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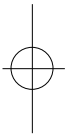
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= Abstract =

Operative Treatment of Clavicle Fracture

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Clavicle fracture is one of the most common fractures and can be treated by conservative methods with a high rate of union and operative treatment itself was regarded as a cause of nonunion.

But recently, we experienced some cases of delayed or nonunion following conservative treatment especially in high energy trauma patient.

So we tried to treat 35 cases of clavicle fractures by open reduction and internal fixation with or without bone graft and analyzed the results.

Results were as following.

1. The functional results were excellent in 16 cases(45.7%), good in 13 cases(37.1%), fair in 4 cases(11.4%) and poor in 1 case(0.28%), except 1 case of initial brachial plexus injury.
2. Of the 34 cases (except 1 case of nonunion), average time to union was 8.2 weeks in Knowles pin fixation and 8.4 weeks using plate with or without bone graft.

In the treatment of flesh clavicle fracture for early rehabilitation especially in young patients, open reduction and internal fixation is thought to be good method.

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Key Words Clavicle Fracture, Open Reduction & Internal Fixation

“ S ”

6,8,11,15,17)

8

1,18,13,26)

7,3,31)

가

1993 3 1995 2

1 가 35

1.

35 21 , 가 14 , 20
가 12 (9)

2.

35 21 가
, 10 가 8 가
3 가 가
가

Table 1. CAUSE OF INJURY

Causes		Cases(%)
Traffic Accident	passenger	8
	pedestrian	10
	autobicycle	3
Slip down		8
Fall down		4
Direct trauma		2
Total		35

8 , 가 4 ,
2 (Table 1).

3.

1/3 가 21 ,
1/3 5

21 가



660 • / 11 3

Table 2. METAL USED IN OPERATION

Semitubular DCP	5
Reconstruction plate	10
Reconstruction plate and interfragment screw	3
Reconstruction plate and wire fixation	4
Intramedullary nailing (Knowles pin)	11
Intramedullary nailing (Knowles pin) and wiring	1
K-wire--->DCP	1
Total	35

*Additional Bone Graft
: 13 cases

Table 3. PERIODS OF BONE UNION (Except of nonunion 1 case)

Duration(Week)	IM nail (Knowles pin)	Plate
- 6	1	1
6- 8	6	13
8-10	4	6
10-12	1	1
12-		1
Average	8.2	8.4

14 . 1 .

4.

(drilling)

(spatula)

10 , 10

, 5 , 4 , ,

가

12 1

, 5 , 3 ,

, ,

23 12

2 2

, ,

23 7

1 .

가

가

5.

(Table 2).

1 arm sling

1/3 ,

가

. Knowles
7-10

Knowles

K-wire

1/3

가
, 가

6.

가

,

가

35

22 ,

가

Knowles

12

, K-wire

1

가

가

5

S

6

(Reconstruction plate) 17 ,

3

1

6

(Semitubular DCP)

가

Knowles

8.2

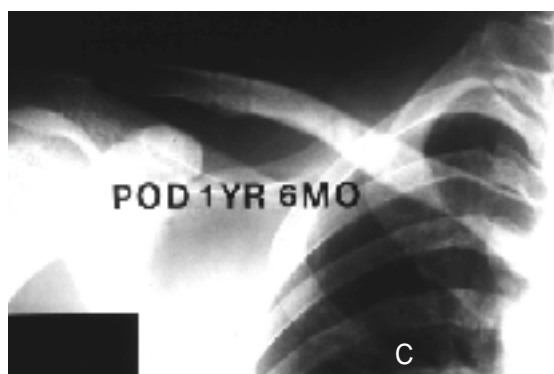
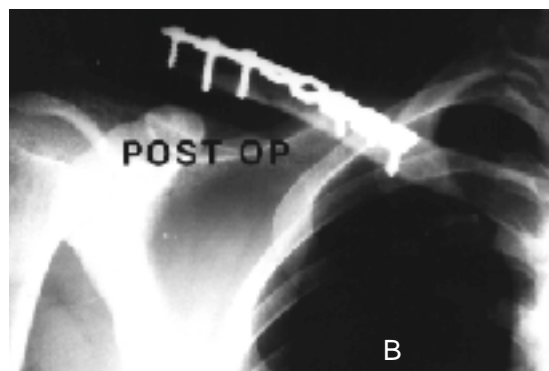
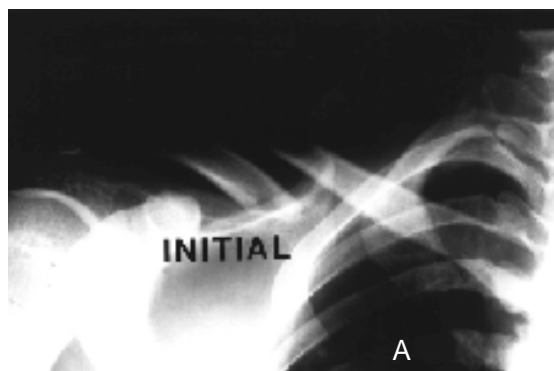
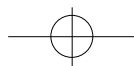


