

Effects of gingival curettage when performed 1 month after root instrumentation

A biometric evaluation

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Abstract. The purpose of the present study was to evaluate biometrically the periodontal response to gingival curettage. 15 subjects having suprabony pockets were selected. Gingival Index (GI) was initially determined for the selected teeth. Measurements of probing depth, and the distance from the free gingival margin to the cemento-enamel junction were also taken at that time, as well as immediately after scaling and root planing of the selected teeth. 4 weeks after scaling and root planing, the clinical parameters were recorded. A split mouth design was used to select 2 quadrants of the mouth in which gingival curettage was to be performed. Immediately after, experimental measurements were again recorded. 5 weeks after gingival curettage, gingival inflammation, probing depth and the location of the free gingival margin were recorded for the last time. All data were analyzed statistically. It was shown that gingival inflammation, the distance from the free gingival margin to the cemento-enamel junction, and the probing depth were reduced after 4 and 9 weeks. The level of clinical attachment improved after 9 weeks. All these changes were statistically significant. These results were observed after scaling and root planing, as well as after scaling, root planing and gingival curettage. No differences were found between both treatment modalities in any of the parameters analyzed. Gingival curettage did not improve the condition of the periodontal tissues more significantly than scaling and root planing.

Gingival curettage has been one of the most versatile, widely used procedures in the treatment of periodontal disease (Goldman 1949, 1960).

Gingival curettage is used frequently as an adjunct to scaling and root planing in the treatment of suprabony pockets (Goldman 1949, 1960a, b). It attempts removal of the inflamed epithelial lining of the pocket and the underlying granulomatous connective tissue with a curette. The connective tissues are subsequently adapted to the tooth surface, and a new sulcular and junctional epithelium may develop. The result is a reunion of the gingival tissues to the tooth surface. In the case of

suprabony pockets, gingival curettage results in gingival shrinkage and the depth of the pocket is reduced. Thus, the achievement of gingival recession has been considered a rationale for gingival curettage.

Whereas the effects of concurrent scaling, root planing and gingival curettage have been evaluated recently (Ainslie & Caffesse 1981), the clinical effects of gingival curettage when carried out some time after scaling and root planing have been inconclusive.

The purpose of this investigation was to evaluate biometrically changes in location of the free gingival margin, probing depth and level of clinical attachment as well as variations

in gingival inflammation when gingival curettage was performed 4 weeks after scaling and root planing in patients with shallow, suprabony pockets.

Material and Methods

Subjects

Patients admitted to The University of Michigan School of Dentistry were selected for this investigation. All the selected patients had mild periodontitis with pockets not exceeding 5 mm. They had at least 24 teeth, without subgingival crown margins, fixed prosthesis, removable or orthodontic appliances. In total, 15 patients constituted the final subject population. There were 6 males and 9 females. Their age ranged from 25–38 years, with a mean of 28 years. Third molars were not included in the study. A total of 375 teeth were studied.

Experimental measurements

Gingival inflammation was scored according to the Gingival Index (GI) (Löe & Silness 1963). Measurements of probing depth and the distance from the free gingival margin (FGM) to the cemento-enamel junction (CEJ) were recorded with a color coded Marquis S-4 (Marquis Dental Manufacturing Company, Denver, Colo., U.S.A.) periodontal probe calibrated in 3 mm increments and with a point diameter of 0.4 mm. 4 fixed points per tooth were measured. The level of clinical attachment was calculated as the difference between the probing depth of the pocket and the location of the FGM related to the CEJ. Clinical calibration of the examiner was achieved prior to the experimental recordings as follows:

5 patients were selected and 6 test teeth (Ramfjord 1967) were scored 4 times for loss of attachment and crevice depth. There were no differences in quadruplicate recordings for 88% of surfaces.

Experimental procedures

The severity of gingival inflammation was recorded, as well as measurements for probing

depth and the location of the FGM. Oral hygiene instruction was given and all teeth were scaled and planed thoroughly, in order to remove all supra- and subgingival plaque and calculus. Clinical measurements of probing depth and the location of the FGM were recorded again after the scaling was completed.

4 weeks after scaling and root planing oral hygiene was checked and oral hygiene instructions were again given to the patient. The extent of gingival inflammation was scored. Measurements for probing depth and the location of the FGM were also accomplished. Then, 2 contralateral quadrants were selected for gingival curettage by the toss of a coin. After local anesthesia, gingival curettage was performed in these 2 quadrants. A 13–14 double ended Columbia curette was used for this purpose. New measurements for probing depth and the location of the FGM were again obtained in all 4 quadrants. The recordings from the curetted quadrants were delayed to minimize the effects of local anesthesia on the experimental measurements. A periodontal dressing was then applied. 1 week later the periodontal dressing was removed, and all teeth were polished with a rubber cup and prophylaxis paste.

