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[]

:
가
가 : 60 84 231 6
, 가 ,
Clawson 가
가
: 가 10 , 23 , 40 ,
11 가 (p<0.001), 10 mm
가 4 , 21 , 10 mm 가 46 , 13 10 mm
가 (p<0.001).
10 mm , 10 mm 12 ,
8 , 10 mm 11 , 10 mm 가 2
(p<0.001).
: 10 mm

: , ,

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* 2002

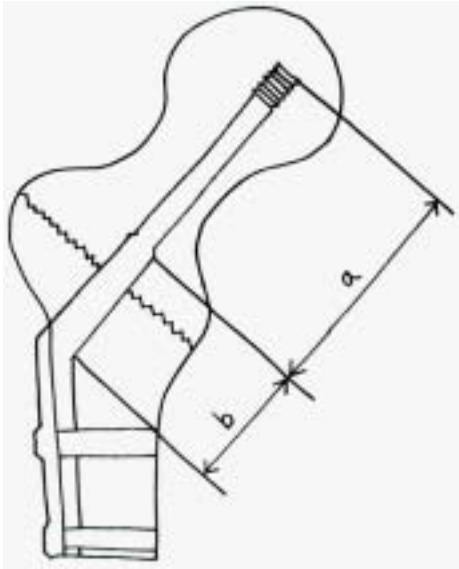


Fig. 1. Measurement of sliding length by Doppelt Method.
a: Screw length post-op
a': Screw length follow-up
b: Barrel length post-op
b': Barrel length follow up
Sliding length = true barrel length \times (a/b - a'/b')

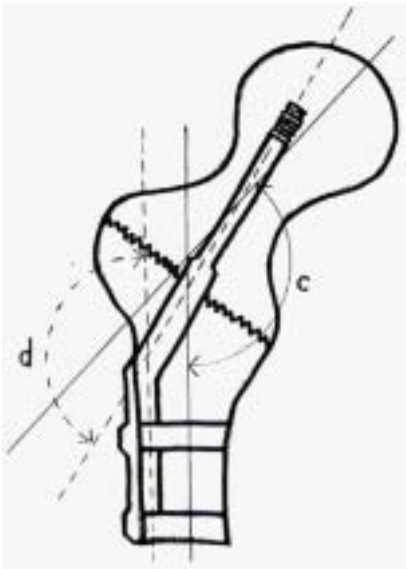


Fig. 2. Measurement of neck shaft angle change by Doppelt method.
c: Neck shaft angle post-op
c': Neck shaft angle follow-up
d: Screw plate angle post-op
d': Screw plate angle follow-up
Neck shaft angle change = c - c' \times (d/d')

		가		22 , 2		9 , 3	
		Fisher's		가 3		50 가 , 34 가	
exact test		chi-square test		6.5 mm,		10.6 mm	
		51 (60%)				4.0 ,	
33 (40%)		0~27.1 mm		5.8			
8.0 mm							
		anatomical		40 (48%),			
Wayne-county		18 (21%), telescoping		24		40 (78.4%)가 , 11 (21.6%)가	
(29%), Loss of contact		2 (2%)				10 (30.3%)가 23 (69.7%)	
		6.1		29.3		가	
		4.2		가		(p<0.001)	
		18 ,		7 ,		(Table 1).	
4 ,		5 ,		1			
0%		66.6%		18.7%			
				가 50 , 1		15 mm	
						5 mm , 10 mm , 15 mm ,	
						5 mm	

Table 1. Fx type and Functional result

Functional result / Fx type	Stable (case)	Unstable (case)	No. of Case
Good	40	10	50
Poor	11	23	34
Total	51	33	84

Table 2. Sliding length and Functional result

Functional result / sliding length	0~5 mm (case)	5~10 mm (case)	10~15 mm (case)	15 mm (case)
Good	21	25	3	1
Poor	7	6	12	9
Total	28	31	15	10

가 21 (75%), 7 (25%) , 10 mm
 가 25 (80.6%), 6 (19.4%)
 , 15 mm 가 3 (20%),
 12 (80%), 15 mm 가 1 (10%),
 9 (90%) 10 mm
 4 , 21 10 mm
 가
 (p<0.001) (Table 2).
 10
 10 가 46
 (90.2%), 10 5 (9.8%) ,
 10 가 24 (72.7%), 10 9 (27.3%)
 10 가
 10 mm
 anatomical 10 mm 가 31 (77.5%),
 10 mm 9 (22.5%), Wayne-County
 10 mm 가 12 (66.7%), 10 mm 6
 (33.3%), telescoping 10 mm 가 14
 (58.3%), 10 mm 10 (41.7%), loss of contact
 10 mm 가 2 (100%), 10 mm 0
 (0%)

10 mm

(Table 3).

