

냉동보관된 자가골편과 Methyl Methacrylate를 이용한 두개골성형술의 결과 비교*

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= Abstract =

Comparision of the Results of Cranioplasty Using Refrigerated Autogenous Bone Flap and Methyl Methacrylate

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Objective : Authors analyzed clinical outcomes of cranioplasty according to the materials used for covering defects of the skulls.

Methods : From January 1997 to February 2000, there were forty one patients undergone cranioplasty at our institution. We used refrigerated autogenous bone flaps in 19 cases(group A) and methyl methacrylate(MMA) in 22 cases(group B). The medical records and plain skull radiographs of the patient were reviewed.

Results : There were thirty men and eleven women. Mean follow up period was 12 months(From operation to last Outpatient department follow up). The mean operative time of the group A(136.8 ± 3 minutes) was shorter than the group B(172.7 ± 2 minutes, Mann - Whitney test, $p=0.001$). In group A, the degree of satisfaction was good in 8 cases, fair in 10, and poor in 1. In the group B, there were fair in 13 and poor in 9. So the cosmetic result was superior in the group A(Chi - square test, $p=0.00$).

The complications were occurred in one case of flap infection in the group A and 6 in the group B(one stitch abscess, 4 infected flaps, one subgaleal hematoma).

Conclusion : Cranioplasty using refrigerated autogenous bone flap showed shorter operative time, better cosmetic results, and less complication rate than those using MMA.

KEY WORDS : Cranioplasty · Autogenous bone flap · Methyl methacrylate.

서 론	가		가		MMA
	1	2	1	2	
Mehtyl methacrylate(MMA)	1997	1	2000	2	41

가 Methyl Methacrylate

가 (19, Group A) MMA(22, Group B) 12 A B 167.5 ± 31
 가 (Mann - Whitney test, p=0.001).

41, 30, 11 4
 63 (31.3) (Table 1).

36, 2, 1
 가 1 (Table 1).
 (3 cephalosporin)

81 (Deepfreezer, Sanyo® MDF - 293)
 가 12
 MMA 13 24 5, 25
 3

Lyodura
 3 betadine
 7

결 과

3
 가 11, 4~6 가 11, 7~12 가 11
 B 25 가
 3 A
 128 B 394 (Table 2).

A 1~2 5,
 2~3 13, 3~4 1 3
 B 2~3 6, 3~4
 16 3

A 136.8 ± 33.0, B 172.7 ±
 29.1 가 (Mann - Whitney test, p=0.001)(Table 1). A
 가 12
 B 가

Table 1. Characteristics of 41 patients

Case. No	Sex/ Age	Cause of craniectomy	Operation time(minute)*	Material of cranioplasty
1	M/9	EDH, T-ICH	100	AB
2	M/9	EDH, T-ICH	150	AB
3	M/16	CCDF	100	AB
4	M/21	CCDF	120	AB
5	M/22	CCDF	150	AB
6	M/24	SDH	150	AB
7	M/24	EDH, SDH	150	AB
8	M/36	SDH	200	AB
9	M/41	SDH	150	AB
10	M/44	SDH	180	AB
11	M/48	Aneurysm	90	AB
12	M/48	SDH	120	AB
13	M/52	SDH	180	AB
14	M/52	EDH, SDH	90	AB
15	F/20	SDH	90	AB
16	F/20	SDH	160	AB
17	F/31	Menigioma	150	AB
18	F/45	SDH	150	AB
19	F/63	Infarct	120	AB
20	M/4	T-ICH	180	MMA
21	M/18	SDH	180	MMA
22	M/19	CCDF	150	MMA
23	M/19	T-ICH	200	MMA
24	M/19	CCDF	200	MMA
25	M/23	CCDF	200	MMA
26	M/24	CCDF	180	MMA
27	M/27	CCDF, T-ICH	200	MMA
28	M/30	CCDF	180	MMA
29	M/35	Aneurysm	120	MMA
30	M/35	EDH	120	MMA
31	M/41	SDH	180	MMA
32	M/50	EDH, SDH	120	MMA
33	M/56	CCDF	200	MMA
34	M/56	CCDF	180	MMA
35	M/57	EDH, SDH	200	MMA
36	F/9	Histiocytosis X	200	MMA
37	F/17	CCDF	150	MMA
38	F/17	CCDF	180	MMA
39	F/18	EDH, T-ICH	180	MMA
40	F/32	SDH	180	MMA
41	F/54	EDH	120	MMA