9 weeks after scaling and root planing, and 5 weeks after gingival curettage, gingival inflammation was scored again and measurements for probing depth and the location of the FGM were determined for the last time.

Statistical analysis

The data obtained were analyzed using the Michigan Interactive Data Analysis System (MIDAS).

The mean values for each tooth in terms of gingival inflammation, probing depth and location of the FGM were obtained. These mean values for each tooth were used to determine the mean values for each quadrant. Using these quadrant means, patient means were obtained for each treatment modality. Treatment means were determined for each experimental group at each experimental period.

Comparisons between gingival curettage and scaling and root planing were analyzed with paired t-tests. The null hypothesis tested was that the mean of the differences between 2 variables was zero. The hypothesis was rejected if the probability ratio (*P*-value) was less than 0.05. Paired t-tests were used for comparisons

within each treatment performance group at 4 and 9 weeks.

Results

Baseline data

At baseline, no statistically significant differences existed between the 2 treatment groups for Gingival Index (GI), location of the FGM, probing depth or level of attachment.

Gingival inflammation

Fig. 1 depicts the changes in gingival inflammation over time. It shows that both treatments reduced significantly mean GI values from baseline, and also, that there was no difference between the treatments employed. The mean values are presented in Table 1.

4 weeks after scaling and root planing, the GI decreased significantly with both treatment modalities. No statistically significant differences appeared between treatment groups.

9 weeks after the initial treatment, a statistically significant improvement in gingival inflammation was observed in both treatment groups when compared with the baseline values. The decrease in the values of GI 9 weeks after scaling and root planing was similar for both treatment groups. The absolute values of GI at the completion of the treatment - 9 weeks - were the same for both treatment groups.

Location of the free gingival margin to the CEJ

The mean changes in the location of the FGM are shown in Table 1. 4 weeks after scaling and root planing, a statistically significant decrease (recession) in the initial location of the FGM was observed in both treatment groups. No statistically significant difference could be observed between the groups 4 weeks after scaling and root planing.

Between 4 and 9 weeks after the initial treatment, no statistically significant differences were found in the location of the FGM, neither within or between treatments. In other words, the location of the FGM remained the same as it was 4 weeks after scaling and root planing.

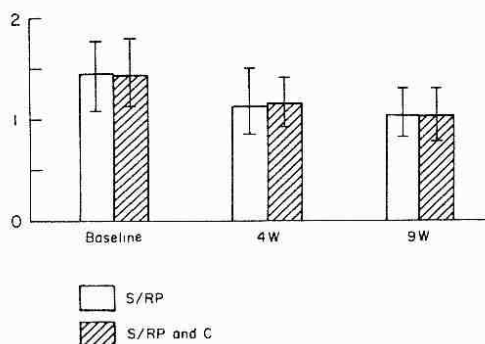


Fig. 1. Mean Gingival Index scores for the areas treated with scaling and root planing and with scaling, root planing and gingival curettage at different observation periods: baseline, 4 and 9 weeks. The y-axis indicates GI values, while the x-axis indicates time in weeks. The brackets indicate the standard deviation of the mean. S/RP=scaling and root planing, S/RP and C=scaling, root planing and gingival curettage.

Mittlere Gingivalindex-Scores der mit Zahnsteinentfernung und Wurzelglättung, sowie mit Zahnsteinentfernung, Wurzelglättung und gingivaler Kürettage behandelten Regionen, während der verschiedenen Beobachtungsperioden. Ausgangssituation, sowie 4 und 9 Wochen später. Die GI (Gingivalindex)-Werte sind auf der Ordinate abgesetzt und die Zeit in Wochen auf der Abszisse. Die horizontalen Markierungen begrenzen die Standardabweichung des Mittelwertes. S/RP=Zahnsteinentfernung und Wurzelglättung, S/RP und C=Zahnsteinentfernung, Wurzelglättung und gingivale Kürettage.

Scores moyens de l'Indice Gingival (GI) pour les régions traitées par détartrage et polissage des surfaces radiculaires et pour celles traitées par détartrage, polissage des surfaces radiculaires et curetage gingival, aux diverses périodes d'observation: début, 4 semaines et 9 semaines. L'axe des y indique les valeurs de GI, tandis que l'axe des x indique le temps en semaines. Les traits verticaux indiquent l'écart-type de la moyenne. S/RP=détartrage et polissage des surfaces radiculaires, S/RP and C=détartrage, polissage des surfaces radiculaires et curetage gingival.

