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= Abstract =

## A Comparision of Plate Fixation with Intramedullary Nailing in Treatments of Humeral Shaft Fracture

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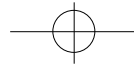
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Authors report 42 cases of humeral shaft fractures, which were treated with plate fixation in 19 cases and intramedullary(IM) nailing in 23 cases, from January 1992 to December 1996. The average time of operation in plate fixation was 100 minutes and that in IM nailing was 65 minutes. The nonunion in plate fixation was 2(10.5%)cases and that in IM nailing was 4(17.4%)cases. Other complications of plate fixation were 2 cases of wound infection and 2 cases of radial nerve palsy. Those of IM nailing were 1 case of limited motion of the shoulder and 1 case of wound infection. After reviewing above results, we concluded that there were no marked difference between the two operative method in bone union of humeral shaft fracture

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except diversity of complication.

**Key Words** Humerus, Shaft fracture, Intramedullary nail, Plate fixation

**Table 1.** Classification of fracture

Classification of Fx.		Plate fixation	IM nailing	Total
Simple	Transverse	4	9	13
	Spiral	3	8	11
Comminuted	Transverse	5	1	6
	Spiral	7	2	9
	Segmental	0	3	3
Total		19	23	42

**Table 2.** Associated injury

Associated injury		Plate fixation	IM nailing
Fracture	Multiple	4	6
	Humerus	2	2
	Tibia	2	2
	Femur	1	1
	Others	0	1
Head trauma		4	7
Others		2	1
Total		15	20

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1-4,5,15,24)

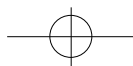
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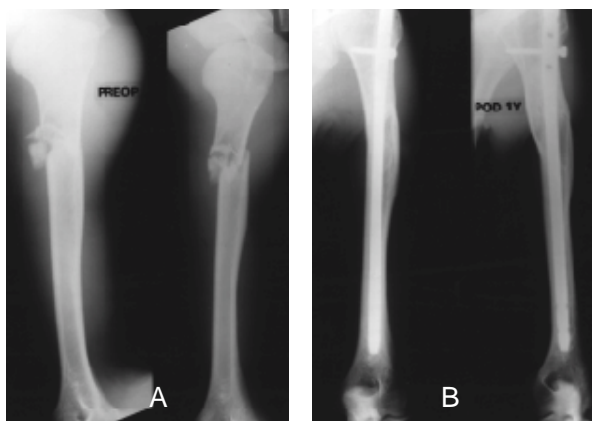
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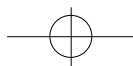


**Fig 1-A.** Radiograph of 23 years old male with radial nerve palsy after closed reduction, demonstrating distal one third spiral fracture of left humeral shaft.  
**B.** Radiograph 1 year after operation, demonstrating bone union with plate and screw fixation.



**Fig 2-A.** Radiograph of 48 years old male with multiple fracture, demonstrating proximal one third comminuted fracture of left humeral shaft.  
**B.** Radiograph 1 year after operation, demonstrating bone union with IM nailing.

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					17	,	6
		83	,	87	1		
40	42				27		가 18
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	23	2			8 (18%),		3 (8%), 1 (2%)
		55.4(19 71)					
		40	가가			24	18
48.3(19 59)						24	13 가
		50	가 가			11	18
58.7(31 71)					6	,	9 3
		30	10	2			
					7	,	5 ,



**Table 3.** Comparative results of using plate fixation with IM nailing in Tx of humeral shaft Fx

Comparison	Plate fixation	IM nailing
Operation time	65 min	110min
Duration of bone union	13.1 wks	14.3 wks
Nonunion	2 cases (10.5%)	4 cases (17.4%)

\* min : minutes.

\* wks : weeks

\* Fx : fracture

\* Tx : treatment

**Table 4.** Postoperative complication except nonunion

Complication	Plate fixation	IM nailing
Wound infection	2	1
Radial nerve palsy	2	0
LROM of Shoulder	0	1
Total	4	2

\* LROM : limited range of motion

(Fig 2-A,B).

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(Table 1). 2

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(Table 2).

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19 (82.6%)

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(Fig 1-A,B).

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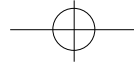
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(P>0.05) (Table 3).

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Antegrade technique



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1% Bell <sup>5), Foster <sup>15)</sup> Schatzker<sup>24)</sup></sup>

Flexible

nail Rigid nail

Caldwel<sup>16)</sup>

, Sarmiento <sup>24)</sup> 22)

Seidel<sup>25)</sup>

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Robinson <sup>21)</sup>

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19 17 (89.5%) ,

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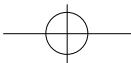
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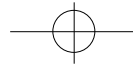
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