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8.13)

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3 .

1991 1998

15 6 가 ,

가 125 , , Rockwood 가 12)

가 93 36 , 10

32 , 11 .

(Table 1). chi-square test, student's paired t-test, Pearson correlation analysis ,  $p < 0.05$

1/3 ,

6-8 8 가 ,

, 3-4 Velpeau

1/3 Kenny-Howard 6

가 , 78 7.8

가 , 47 9.4 , 10.5

, 2cm 가 , 7.3

, sling & swathe 1 , 2 , 20 가 , 23.2% 7

90 , 14.8% (Table 2).

3 0 38mm( 12.7 mm),

**Table 1.** Distribution of cases according to age and sex

Sex	Conservative treatment	Surgical treatment	Total
Male	57	36	93
Female	21	11	32
Total	78	47	125

Age	Conservative treatment	Surgical treatment	Total
15 - 19	7	3	10
20 - 29	24	19	43
30 - 39	12	14	26
40 - 49	15	5	20
50 -59	10	4	14
60 -	10	2	12
Total	78	47	125

**Table 2.** Demography of the patients

	Conservative treatment	Surgical treatment
Follow-up period	7.8 months	9.4 months
Time of bone union	6 - 20 weeks ( Ave. 10.5 weeks )	6 - 12 weeks ( Ave. 7.3 weeks )
Complications	Non-union : 5 Malunion : 8 Neurologic symptoms : 7	Pin migration : 3 Screw loosening : 2 Infection : 1 Non-union with pathologic fracture : 1

**Table 3.** Length difference of the fractured clavicle

	Conservative treatment		Surgical treatment	
	Pre-reduction	Post-reduction	Pre-operation	Post-operation
Average	5.45	12.70	8.77	4.05
Standard deviation	4.75	16.89	7.23	3.20

P > 0.05

**Table 4.** Functional results and overall subjective satisfaction**A. Functional results**

	Conservative treatment	Surgical treatment
Excellent	29	21
Good	27	13
Fair	16	9
Poor	6	4
Average points	25.4	24.8

**B. Overall subjective satisfaction ( 10 point scale )**

	Conservative treatment	Surgical treatment
Average	7.7	7.2
Standard deviation	1.7	1.5

P < 0.05

0.7mm( 4.0mm)

(Table 3).

30

25.4 ,

가 -

24.8 ,

7.2 ,

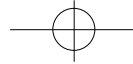
7.7

7.10)

(Table 4).

1,2,4,10,11,13)

Eskola <sup>5)</sup> 15mm



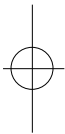
, Hill <sup>6)</sup>  
 15% , K- 가  
 29% Rowe<sup>13)</sup> 0.3% Wilkins Johnston<sup>14)</sup> 6% Steinmann  
 (reconstruction plate)  
 2cm 가 <sup>3)</sup>  
 가  
 Ngarukos <sup>9)</sup> Bö  
 sman <sup>1)</sup> ,  
 , , ,  
 K- , 1-2  
 , 2-4  
 2,3,14) ,  
 ,  
 가 1,2,10,11) ,  
 8 93%  
 , , 47%가  
 가 (shoulder ,  
 spica cast) , 3-4  
 6-8 ,  
 , ,  
 가 7 ,  
 4 ,  
 3 ,  
 ,  
 , 2cm ,  
 , , ,  
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 가 , ,  
 , 2,3,6,14)  
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## Abstract

## Treatment of Clavicle Fracture : Operative vs Non-operative

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**Introduction** : The purpose of this study was to compare the final results of the patients of the clavicle fractures, treated with the conservative or surgical techniques.

**Materials and Methods** : 125 patients (over 15 years old, follow-up over 6 months) were reviewed. To measure the amount of shortening of the fractured clavicle, the length of clavicle was measured from the mid-point of the medial end to the lateral. Range of motion of shoulder, evaluation of functional results and subjective satisfaction, and complications were assessed.

**Results** : In the surgical treatment group, the period of bony union was short and the shortening of the final length of the fractured clavicle, although there was no statistical significance, was rare. Overall satisfaction for the final result and range of motion of the shoulder were not significantly different between the groups. Complication rates were higher in the conservative treatment than in the surgical.

**Conclusions** : In most cases of the clavicle fracture, the operative treatment is recommended to decrease the complications, to shorten the treatment period, to satisfy the patients, and probably to decrease the economical burden.

**Key Words** : Clavicle, Fracture, Operative and non-operative treatment

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