Table 1. Comparison of changes obtained in the parameters analyzed at different observation periods
 Vergleich zwischen den Veränderungen der analysierten Parameter während der verschiedenen Versuchsperioden
 Comparaison des changements obtenus dans les paramètres, analysés aux différentes périodes d'observation

		Initial	4 weeks	Change	Signifi- cance	9 weeks	Change	Signifi- cance
Gingival Index	Scaling/ root planing	1.48	1.16	+0.32	0.0001	1.02	+0.47	0.0001
	Scaling/ root planing and curettage	1.48	1.19	+0.29	0.0001	1.02	+0.47	0.0001
Location free gingival margin ¹	Scaling/ root planing	1.82	1.48	+0.34	0.0001	1.47	+0.35	0.0001
	Scaling/ root planing and curettage	1.81	1.43	+0.38	0.0001	1.40	+0.41	0.0001
Probing depth ¹	Scaling/ root planing	2.60	2.27	+0.33	0.0001	2.06	+0.54	0.0001
	Scaling/ root planing and curettage	2.64	2.29	+0.35	0.0001	2.04	+0.60	0.0001
Level of clinical attachment ¹	Scaling/ root planing	0.78	0.78	0.00	NS	0.58	+0.20	0.01
	Scaling/ root planing and curettage	0.82	0.86	-0.04	NS	0.64	+0.18	0.02

$P=0.05$

(1)=in mm

*=Differences between groups statistically non-significant ($P>0.05$)

Gingival Index (*Gingivalindex*, *Indice Gingival*), scaling/root planing (*Zahnsteinentfernung/Wurzelglättung*, *détartrage/polissage des surfaces radiculaires*), curettage (*Kürettage*, *curetage*), location free gingival margin (*Lokalisation des freien Gingivalrandes*, *position du bord libre de la gencive*), probing depth (*Sondierungstiefe*, *profondeur de sondage*), level of clinical attachment (*klinisches Attachmentniveau*, *niveau de l'attache clinique*).

Fig. 2 shows that, when initial and final figures were compared the distance from the FGM to the CEJ decreased significantly in both treatment groups, without statistically significant differences between them.

Probing depth

Fig. 3 represents the changes in probing depth during the experimental period, while the mean values are presented in Table 1.

Immediately after scaling and root planing, a statistically significant increase in probing depth occurred in both treatment groups ($P<0.001$). This increase in probing depth was similar for both treatment groups.

4 weeks after scaling and root planing, the previous increase in probing depth was compensated, and an even further decrease in probing depth was found at that time. This decrease in probing depth was statistically significant for both treatment groups. No statistically significant differences were found between them.

When gingival curettage was done a statistically significant increase in probing depth was observed immediately after in the corresponding treatment group. This increase disappeared 5 weeks after gingival curettage.

A statistically significant decrease in probing depth was observed between 4 and 9 weeks with

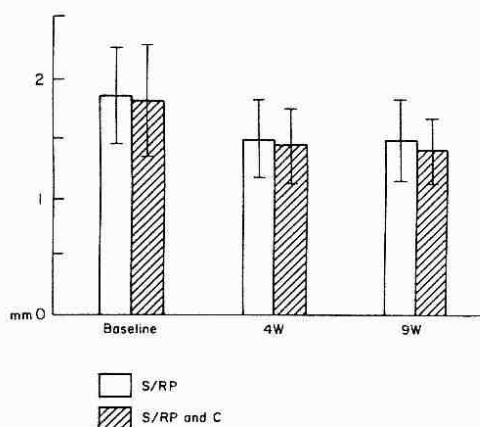


Fig. 2. Changes in the location of the free gingival margin to the cemento-enamel junction over time. The bars indicate mean values, and the brackets the standard deviations of the means. The y-axis represents distance in mm while the x-axis indicates time in weeks. S/RP=scaling and root planing. S/RP and C=scaling, root planing and gingival curettage. *Veränderungen der Position des freien Gingivalrandes zur Schmelzzementgrenze während der Versuchszeit. Die Säulen bezeichnen die Mittelwerte und die horizontalen Markierungen die Standardabweichungen der Mittelwerte. Auf der Ordinate ist der Abstand in mm abgesetzt, auf der Abszisse die Zeit in Wochen. S/RP=Zahnsteinentfernung und Wurzelglättung. S/RP und C=Zahnsteinentfernung, Wurzelglättung und gingivale Kürettage.*

Changements de la position du bord libre de la gencive par rapport à la jonction émail-cément, avec le temps. Les rectangles indiquent les valeurs moyennes et les traits verticaux indiquent les écarts-types des moyennes. L'axe des y représente la distance en mm et l'axe des x indique le temps en semaines. S/RP=détartrage et polissage des surfaces radiculaires, S/RP and C=détartrage, polissage des surfaces radiculaires et curetage gingival.

both procedures. No differences between groups were observed.

