

.

I.

Host response

가

가

7-

15),

가

가

.1)2)

16).

1983 Kortsch

가

가

3-6).

가

17). 1983 Magness

가

.18)

1950 Hine

가,

가,

가 , 가 ,
5). 1967 Bergenholtz , 가 , 가 ,
가 가 .8)
가 가 19). 1979 가 가 ,
가 가 6). 1987 가 29).
가 가
20), 가
1988 가
21).
, 1985 Adriaens 1985 Park
, . 1984 Niemi
가
1967 Bay, 1987 Bergenholtz, 30), 1979 Breitenmoser
1987 가 10) 1992
4,
19, 23, 24), Mulry 1994 Dellerman
1984 Bastian 가 가 가 .31, 32)
가 가
1988 Gibson 1993 Knoch 33)
가 , 1984 Mierau
.26) 가 2.21N
가 3.75N
, 1994 Van Der Weijden
100g
34). 1998
가 Danser 가 ,
가 가 ,
27), Shory 가 가 .35)
가 가
8
28). 가 가
Bass 가 가
가 가
가 가

1) 29 22
51 * 가
**

가

2) 가

(Figure 1).

3) 가
가. 가
i. (SC)
(tooth brushing instruction: TBI)
modified bass
method 5 stroke
scrubbing

II.

1.

Y

standard toothpaste
3
, dental floss, inter -
dental brush, water pick oral hygiene
products

12

ii. 1 baseline
1 1
1 1

2.

iii.
scaling 1 baseline
1 , 2 , 4
(Table 1) 4

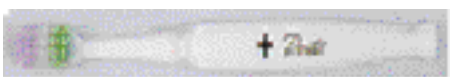


Figure 1. Overall view of Silicon toothbrush

* : No. 311, Butler Co.
** : Jefe Inc.

Table 1. Study design

	baseline(Sc	1 wk)	1week	2week	4week
probing pocket depth	*			*	
plaque index	*		*	*	*
Gingival index	*		*	*	*
BOP	*		*	*	*

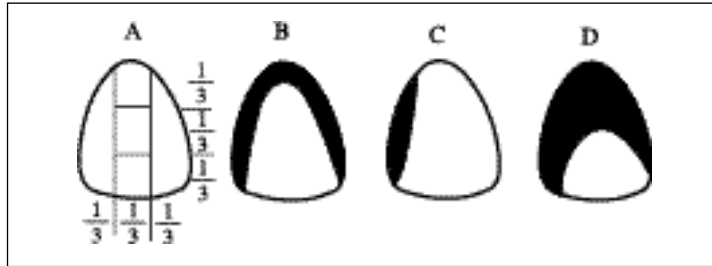


Figure 2. Patient Hygiene Performance Index
B: 3 . C: 1 . D: 4

- i. (Probing pocket depth: 0: PD) 1: color - coded probe(CP - 15UNC, Hu - Fried) 6 , . 1. / .
- ii. Patient Hygiene Performance Index(PHP, Podshadly & Haley 1968) 2. 가 - Erythrosin - - 3. ? 4. ? (0-5) 5. 가 6. ? 가 7. ? 8. ?
- iii. (Lobene Gingival index) 0 = ? 1 = ; 가 2 = ; 가 3 = ; , , / 4 = ; , / III. 51
- iv. (Bleeding on Probing : BOP)

Table 2. Comparison of Plaque values differences between groups

	baseline	1week	2week	4week
		Mean ± S.D	Mean ± S.D	Mean ± S.D
Control	0	0.091 ± 0.812	0.245 ± 0.691	0.329 ± 0.670
Experimental	0	0.109 ± 0.367	0.139 ± 0.364	0.228 ± 0.597

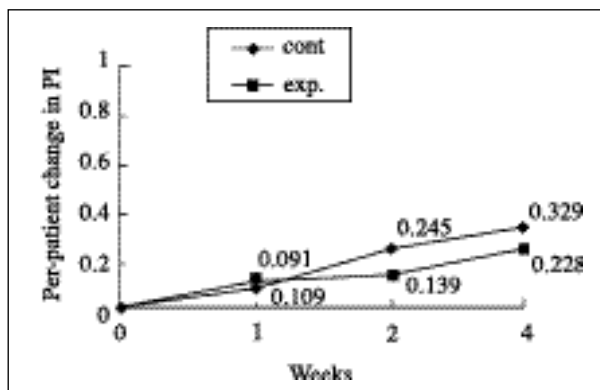
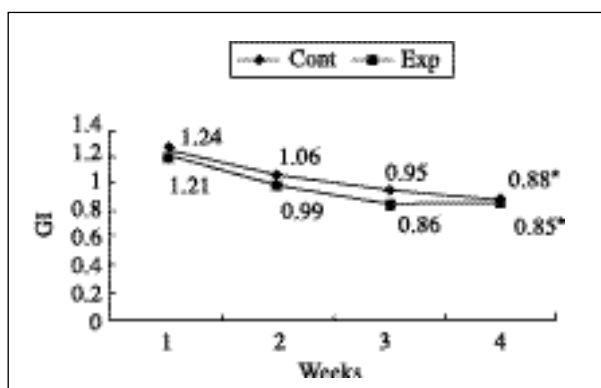


