

Modified Widman Flap Modified Flap

I.

가

Lang ¹³⁾ 25g

11,12).

Badersten ¹⁴⁾

가

. Claffey

가 ¹⁵⁾

가가

가 가

. Claffey

Shanley¹⁶⁾

가

가

6,7).

Zappa ⁸⁾

17),

가

Periotest(Siemens AG, Bensheim, Germany) rod가

Lang ¹⁰⁾

9),

23,24)

가
18). Schulte 19) Periotest

modi -

fied Widman modified

modified Widman

, modified . Modified

Widman 1965 Morris가
1974 Ramfjord Nissele

II.

1.

가

20,21)

2

9

96

41.3

가 5 , 가 4
가 가

20,22)

modified Widman

21,22)

2.

2

. Ramfjord²²⁾ modified Widman

1/6

modified Widman

modified

modified Widman

가

4 , 8 , 12

가

8

2

4

Modified
Kirkland

가

6

4

3. modified Widman modified 가

SPSS ver 8.0(SPSS Inc., Chicago, USA) one - way ANOVA test(p<0.05) , (- baseline/baseline) independent t - test(p<0.05)

2. baseline 4 , 8 가가 4 , 8

III. , 12 modified Widman modified 가가 .

1. baseline 4 , 8 3. , 12 가

Table 3. Comparison of clinical attachment level modified Widman flap and modified flap(mm)

| | Baseline | 4 weeks | 8 weeks | 12 weeks |
|-----|-------------|----------------|----------------|----------------|
| | Mean ± SD | Mean ± SD | Mean ± SD | Mean ± SD |
| MWF | 8.46 ± 2.11 | 7.82 ± 1.91 * | 7.71 ± 1.78 * | 7.66 ± 1.76 * |
| MF | 8.21 ± 1.64 | 7.26 ± 1.73 *§ | 7.17 ± 1.66 *§ | 7.19 ± 1.60 *§ |

* : significant from baseline : p<0.05

§ : significant between MWF and MF : p<0.05

MWF ; Modified Widman Flap

MF ; Modified Flap

Table 4. Comparison of Periotest values between modified Widman flap and modified flap

| | Baseline | 4 weeks | 8 weeks | 12 weeks |
|-----|-------------|----------------|--------------|---------------|
| | Mean ± SD | Mean ± SD | Mean ± SD | Mean ± SD |
| MWF | 5.75 ± 3.88 | 10.13 ± 6.31 * | 7.58 ± 4.80# | 5.06 ± 3.22#§ |
| MF | 5.00 ± 4.15 | 7.71 ± 5.46 * | 5.65 ± 5.05 | 4.29 ± 3.53# |

* : significant from baseline : p<0.05

: significant from 4 weeks : p<0.05

§ : significant from 8 weeks : p<0.05

MWF ; Modified Widman Flap

MF ; Modified Flap

Table 5. Comparison of bleeding on probing between modified Widman flap and modified flap(%)

| | Baseline | 4 weeks | 8 weeks | 12 weeks |
|-----|----------|---------|---------|----------|
| MWF | 67.36 | 35.76 | 28.82 | 25.00 |
| MF | 64.58 | 36.81 | 24.31 | 23.61 |

MWF ; Modified Widman Flap

MF ; Modified Flap

baseline 4 , 8 5.
 , 12
 , 8 , 12 modified 4 baseline
 modified Widman , 8
 가가 . .
 4. IV.
 baseline 4
 가가 , 8
 4 가
 modified Widman 25,26),
 , 12 가
 baseline 가 20,26,27).
 modified Widman
 modified 4 가 가
 가가 22,28,29).
 30 - 32), 가
 33 - 35).
 modified
 가
 가

modified
 ,
 29) , 4 가 baseline 가 ,
 , 12 modified Widman
 가 modified
 Widman
 31,37 - 39) ,
 Modified Widman baseline
 0.5 - 1mm 가 ,
 4 , 8 , 12 modified Widman 가
 modified
 Widman 22) Modified modified Widman
 0.5 - 1mm
 modified
 ,
 4 - 5mm , 가 ,
 baseline
 36) modified modified
 3 Widman 4 , 8 , 12
 ,
 , 가 modified Widman
 ,
 . Lindhe 40) 가
 modified Widman
 , 2.9mm
 modified modified
 Widman 가 . 가가 ,
 , 4.2mm
 가 modified Widman

4.2mm
modified Widman
가

fied Widman
가

modified

modi -

, 가

가

41,42).