Fig 1-A. Rt. middle 1/3 displaced fx after to fall down
 B. Postoperative A-P view
 C. Postoperative 1 year 6 months film reveals complete union

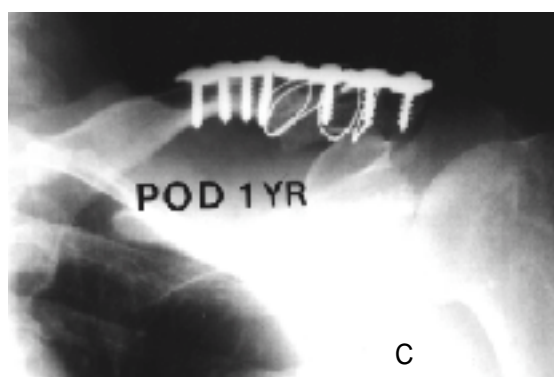
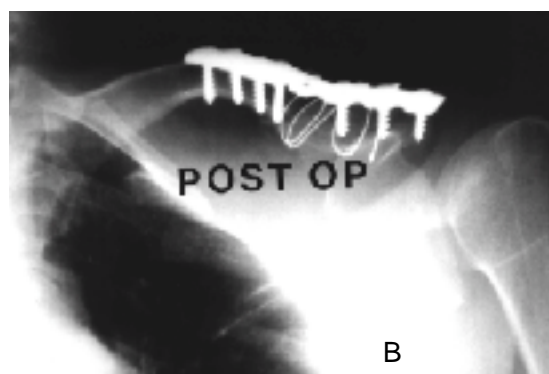
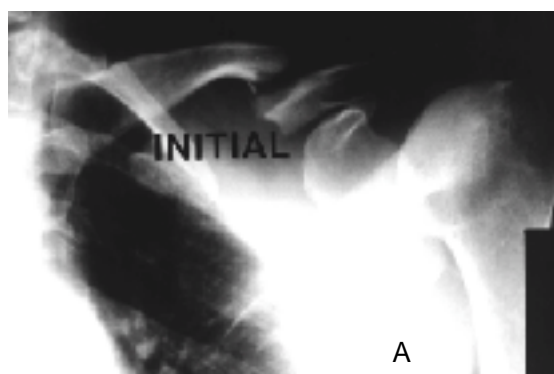
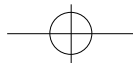


Fig 2-A. Lt. middle 1/3 displaced and comm. fx. by pedestrian injury.
 B. Postoperative AP view
 C. Postoperative 1 year film shows complete union



Jansen²¹⁾ 1400 73 K- 8.2 , 8.4 , 82.8% .

2 (3%) , Zenni³¹⁾ 800 , , , , , , 18, 23, 19) , 2) 6%, 1% , 3) 가 3.5%, 가 , , , , , , 3 (8.5%), , , 1 (2.8%) .

7) 23 24 , 1 K- 12.5 , , 가 , , , 20,12,31) .

Neviaser^{20,19)} , 2,18,31,16) 2,18,14,22) , K- , 1 1 1/3 Knowes pin . 가 가 가 가 가 가 , 13 . 2) Threaded pin 가 8.5 , 1) 3) 94% , Steinmann pin K- 8.6 . 82% 1 Knowles pin



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