Both groups showed a similar statistically significant decrease in probing depth when pre- and post-treatment values were compared. No significant differences were found between treatments as to the amount of probing depth reduction.

Level of clinical attachment

Table 1 and Fig. 4 show the changes in level of clinical attachment at different experimental periods. Immediately after scaling and root planing, a statistically significant deepening in the level of the clinical periodontal attachment occurred in both treatment groups. The deepening in the level of the clinical attachment immediately after scaling and root planing was similar for both treatment groups.

4 weeks after scaling and root planing, the level of the clinical attachment was similar to

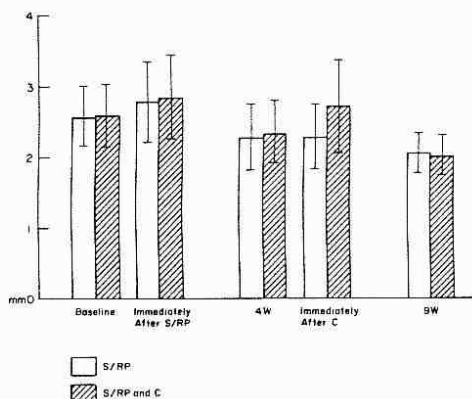


Fig. 3. Changes in probing depth over time. The bars indicate mean values and the brackets the standard deviations of the means. The y-axis represents distance in mm while the x-axis indicates time in weeks. S/RP=scaling and root planing. S/RP and C=scaling, root planing and gingival curettage. *Veränderungen der Sondierungstiefe während der Versuchszeit. Die Säulen bezeichnen die Mittelwerte und die horizontalen Markierungen die Standardabweichungen der Mittelwerte. Auf der Ordinate ist der Abstand in mm abgesetzt, auf der Abszisse die Zeit in Wochen. S/RP=Zahnsteinentfernung und Wurzelglättung. S/RP und C=Zahnsteinentfernung, Wurzelglättung und gingivale Kürettage.*

Changements de la profondeur de sondage, avec le temps. Les rectangles indiquent les valeurs moyennes et les traits verticaux indiquent les écarts-types des moyennes. L'axe des y représente la distance en mm et l'axe des x indique le temps en semaines. S/RP=détartrage et polissage des surfaces radiculaires, S/RP and C=détartrage, polissage des surfaces radiculaires et curetage gingival.

both procedures. No differences between groups were observed.

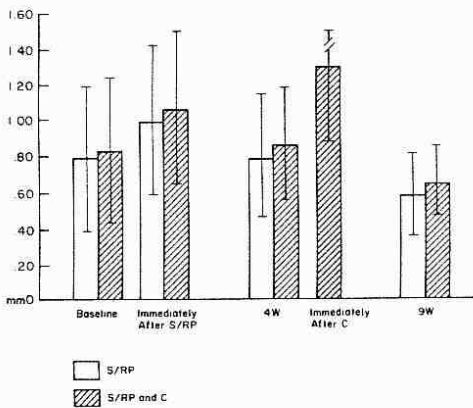


Fig. 4. Changes in level of clinical attachment over time. The bars indicate mean values and the brackets the standard deviations of the means. The y-axis represents distance in mm while the x-axis indicates time in weeks. S/RP=scaling and root planing. S/RP and C=scaling, root planing and gingival curettage.

Veränderungen des klinischen Attachmentniveaus während der Versuchszeit. Die Säulen bezeichnen die Mittelwerte und die horizontalen Markierungen die Standardabweichungen der Mittelwerte. Auf der Ordinate ist der Abstand in mm abgesetzt, auf der Abszisse die Zeit in Wochen. S/RP=Zahnsteinentfernung und Wurzelglättung. S/RP und C=Zahnsteinentfernung, Wurzelglättung und gingivale Kürettage.