31,33,47).

. 가 ,

, ,

가

가 가

43).

가

43-45), 46) modified Widman

1 가
2 가 modi -
4 ,

fied Widman

6

.

4

가 12

modified

4

, 8 12

4 8 2 ,

가

V.

Widman modified
 baseline, 4, 8, 12
 modified

modified modified Widman
 modified modified
 modified Widman
 가

VI.

1. baseline
 (p<0.05),
 12 modified Widman
 modified
 가 (p<0.05).
2. baseline
 가 (p<0.05),
 4, 8, 12 modi -
 fied Widman modified
 가가
 (p<0.05).
3. baseline
 (p<0.05),
 4, 8, 12 modified
 modified Widman
4. baseline
 4
 가 (p<0.05),
 12 가
 .
 baseline 4
 , 8 12

1. Carranza F.A. : The surgical phase of therapy. Clinical Periodontology, 8th edition, W.B. Saunders Company : 565 - 569, 1996
2. Bower R.C. : Furcation morphology relative to periodontal treatment. Furcation root surface anatomy. J Periodontol 50: 366 - 374, 1979
3. Gher M.E., Vernino A.R. : Root morphology - clinical significance in pathogenesis and treatment of periodontal disease. J Am Dent Assoc 101: 627 - 633, 1980
4. Lang N.P., Brgger U., Tonetti M.S., H mmerle C.F. : Supportive periodontal therapy. Clinical Periodontology and Implant Dentistry, 3rd Edition, Munksgaard, Copenhagen : 822 - 847, 1998
5. Badersten A., Nilveus R., Egelberg J. : Scores of plaque, bleeding suppuration and probing depth to predict probing attachment loss. 5 years of observation following nonsurgical periodontal therapy. J Clin Periodontol 17: 102 - 107, 1990
6. Newman M.G., Sanz M. : Advanced

- diagnostic techniques. Clinical Periodontology, 8th edition, W.B. Saunders Company : 375 - 390, 1996
7. Aepli D.M., Boen J.R., Bandt C.L. : Measuring and interpreting increases in probing depth and attachment loss. J Periodontol 56: 262 - 264, 1985
 8. Zappa U., Simona C., Schappi P., Graf H., Espeland M. : Episodic probing attachment loss in humans: histologic associations. J Periodontol 61: 420 - 426, 1990
 9. Polson A.M., Caton J.G. : Current status of bleeding in the diagnosis of periodontal disease. J Periodontol 56: 1 - 3, 1985
 10. Lang N.P., Joss A., Orsanic T, Gusberti F.A., Siegrist B.E. : Bleeding on probing. A predictor for the progression of periodontal disease? J Clin Periodontol 13: 590 - 596, 1986
 11. Badersten A., Nilveus R., Egelberg J. : Effect of non - surgical periodontal therapy (VIII). Probing attachment changes related to clinical characteristics. J Clin Periodontol 14: 425 - 432, 1987
 12. Haffajee A.D., Socransky S.S., Ebersole J.L., Smith D.J. : Clinical, microbiological and immunological features associated with the treatment of active periodontosis lesions. J Clin Periodontol 9: 600 - 618, 1984
 13. Lang N.P., Nyman S., Senn C., Joss A. : Bleeding on probing as it relates to probing pressure and gingival health. J Clin Periodontol 18: 257 - 261, 1991
 14. Badersten A., Nilveus R., Egelberg J. : Scores of plaque, bleeding, suppuration and probing depth to predict probing attachment loss. 5 years of observation following nonsurgical periodontal therapy. J Clin periodontol 17:102 - 107, 1990
 15. Claffey N., Nylund K., Kiger R., Garrett S., Egelberg J. : Diagnostic predictability of scores plaque, bleeding, suppuration and probing depth for probing attachment loss. 3 1/2 years of observation following initial periodontal therapy. J Clin Periodontol 17: 108 - 114, 1990
 16. Claffey N., Shanley D. : Relationship of gingival thickness and bleeding to loss of probing attachment in shallow sites following nonsurgical periodontal therapy. J Clin Periodontol 13: 654 - 657, 1986
 17. Perlitsch M.J. : Asystematic approach to the interpretation of tooth mobility and its clinical implication. Dent Clin Nor Am 24: 177 - 193, 1980
 18. Schulte W., Lukas D. : The Periotest method. Int Dent J 42: 433 - 440, 1992
 19. Schulte W., d'Hoedt B., Lukas D., Maunz M., Stepler M. : Periotest for measuring periodontal characteristics - Correlation with periodontal bone loss. J Periodont Res 27:184 - 190, 1992
 20. Ramfjord. S.P., Nissle. R.R. : The

