

가

<	>
:	가
:	1997 1 2000 12
10	12
. 27, 27	() 12
() 15	
:	4.2, 5.3
:	가 24 88%
:	가 20 (71%) 가 7.8
:	25.8
:	44.2 65.1
:	1
6.9	
:	가 2.4
:	3
:	가
:	
:	가
:	
:	

:
93
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E-mail : hylee@vincent.cuk.ac.kr

. A1 6 (22%)
3 , 3 , A2 7 (26%) 2 , 5
, A3 13 (48%) 7 , 6 , B2 1
(4%) 13.9
 ± 1.4 , 21.3 ± 12.6
가 8 ,
1999
(Table 1).
 ,
 ,
 ,
19,21,22,25)
 ,
1997 1
2000 12 10 , 12
가 27 ,
T-
1997 1 1 2000 12 31
10 7.8 ,
1 25.8 (P
가 27 0.05).
1
27 가 24 가 3 6.9 ± 2.7 3.74
48 1
(Table 1).
() ,
²⁶⁾ 12 44.4% ,
가 65.1 ± 9.3
() 15 (55.6%) (P<0.05). 5
1 10 4.73 45 , 52 , 6
, 5 가 16 8 , 8 , 6 54 , 63 ,
10 가 11 4 , 7
20 74% ,
4 (15%) 3 (11%) ,
AO ¹⁵⁾ A , B 15 3 8.0mm
가 , C 3 13.7mm
, 1 , 2 30
, 3 30 (Table 1). , A1 1 (

Table 1. Case analysis.

	Immediate casting	Traction and casting
Number of cases	12	15
Ages(years)	4.2 ± 2.5	5.3 ± 1.9
Sex(Male/Female)	10/2	14/1
Mechanisms of injury		
Traffic accident	7	13
Fall down	3	1
Slip down	2	1
Mean hospital days	7.8	25.8
Mean numbers of X-ray follow up	2.0	6.9 ± 2.7
Mean duration of follow up (months)	13.9 ± 1.4	21.3 ± 12.6
Cast bivalve after initial injury(days)	44.2 ± 11.4	65.1 ± 9.3
Limb length discrepancy numbers	3(25%)	3(20%)
means(mm)	-13.6	-8.0
Mean cost for hospitalization (Won)	1,939,451	4,606,644

Table 2. Radiologic results: Angular formation

	After casting		Last Follow up	
	Coronal(°)	Sagittal(°)	Coronal(°)	Sagittal(°)
Immediate casting	4.3 ± 3.8	4.5 ± 3.9	1.7 ± 2.0	2.7 ± 5.8
Traction and casting	4.9 ± 5.8	6.8 ± 2.7	4.5 ± 3.2	5.7 ± 5.2

), A2 1 (), A3 3 (2 , 1
) B2 1 () ,

4.3 ± 3.8 1.7
± 2.0 ,
4.5 ± 3.9 2.7 ± 5.8
4.9 ± 5.8 , 4.5 ± 3.2
6.8 ± 2.7 5.7
± 5.2

(Table 2).

4,606,644 , 1,939,451
2.4
8,16,22)
Bryant , 90-90
, Russell
3,5,16,17,22,25) . Kasser¹²⁾ 0 10

10
,
가
가¹³⁾,
21)
. Martinez¹⁴⁾
Illgen⁹⁾
10 mm
20 mm , 가
6
가
가 3,4,5,8)
Buckley¹⁾ 6
가

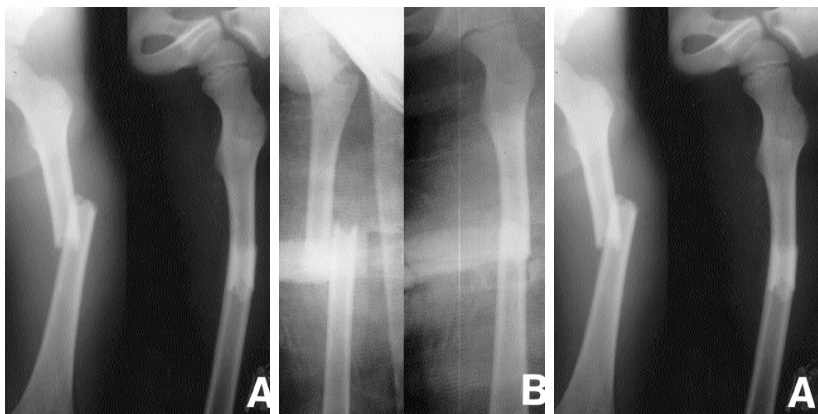


Fig 1-A. A initial radiograph of the femur of a six-year-old child showing diaphyseal fracture with overlap.
1-B. A radiograph after immediate hip spica cast application with closed reduction within 48 hours from the traffic accident, showing 2 °coronal angulation and 1 °sagittal angulation.
1-C. Complete union with remodelling at 13 months after fracture.

4.2 ± 2.5

6 10 , 1

1,4,7,26) , Buehler 2)

95% , Infante 10) 80 Stanitski 20)

pound 가 10 90-90

0.699

rads

15 ° , 5 ° , 9 °

11,22)

25 ° 23)

가 가

21 ° , 12 2 3.5 6.9

(Table 1).

(Table 2, Fig.1). Yandow 26)

8.9 Coyte 6) Clinkscates Peterson 4)

가

50 %

Yandow 26)

83 %

(Table 1, 2).

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16,19,22,24,25),

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Abstract

Immediate hip spica cast application for femoral shaft fractures in children

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Purpose : To evaluate an efficacy of immediate closed reduction and hip spica casting in pediatric patients with femoral shaft fractures.

Materials and Methods : 27 cases of 27 pediatric patients who had been treated conservatively for the femoral shaft fractures under 10 years of age were retrospectively reviewed. The cases with serious associated injuries were excluded. The hospital stay, duration of traction and hip spica cast, frequencies of plain radiographs, clinical and radiological outcomes at the final follow-up, and financial aspects were evaluated comparatively between the groups of immediate hip spica casting(12 cases) and traction-casting(15 cases).

Results : The patients treated with immediate hip spica casting had a mean hospital stay of 7.8 days, compared with a mean of 25.8 days for those treated with traction and casting. The mean duration of immobilization were 44.2 days in the group of immediate hip spica casting, and 65.1 days in the group of traction and casting. The radiologic examinations were performed 2 times and 6.9 times respectively. The clinical and radiological outcomes at the final follow-up were good in both groups. Insignificant leg length discrepancies were seen in 3 cases each group. The total charges of traction and casting was 2.4 times higher than that of immediate hip spica casting.

Conclusion : The immediate hip spica casting seems to be an effective method of treatment in femoral shaft fractures without serious associated injuries under 10 years of age because there are several advantages such as satisfactory result, shortened hospitalization and immobilization, reduction of total charges, and lowered the risk of radiologic exposures.

Key Words : Femur, shaft fracture, children, immediate hip spica casting

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