

매몰재의 혼수비가 치관 보철물 변연의 적합성에 미치는 영향에 관한 연구

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=Abstract=

A Study on the Marginal Fit of Dental Prosthesis According to the W/P Ratio of Investment

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This test is verifying for influence of W/P ratio of investment upon dental prosthesis. Firstly we made 40 MOD die and divide 4 groups, each group take 0.2 different w/p ratio grade such as 0.35, 0.37, 0.39 and 0.41.

The method of data analysis applied were by ANOVA, Tukey test and Mann-Whiney and Kruskal Wallis test.

The finding of this study were as follows :

1. The 0.37 w/p ratio group showed most accurate margin due to $15.8\mu\text{m}$ gap between margin and die which keep up with manufacture 's instruction and 0.35 w/p ratio group was followed as second accuracy group \circ $48.3\mu\text{m}$ gap between margin and die, 0.39 w/p ratio group showed $101\mu\text{m}$ gap and 0.41 w/p ratio group showed $129.8\mu\text{m}$ gap.
2. As to the relationship of the margin accuracy between 4 different grade of w/p ratio groups, each group was statistically significant ($P < 0.01$). Also the all groups were statistically significant except between 0.35 and 0.37 groups between 0.39 and 0.41 groups, and between 0.35 and 0.39 groups.
3. A consequence of Mann-Whitney & Kruskal-Wallis test for marginal accuracy between 4 different grade of w/p ratio was statistically significant as same as above ANOVA test result. Also Tukey test for verifying similarity from each group showed same as above.

차 례

1.	Gold crown	Coleman
2.	1.25%, Shell 1.7% Lane 6.4%, Shouder	
1)	1.6%	
2) Waxing up	가	
3) (spruing)		
4) (investing)		
5) (burn out)		
6) (casting)	W/P ratio	
7)		가 21%,
3.		가 79%
		margin
		W/P
	ratio	

I. 서 론

가 가

II. 실험재료 및 방법

1. 실험재료 및 기구

Wax : Crown (Green inlay Casting wax Hard-type 1, class 1 Kerr Co. U.S.A)

Cervical (Renfert Co. Germany)

Investment : Cristobalite gold investment (Tuconium Co. U.S.A)

Metal : Precious metal alloys(Type A gold Au 45%)

Vacuum Mixer : pagaso Co. Italy

Centrifugal Casting machine : Kerr Co. U.S.A

Arvatron electric casting machine : Asahi Co. Japan.

Microscope : Olympus Co. Japan. SF20

SEM, Measure Micro Scope : Nikon MM 11 Japan.

margin margin
margin cement가 가
2 margin
margin , wax up

2. 실험방법

1)

MOD type (die) (12mm, 27mm) silicon mold
40

2) Waxing up

stone die & plaster hardner resin casting wax(Kerr Co. U.S.A) Waxing up cervical margin cervical wax(Renfert Co. Germany) 20 가 waxing up 가 margin waxing up tdkdxo margin

3) (spruing)

가 10 gauge round wax 10mm sprue reservoir former crucible

4) (investing)

wetting agent wax cleaner spray(Shoufu Co.) Ticomium cristobalite gold 가 37cc/100g die 40
1 group : 1 10, 2 group : 11 20
3 group : 21 30, 4 group : 31 40
4 group
1 group : 35cc/100g, 2 group : 37cc/100g
3 group : 39cc/100g, 4 group : 41cc/100g

ring(60mm, 55mm) asbestos ring 3mm Wax pattern ring 6mm (Pagaso Co. Italy) 30 Mixing

5) (burn out)

620 ring size가 1 Heat soaking

6) (casting)

Casting Asahi Arvatron ring rubber ring gold mold metal ring centrifugal casting machine(Kerr Co. U.S.A) ring qeenching celaner ultrasonic

7)

die Casing body measure microscope()

3. 분석방법

1)

2) group margin

ANOVA() Tukey-Willis test Mann-Whitney test

SAS

III. 실험결과 및 고찰

< 1> die 10
4group 0.02

1. group

Group	W/P ratio
Group 1 (1-10번)	35 cc/100 g (0.35)
Group 2 (11-20번)	37 cc/100 g (0.37)
Group 3 (21-30번)	39 cc/100 g (0.39)
Group 4 (31-40번)	41 cc/100 g (0.41)

* 제조회사가 지시한 W/P ratio는 37 cc/100 g (0.37)

2.

혼수비	표본수	최소치	최대치	중위치	평균	표준편차
0.35	10	0.00825	0.17205	0.02775	0.04835	0.04862
0.37	10	0.00675	0.04100	0.01112	0.01580	0.01131
0.39	10	0.01600	0.21150	0.10150	0.10125	0.06035
0.41	10	0.02425	0.21000	0.12837	0.12980	0.05425

3. 4group

ANOVA() Tukey test

Source	DF	SS	MS	F value	Pr>F
Model	3	0.07901025	0.02633735	11.61	0.0001
Error	36	0.08169210	0.00226922		
Corrected total	39	0.16070415			

4. 4group

Mann-Whitney & Kruskal Wallis test

Source	DF	SS	MS	F value	Pr>F
Model	3	2893.400000	964.466667	14.25	0.0001
Error	36	2436.600000	67.683333		
Corrected total	39	5330.000000			

< 2>

ticonium cristovalite

0.37 group
margin 가 15.8 μ m 가 48.3
가 0.02 0.35 group 가 0.02
 μ m
0.39group 101.2 μ m
가 0.04 0.41group 129.8 μ m
가
< 3> 4group

ANOVA

Tukey Test

(ANOVA)

P=0.0001

group
Trukey test

0.35 0.37 group, 0.39
 0.41group, 0.35 0.39 group
 group
 < 4> 4 group
 P = 0.001
 group
 Tukey test 0.35 0.37
 group, 0.39 0.41group, 0.35 0.39group
 group
 < 3>

25 μ m
 , Christensen 10
 가 34 119 μ m
 2 51 μ m
 Mclean(1971) 120 μ m
 Assif(1987) 140 μ m
 < 1>
 , waxing up ,
 , mixing time, ,

4group 0.02
 0.37 group 15.8 μ m margin
 가 가 0.35
 group 48.3 μ m 0.39
 group 101.2 μ m, 0.41 group 129.8 μ m

25 μ m
 group 0.37group
 Christensen Mclean
 34-119 μ m group 0.35
 0.39group , Assif가 140 μ m
 0.41 group

margin 50 μ m

cement line cemet line

cement가
 2
 group
 50 μ m group
 가 0.37 0.35 group
 group
 , Christensen,
 Mclean, Assif가 119 μ m, 120 μ m, 140 μ m
 0.39 0.41 group
 Christensen, Mclean, Assif가 119 μ m, 120
 μ m, 140 μ m

IV. 결 론

- 4 group 0.02
 가
 가
 1. margin 0.37 group 15.8 μ m 가
 48.3 μ m 0.35 group
 101 μ m, 0.41 group 129.8 μ m , 0.39 group
- 4 group
 (ANOVA) P = 0.001
 group
 Tukey test
 0.35 0.37 group, 0.35
 group
 0.39 group
- 4 group
 Mann-Whitney & Kruskal-Wallis

P = 0.0001
(ANOVA)
group
Tukey test

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