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555

가 8
가

가	가
(Sherman plate, semitubular plate, narrow DCP, reconstruction plate)	, Steinmann pin, K-

가 (

1999 12 2002 12 16 , 1/3 7 가 12 . 가 11 , 1 .

23

1.

가 2	1	15	
60	40.1		20
~40			

2.

23 12 , 가 7 ,
3 , 1



Fig. 1. Middle 1/3 displaced fracture.

3.

12
 5 , 2 ,
 2 , $1, 2$, 12
 1 , , ,
 1 .

4.

16 , 1/3 7 가
12 . 가 11 , 1 .

5.

4.7 . 25

(Fig. 1) 2 ,

1 (Table 1).

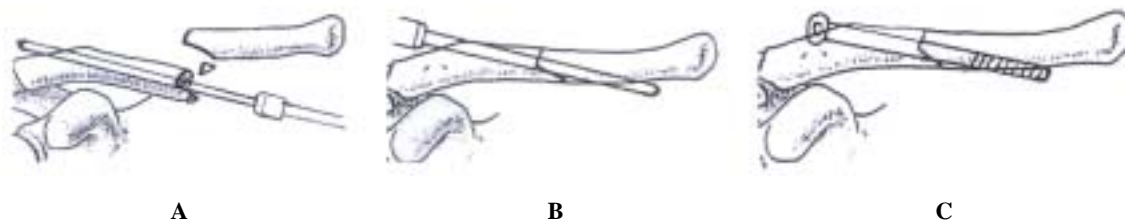


Fig. 2A. Insertion of 2.0 Steinmann pin from the fracture site to the posterolateral fragment.
2B. After reduction of the fracture, reinsertion of the Steinmann pin retrogressively.
2C. The fracture reduced and fixed with a cannulated screw.



Fig. 3. Anteroposterior radiograph after reduction and fixation with a cannulated screw.



Fig. 4. Postoperative 8 months film shows complete union.

, 2.0 mm Steinmann pin		2 Sling and Swathe	
(Fig. 2A)		Arm sling	
(Fig.		가	
2B), 1	5.0 mm 6.5 mm	가	
(Fig. 2C, Fig. 3). Steinmann pin		가	
가		가	
가		가	
1/3	가	1/3	가
가		가 23 (100%)	
가		5 16 7.9	(Fig. 4).
3		15 (65.2%) 8	가
		12 2 (8.7%)	(Table 2).

Table 1. Indications for operative treatment

Indication	Cases
Multiple trauma	10
Tenting skin	9
Open fracture	2
Fracture of the distal end with coracoclavicular ligament rupture	1
Fracture of the distal end with coracoid process fracture	1

Table 2. Period of bone union

Period (weeks)	Cases
~8	15
8~10	5
10~12	1
12~	2

Table 3. Clinical results

Results	Cases
Excellent	18
Good	4
Fair	1
Poor	0

Period (weeks)	Cases
~8	15
8~10	5
10~12	1
12~	2

100% . 1990 ¹⁶⁾

23

100%

7.9

7.9

4,16,24,25,28)

가 12

7,8,14,21,22)

23

11

7

가

가

K- , Steinmann pin^{10,17,20,28)}

(Sherman plate, semitubular plate, narrow DCP, re-
construction plate)^{10,11,14,17,20,23)}

1/3

¹³⁾ Knowles pin¹⁵⁾

K- Steinmann pin

가

1999 12 2002 12

23

1. 23

7.9

2. 22

3. , , ,

가 , 가

가 ,

K- Steinmann pin

가

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Abstract**Operative Treatment of the Clavicular Fracture with Cannulated Screw**

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Purpose: To investigate the utility of cannulated screw in operative treatment of the clavicular fracture.

Materials and Methods: From December 1999 to December 2002, 23 patients with clavicular fracture were underwent operative treatment with cannulated screw. Their mean age was 40.1 years and the sites of fracture were 16 cases in middle 1/3, 7 cases in lateral 1/3, 12 cases were comminuted fracture. The clinical and radiological results were evaluated.

Results: According to the Kang's criteria, the clinical results were excellent in 18 cases (78.3%), good in 4 cases (17.4%) and fair in 1 case. Radiologically, all cases showed bone union and the average time was 7.9 weeks. Complications such as infection, nonunion, metal failure has not been observed.

Conclusion: Open reduction and internal fixation with cannulated screw could be considered as an alternative method of treatment in clavicular fracture, when indications for primary surgical treatment are presents.

Key Words: Clavicle, Fracture, Cannulated screw

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