of Medicine,
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Purpose: To analyze the results of surgical treatment of the displaced distal radius fractures in elderly patients over 65 years old who were treated with percutaneous K-wire fixation only and percutaneous K-wire fixation with external fixation.

Material and Method: We evaluated 24 cases of the distal radius fracture in patients older than 65 years from January 1998 to December 2001. The patients were followed up at least 12 months postoperatively. We compared the surgical results of 14 cases, treated with percutaneous K-wire fixation only with the surgical results of 10 cases, treated with percutaneous K-wire fixation with external fixation. We evaluated the functional results according to demerit point system and the radiographic results (radial length, radial inclination, volar tilt).

Results: According to demerit point system, the mean score of demerit point was 9.9 in the group of percutaneous K-wire fixation and 5.3 in the group of percutaneous K-wire with external fixation respectively ($p < 0.05$). In radiographic results, the percent of the mean loss of radial length, radial inclination and volar tilt were 23.2%, 12% and 41.7% in the group of percutaneous K-wire fixation and 11%, 5.9% and 27.4% in the group of percutaneous K-wire with external fixation respectively ($p < 0.05$).

Conclusion: Percutaneous K-wire with external fixation showed better functional and radiographic results than percutaneous K-wire fixation only for the treatment of the displaced distal radius fractures in elderly patients older than 65 years and percutaneous K-wire with external fixation is thought to be a one of the most effective treatment of the displaced distal radius fractures in elderly patients.

Key Words: Distal radius, Displaced fracture, Percutaneous K-wire fixation, External fixation, Elderly patient

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