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169

Table 1. Classification of femoral fractures (by Winquist-Hansen)

	Reamed nail	Unreamed nail
TYPE I	20	0
TYPE II	37	7
TYPE III	15	10
TYPE IV	2	4

가, 1930 Küntscher¹²⁾ 1950

가, 가

가 19 가 55 ,

가 19 ,

17 68 (37) 19 ,

2 .

가 52 (55%) 가

Küntscher 가¹³⁾, 1979 Pfister 가¹⁸⁾

1992 Whi-

ttle , 1993 Hasse

가,

가

(23 , 24%), (11 , 11.6%),

(2 , 2%) .

38 (40%) 가

(15 , 15.8%),

(12 , 12.6%), (12 , 12.6%),

(3 , 3%), (2 , 2%) .

1,3,15,16,26,30,31) .

10~13 mm (12 mm) ,

9~12 mm (11 mm) .

Winquist-Hansen .

Winquist-Hansen

I 20 , II 37 , III 15 , IV 2

I 0 , II 7 , III

10 , IV 4 (Table 1).

(3 , 6) (7 , 7)

1.

1997 6 2000 4

105 , 105

1 가 95 , 95

74 ,

21 . 1 2 10

1 10 .

2.

가 ,

1D. Follow up 1 year AP and lateral roentgenograms of femur shows that the fracture's site was united completely.



2D. Follow up 2 year AP and lateral roentgenograms of femur shows that the fracture's site was not united.

- , 94, (p<0.005).
2. 50, 3,22), 400 ml, 250 ml, 가 (p<0.001).
3. 가, 가 Trueta Cavadias²⁵⁾ 4.5, 2/3 1/3, 6, 가.
4. 15.8 (13.2 ~19.5), 가 Pratt, 17.1 (16.4 ~24) 가⁸⁾, 가^{10,14)} Kessler¹¹⁾ 가 (bone induction potential) re-aming particle.
5. 6, 가 1962 Küntscher¹³⁾ 가, 1979 Pfister¹⁸⁾, 1980 Stürmer²³⁾ 1000 mmHg, 1985 Schmidt²¹⁾ 25 mmHg.
6. 5 가, 1, 2, 1981 Stürmer²⁴⁾ 가 44.6, 가, 1989 Klein⁹⁾ Wenda 1988, 1989, 1990²⁷⁻²⁹⁾ 17), 1 가 (Fig. 2), 1 가, 가, 가.

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Abstract

A Comparative Study of Reamed and Unreamed Nail for Femoral Shaft Fracture's Treatment

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Purpose: The comparative analysis of clinical difference between the use of reamed nail and unreamed nail in treatment of femoral shaft fracture.

Materials and Methods: In 105 patients with femoral shaft fracture who were treated with reamed nail or unreamed nail between June of 1997 and April of 2000, 95 patients who underwent more than a year of follow-up were selected. Winkquist-Hansen criteria was applied for the classification of fracture. Based on the medical records and radiological examinations, conducted a retrospective, statistical analysis of the duration of operation, the amount of bleeding during operation, the first time of callus formation, union time, and complications.

Results: The average duration of operation was 107 minutes for reamed nail group, and 94 minutes for unreamed nail group, and the difference was statistically significant ($p < 0.005$). The amount of bleeding during the operation was 400 mL for reamed nail group and 250 mL for unreamed nail group, and the difference was statistically significant ($p < 0.001$). There was no statistical difference in the first time of callus formation and union time between the two groups but, in general union time tend to be long in unreamed nail group.

Conclusion: In the treatment of femoral shaft fracture, the use of unreamed nail was shown to have an advantage over the use of reamed nail in terms of the duration of operation and the amount of bleeding. We recommend restrictive cases.

Key Words: Femur, Shaft fracture, Reamed nail, Unreamed nail, Operation time, Bleeding amount

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