10 mm

Table 3. Type of reduction and Sliding length

Reduction status / sliding length	Less than 10 mm	More than 10 mm	No. of case
Anatomical reduction	31	9	40
Wayne-County reduction	12	6	18
Telescoping reduction	14	10	24
Loss of contact reduction	2	0	2
Total	59	25	84

Table 4. Unstable fracture pattern

Sliding length / fracture pattern	Displaced (case)	Comminuted (case)
Less than 10 mm	18	2
More than 10 mm	5	11
Total	20	13

20%
 가 ,
 10 mm
 10 mm
 12 (66.7%), 10 mm 6
 (33.3%) , 10 mm
 4 (57.1%), 10 mm 3
 (46.9%), 10 mm
 33 (78.6%), 10 mm 9 (21.4%),
 10 mm 5 (71.4%),
 10 mm 2 (28.6%),
 10 mm 2 (50%), 10 mm 2
 (50%), 10 mm
 2 (40%), 10 mm 3 (60%),
 10 mm 1 , 10 mm
 0 ,
 .
 15.0 mm
 ,
 6.92 mm .

13 10 mm 11 (84.6%) 가 8.0 mm,
 20 10 mm 10.6 mm Steinberg ²²⁾
 5 (25%) 9.3 mm, 12.1 mm,
 (p<0.001) Jacobbs ¹³⁾ 15.7 mm
 (Table 4). 가
 20 8 (40%), Skovron ²¹⁾
 13 2 (15.4%)가
 1 20% 가
 Clawson ³⁾ 가
 36%
 10% 45%
 가
 가 60%,
 30% 가
 Steinberg ²²⁾ 15 mm
 가 ,
 가
 10,11,20,21)
 - (fixed nail plate
 device), - (sliding nail plate device),
 (intramedullary device), (re-
 place prostheses)
 -
 (lag screw)
 (head
 peneration)
 가 anatomical
 2,12,14,18) Wayne-county ¹⁵⁾ telescoping
 (moment arm) , Hardy ⁹⁾
 가 가
 가
 가 anatomical
 가 Wayne-county telescoping
 Evans
 40% Evans가 30%
 4),

8,15,16,25)

,

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가

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Abstract

Stability and Usefulness of Compression Hip Screw in the Treatment of Femur Intertrochanter Fracture in the Elderly

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Purpose: To evaluate the relationship between fracture stability and functional results, and analyze the correlation between stability factors and the outcome in intertrochanteric fractures of the elderly.

Materials and Methods: Of the 231 patients, 84 patients with age above 60 were able to follow up for minimum 6 months. We measured the sliding length of the lag screw, varus degree, position of lag screw, reduction status and medialization of distal fragment radiologically. The functional outcome of the treatment was evaluated with the Clawson's result classification and we evaluated the correlation between the radiological results of measurement and the functional recovery depending on the Evans fracture classification.

Results: There were good results in 40 cases out of 51 stable fractures, and in 10 cases out of 33 unstable fractures ($p < 0.001$). In case of sliding of lag screw more than 10 mm, good results were obtained in 4 cases, and poor in 21. And in case of sliding less than 10 mm, good results were obtained in 46, and poor in 13 ($p < 0.001$). But there was no relationship between other radiologic factors and clinical results. In unstable type, there were 12 cases with lag screw sliding more than 10 mm and 10 cases with less than 10 mm. In comminuted type, there were 11 cases with lag screw sliding more than 10 mm and 2 cases with less than 10 mm ($p < 0.001$).

Conclusion: The sliding of lag screw more than 10 mm may result in poor outcome. As in comminuted unstable pattern, sliding of lag screw might be excessive, the use of compression hip screw alone is not a good treatment option.

Key Words: Femur, Intertrochanteric fracture, Compression hip screw

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