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: 1995 4 2002 1

179

125 , 가 54

6.9 .

A (8), B (9

~16), C (17 ~24), D (25 ~48), E (49 ~72) 5

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(p>0.05).

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2002 46

16, 6, 9, 가 125, 가 54
 , 110, 69
 , 174 (97%),
 5, 7, 5 (3%)
 60% 174 Gartland type IIIa 126, type IIIb
 33, type II 15 (Table 2),
 가 82 가, 53,
 가 38, 6.
 K-
 가 2,6,14,15)
 K- 2
 72 20
 155,
 가 24
 8,10,13)
 5,11)
 A (8), B (9 ~16), C
 (17 ~24), D (25 ~48), E (49
 ~72) 5 (Table 1) 72
 가
 ,
 ,
 ,
 Cochran-Mantel-Haenszel Test
 1995 4 2002 1
 , One-way ANOVA test,
 Mantel-Haenszel Chi-
 , 18, 3
 wquare Test Fisher's Exact Test
 ,
 179 1

Table 1. Classification of group

Group	Surgical Time Following Injury	No. of Group
A	Less than 8 hrs.	24
B	From 9 to 16 hrs.	63
C	From 17 to 24 hrs.	63
D	From 25 to 48 hrs.	18
E	From 49 to 72 hrs.	11

Table 2. Distribution of fracture type

Type / Group	No. of Cases					Total
	A	B	C	D	E	
Type II	1	4	5	3	2	15
Type IIIa	18	46	44	13	5	126
Type IIIb	4	11	12	2	4	33
Flex type	1	2	2	0	0	5
Total	24	63	63	18	11	179

Table 3. Methods of treatment

Group / Method	CR / PP*	OR / IF†	Total
A	22	2 (8.3%)	24
B	57	6 (9.5%)	63
C	52	11 (17.3%)	63
D	14	4 (22.2%)	18
E	10	1 (9.0%)	11
Total	155	24 (13.4%)	179

CR / PP*: closed reduction / percutaneous pinning,
OR / IF†: open reduction / internal fixation

Table 4. Results of operation time

Group / Op time	Average Operation Time (minute)		Average Time of Group (minute)
	CR / PP*	OR / IF†	
A	49.5	147.5	57
B	41.2	110.8	47
C	35.7	120.5	50
D	31.8	102.5	48
E	51.5	120.0	58

CR / PP*: closed reduction / percutaneous pinning,
OR / IF†: open reduction / internal fixation

Gartland type IIIa가 가
(Table 2),
A 24 22 , 가
2 (22/2) , B
63 (57/6), C 63 (52/14), D 18 (14/4), E
11 (10/1) ,

(p=0.45) (Table 3). Cochran-Mantel-Haenszel Test

(p=0.24),

Table 5. Complications

Complications / Group	No. of Case					p
	A	B	C	D	E	
Surgical wound infection	1	1	0	0	1	0.46
Iatrogenic ulnar nerve injury	4	9	7	0	1	0.46
Revision	1	1	0	0	0	0.51
VIC*	0	0	0	0	0	

VIC*: Volkmann's Ischemic Contracture

(p=0.79)
(Table 4). 3 B, C, E
1 ,
21 A 4 , B 9 , C
7 , E 1 .
2 , A , B 1
(p=0.46), (p=0.51)

(Table 5).

3,4,7).
가
K - 8,10,13).
Green Swiontkowski¹⁰⁾

Fowles⁹⁾
3~5
Alburger¹⁾

Iyengar¹¹⁾ 3 8

가 , Char-

les⁵⁾ 가 3

72

Iyengar, Chales

가 가

가

가

Peters¹⁴⁾, Cramer⁷⁾ 3~

46%, Cheng⁶⁾ 38% ,

13.4%

, D

가

Pirone¹⁵⁾, Brown³⁾

3.6~5.5%

11.7%

4, 5

Boyd²⁾, Cheng⁶⁾

2.4~4.6%

1.7%

Rang 0.5%

가

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Abstract**The Correlation between Surgical Timing and Perioperative Complications in the Treatment of Displaced Supracondylar Humeral Fractures of Children**

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Purpose: Even though emergent percutaneous pinning after closed reduction is the popularized treatment of the displaced type II and type III pediatric supracondylar fractures of the humerus, the timing of pinning still presents controversy. The purpose of this study is to suggest an appropriate surgical time without significant perioperative complications.

Materials and Methods: From April 1995 to January 2002, 179 consecutive patients who had undergone surgical treatment were selected. They were divided to 5 groups [A group: 8 hours or less following injury (24 cases), B group: from 9 to 16 hours (63 cases), C group: from 17 hours to 24 hours (63 cases), D group: from 25 hours to 48 hours (18 cases), and E group: from 49 hours to 72 hours (11 cases)] and reviewed retrospectively to analyze perioperative complications and operation time.

Results: There was no significant difference between each group with respect to surgical wound infection, iatrogenic ulnar nerve injury, VIC, operation time and the necessity of reoperation ($p>0.05$).

Conclusion: Within the parameters outlined in our study, we could not find the any meaningful correlation between surgical timing and occurrence of perioperative complications and also, we think that the timing of percutaneous pinning can be delayed to the time when a surgeon considers it appropriate.

Key Words: Humerus supracondyle, Pediatric fracture, Surgical treatment, Surgical timing, Perioperative complications

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