Abbreviations : M : Male, F : Female, T-ICH : Traumatic intracerebral hemorrhage, EDH : Epidural hematoma, SDH : Subdural hematoma, CCDF : Compound communitied depressed fracture, AB : Autogenous bone, MMA : Methyl methacrylate
 * : p<0.05 in Mann-Whitney test

Table 2. Duration from craniectomy to cranioplasty

Duration	Autogenous bone flap	MMA
Below 3 months	8	3
4 - 6 months	7	4
7 - 12 months	4	7
13 - 24 months	-	5
Over 25 months	-	3

Table 3. Complications of cranioplasty

Complication	Autogenous bone flap	MMA
Wound infection		
Stitch abscess	-	1
Flap infection	1	4
Subgaleal hematoma	-	1

MMA : methyl methacrylate

Table 4. Degree of satisfaction of cranioplasty

Degree of satisfaction*	Autogenous bone flap	MMA
Poor	1	9
Fair	10	13
Good	8	-

* : p<0.05 in Chi-square tests

A 1
B 6
1
4, 1 5

(Methicillin resistant staphylococcus aureus)

(Table 3). A, B 6

MMA

(good), (fair), (poor)

A 가 8 ,

가 10 , 가 1

B 가 13 ,

가 9 A 가

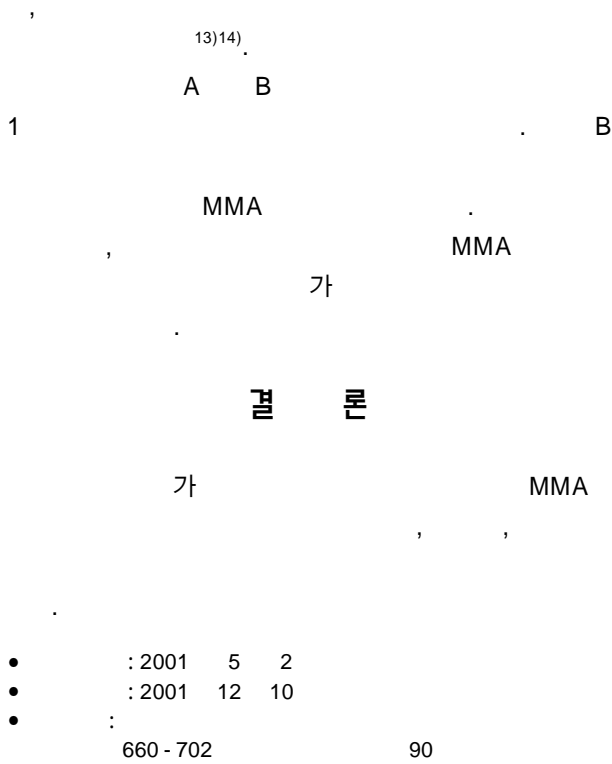
(Chi - square test,

p=0.00)(Table 4).

고 찰

MMA가 가
가 2-4)6-8)11)12)
가 가
1)5). MMA 1940
Zender 1950
Elliott Scott 5). 가
가 12). 가
MMA
가 가
boiling autoclaving
revasculariztion res-
orption MMA 10).
가 가
MMA barium sulfate가 가
가 neu-
romuscular compromise가
2 3
가 monomer
monomer가
free acid
2
14)15).
10)14).

가 Methyl Methacrylate



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