- modified Widman flap. *J Periodontol* 45 : 601 - 607, 1974
21. Carranza F.A., Takei H.H. : The flap technique for pocket therapy. *Clinical Periodontology*, 8th edition, W.B. Saunders : 604 - 614, 1996
 22. Ramfjord S.P. : Present status of the modified Widman flap procedure. *J Periodontol* 48: 558 - 565, 1977
 23. Kirkland O. : The suppurative periodontal pus pocket; its treatment by the modified flap operation. *J Am Dent Assoc* 18: 1462 - 1470, 1931
 24. Wennström J., Heijl L., Lindhe J. : Periodontal surgery access therapy. *Clinical Periodontology and Implant Dentistry*, 3rd Edition, Munksgaard, Copenhagen : 508 - 549, 1998
 25. Johnson R.E., Waerhaug J. : Effect of antiformin on gingival tissues. *J Periodontol* 27: 24 - 28, 1956
 26. Stahl S.S., Weiner J.M., Benjamin S., Yamada L. : Soft tissue healing following curettage and root planing. *J Periodontol* 42: 678 - 684, 1971
 27. Bowen, W.J., Bowers G.M., Berquist J.J., Organ R. : Removal of pocket epithelium in humans utilizing an internally beveled incision. *Int J Periodontics Restorative Dent* 1: 8 - 19, 1981
 28. Svoboda P.J., Reeve C.M., Sheridan P.J. : Effect of retention of gingival sulcular epithelium on attachment and pocket depth after periodontal surgery. *J Periodontol* 55: 563 - 566, 1984
 29. Smith B.A., Echeverri M., Caffesse R.G. : Mucoperiosteal flaps with and without removal of the pocket epithelium. *J Periodontol* 58: 78 - 85, 1987
 30. Lang N.P., Morrison E.C., Le H., Ramfjord S.P. : Longitudinal therapeutic effects on the periodontal attachment level and pocket depth in Beagle dogs. I. Clinical findings. *J Periodont Res* 14: 418 - 427, 1979
 31. Hill R.W., Ramfjord S.P., Morrison E.C., Appleberry E.A., Caffesse R.G., Kerry G.J., Nissle R.R. : Four types of periodontal treatment compared over two years. *J Periodontol* 52: 655 - 662, 1981
 32. Philstrom B.L., Ortiz - Campos C., McHugh R.B. : A randomized four - year study of periodontal therapy. *J Periodontol* 52: 227 - 242, 1981
 33. Lindhe J., Westfelt E., Nyman S., Socransky S.S., Heijl L., Bratthall G. : Healing following surgical/non - surgical treatment of periodontal disease. A clinical study. *J Clin Periodontol* 9: 115 - 128, 1982
 34. Nieminen A., Siren E., Wolf J., Asikainen S. : Prognostic criteria for the efficacy of non - surgical periodontal therapy in advanced periodontitis. *J Clin Periodontol* 22: 153 - 161, 1995
 35. Isidor F., Karring T. : Long term effect of surgical and non - surgical periodontal treatment. A 5 - year clinical study. *J Periodontal Res* 21: 462 - 472, 1986
 36. Weeks P.R. : Pros and cons of periodontal pockets elimination procedures. *J West*