Figure 3. Comparison of Plaque Index differences

Table 3. Comparison of Mean Gingival values between groups

	baseline	1week	2week	4week
		Mean ± S.D		
Control	1.24 ± 0.65	1.06 ± 0.47	0.95 ± 0.39	0.88 ± 0.42*
Experimental	1.21 ± 0.70	0.99 ± 0.70	0.86 ± 0.62	0.85 ± 0.62*

* : significant from baseline P<0.05



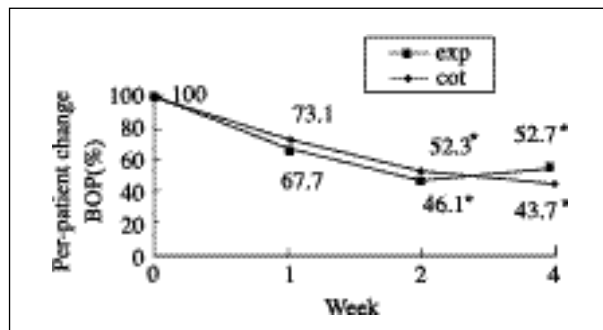
* : significant from baseline P<0.05

Figure 4. Comparison of Gingival Index

1. line 1, 2, 4, P<0.05
 2. base - baseline P<0.05
 1, 2, 4 P<0.05 1, 2, 4

Table 4. Comparison of Mean Pocket Depth values between groups

	baseline	4week
	Mean ± S.D	Mean ± S.D
Control	2.64 ± 0.53	2.44 ± 0.46
Experimental	2.63 ± 0.61	2.51 ± 0.53



* : significant from baseline : P<0.05

Figure 5. Comparison of Bleeding on Probing

Table 5. Result of Interview

(83)		
, ?	8	75
? 가?	48	35
	44	39
	6	77
	68	15
	64	19
	25	31
	24	3

P<0.05

가

8

3.

가

baseline

base

가

line

P<0.05

0.29%

4.

4.34%

2, 4

baseline

P<0.05

가

P<0.05

5.

(Table 5)

IV.

가

가

가

4

가

Bass

, 36)

가

가

1960

가

가

가

1

baseline

가

가 가

1, 2, 4

P<0.05

2. (Lobene Gingival index)

4 baseline

P<0.05

1, 2, 4

P<0.05

3. (Probing depth) baseline

baseline

P<0.05

4. (Bleeding on probing)

2, 4

base line

P<0.05

P<0.05

가 가

V.

가

가 4

1 baseline

, 1, 2, 4

VI.

1. (Patient Hygiene Performance Index)

baseline 1, 2, 4

P<0.05

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- Abstract -

The Effect of Silicone Toothbrush on Plaque Control and Gingival Inflammation. A Comparative Clinical Study

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A comparative clinical study on the ordinary toothbrush (Buttler, America) and the silicone toothbrush (Jefe, Korea) was performed. The volunteers who took part in this study were students of Dental college of Yonsei University and patients attending Dental Hospital of Yonsei University.

They were classified into two groups, control and experimental group. Control group brushed with nylon toothbrush and experimental group did with silicone toothbrush under the researcher's guidance.

Volunteers were examined on Plaque Index (PI), Gingival Index (GI), Probing Depth (PD), Bleeding on Probing (BP) and Recession (R) at base line, 1st. week, 2nd. week and 4th. week.

According to the results, both groups have the tendency of improvement in the degrees of GI, PI and the improvement degree of GI of both groups has the significant differences from base line statistically, and there are not statistically significant differences between the silicone and nylon group in respect of PI, GI values.

So based on the present study, it could be carefully ascertained that the silicone toothbrush has similar effect with nylon toothbrush in respect of PI and GI.

If it is sure that the silicone toothbrush is seldom abrasive and possibly enough to massage the gingiva, this new brush is worth to be recommended by the dentists.

Key words : silicone toothbrush, Plaque control, Gingival Recession, abrasion, massage