- Soc Periodontol 28: 4 - 16, 1980
37. Knowles J.W., Burgett F.G., Nissle R.R., Shick R.A., Morrison E.C., Ramfjord S.P. : Results of periodontal treatment related to pocket depth and attachment level. Eight years. J Periodontol 50: 225 - 233, 1979
38. Knowles J.W., Burgett F.G., Morrison E.C., Nissle R.R., Ramfjord S.P. : Comparison of results following three modalities of periodontal therapy related to tooth type and initial pocket depth. J Clin Periodontol 7: 32 - 47, 1980
39. Burgett F.G., Knowles J.W., Nissle R.R., Shick R.A., Ramfjord S.P. : Short term results of three modalities of periodontal treatment. J Periodontol 48: 131 - 135, 1977
40. Lindhe J., Socransky S.S., Nyman S., Haffajee A., Westfelt E. : " Critical probing depths " in periodontal therapy. J Clin Periodontol 9; 323 - 336, 1982
41. Lindhe J., Socransky S.S., Nyman S., Westfelt E. : Dimensional alteration of the periodontal tissues following therapy. Int J Periodontics Restorative Dent 7: 9 - 21, 1987
42. Westfelt E., Braged L., Socransky S.S., Haffajee A.D., Nyman S., Lindhe J. : Improved periodontal conditions following therapy. J Clin Periodontol 12: 283 - 293, 1985
43. Nyman S., Lindhe J. : Persistent tooth hypermobility following completion of periodontal treatment. J Clin Periodontol 3 : 81 - 93, 1976
44. Galler, C., Selipsky H., Phillips C., Ammons W.F. : The effect of splinting on tooth mobility after osseous surgery. J Clin Periodontol 6: 317 - 333, 1979
45. : unrepositioned flap operation . 8 : 29 - 43, 1978
46. Widman . 27 :179?189, 1997
47. Morrison E.C., Ramfjord S.P., Hill R.W. : Short - term effects of initial non - surgical periodontal treatment(hygienic phase). J Clin Periodontol 7 : 199 - 211, 1980
- Abstract -

Comparative Clinical Study on the Treatment Effects Following Modified Widman Flap and Modified Flap

Sung - Woo Hong, Young - Chae Park,
Kwang - Soo Lee, Hyung - Keun You,
Hyung - Shik Shin

Department of Periodontology, Collge of
Dentistry, Wonkwang University

Periodontal surgery can be directed to remove the irritants from the tooth surface and reduce the periodontal pocket. The purpose of this study is to compare the clinical effects after between modified Widman flap and modified flap in periodontal patients. Ninety six molar area teeth of 9 patients were used. One of sextants per -

formed a modified Widman flap, while the other side performed a modified flap. After initial periodontal therapy, the following measurements prior to surgery (baseline) were taken : pocket depth, gingival recession, clinical attachment level, tooth mobility, bleeding on probing. Also these measurements were taken at 4 weeks, 8 weeks, and 12 weeks after surgery.

Significant decrease of pocket depth was shown in both techniques, and the degree of decrease was significant in modified flap than modified Widman flap at 12 weeks. Significant increase of gingival recession was shown in both techniques, and the degree of increase was significant in modified Widman flap than modified flap at 4 weeks, 8 weeks, and 12 weeks. Significant attachment gain was shown in both techniques, and the degree of increase was significant in modified flap than modified Widman flap at 4 weeks, 8 weeks, and 12 weeks. Significant increase of tooth mobility was shown in both techniques at 4 weeks, but the decrease of tooth mobility was shown at 12 weeks. Greater decrease of bleeding on probing was shown in both techniques at 4 weeks. Modified flap was better than modified Widman flap in the decrease of gingival recession and the attachment gain. These results indicate that modified flap operation is better than modified Widman flap operation in the effect of periodontal treatment.