Changements du niveau de l'attache clinique, avec les temps. Les rectangles indiquent les valeurs moyennes et les traits verticaux indiquent les écarts-types des moyennes. L'axe des y représente la distance en mm et l'axe des x indique le temps en semaines. S/RP=détartrage et polissage des surfaces radiculaires. S/RP and C=détartrage, polissage des surfaces radiculaires et curetage gingival.

pre-treatment levels for both treatment groups, without significant differences between groups.

A statistically significant deepening in the level of the clinical attachment was observed also immediately after gingival curettage in those sites treated with scaling, root planing and gingival curettage. However, 5 weeks after gingival curettage, a statistically significant improvement in the level of the clinical attachment was observed in those sites treated with scaling, root planing and gingival curettage.

A statistically significant gain in the clinical periodontal attachment also occurred between

4 and 9 weeks in the group treated with scaling and root planing alone. The improvement in the level of attachment was similar for both treatment groups.

When initial and final values were compared, the level of the clinical attachment was improved significantly in both treatment groups, and no significant differences were found between them.

Final results

At the completion of the investigation, no significant differences were found between the 2 treatment groups with regards to GI, location of the FGM, probing depth and level of clinical attachment.

Discussion

Analysis of the results from this study shows clearly a significant improvement in the periodontal condition of the patients, regardless of the treatment used.

Gingival inflammation decreased continuously throughout the 9 weeks of the investigation. At the completion of the study, similar tests were obtained with and without gingival curettage.

These results support previous findings that scaling and root planing are responsible for the initial decrease in gingival inflammation. Studies have shown both clinically and histologically (Blass & Lite 1959, Moskow 1964, Stone et al. 1966, Stahl et al. 1971, Lopez & Belvederessi 1977, Morrison et al. 1980, Ainslie & Caffesse 1981), that a reduction in gingival inflammation follows scaling and root planing, or scaling, root planing and gingival curettage. However, several authors have found a recurrence of gingival inflammation after the initial decrease following instrumentation (Moskow 1964, Stahl 1964, Stahl et al. 1971, Zamet 1975, Lopez & Belvederessi 1977). The recurrence of gingival inflammation in these studies could be the consequence of new deposition of plaque. This possibility agrees with several reports indicating that frequent professional care and adequate

oral hygiene are effective in the maintenance of gingival health (Suomi et al. 1969, Tagge et al. 1975, Morrison et al. 1980).

A significant decrease in the distance from the free gingival margin to the cemento-enamel junction was found at the completion of the investigation following either method of treatment. However, this change occurred within the 4 weeks after scaling and root planing. Therefore, scaling and root planing rather than gingival curettage was responsible for this improvement. Gingival curettage did not reduce probing depth beyond the initial reduction obtained with scaling and root planing alone. Similar results were obtained by Ainslie & Caffesse (1981) when curettage was performed together with scaling and root planing, and the results were compared to those obtained by scaling and root planing alone (Ainslie & Caffesse 1981). Hughes & Caffesse (1978) found 1 mm of gingival recession in 20% of the midline areas and 30% of the mesial interproximal sites 1 month after scaling and root planing (Hughes & Caffesse 1978). Other authors have also found a significant decrease in the distance from the free gingival margin to the cemento-enamel junction with scaling and root planing alone, or with scaling, root planing and gingival curettage (Tagge et al. 1975, Zamet 1975).

A significant reduction in probing depth occurred during the 2 observation periods following scaling and root planing, and also after scaling, root planing and gingival curettage. This is in agreement with the results reported by several authors in similar studies (Tagge et al. 1975, Zamet 1975, Waite 1976, Burgett et al. 1977, Morrison et al. 1980, Ainslie & Caffesse 1981).

Probing depth increased significantly immediately after scaling and root planing, and immediately after gingival curettage. The increase in probing depth following both procedures could be due to over-instrumentation (Ramfjord & Kiestler 1954, Ainslie & Caffesse 1981). Another reason could be that gingival

curettage was performed up to the bottom of the pocket into a zone of completely and partially destroyed periodontal fibers (Saglie et al. 1975). This zone could be penetrated easily by the tip of the curette during gingival curettage. It has been shown that inflamed tissues offer less resistance to the penetration of a probe than clinically healthy tissues (Armitage et al. 1977). A similar situation could be expected when the curette was used in the curettage of the inner soft tissue wall of the pocket up to the bottom of the periodontal pocket.

The mean reduction in probing depth in this investigation was similar to that reported by Ainslie & Caffesse (1981), Zamet (1975), and Waite (1976), 1, 4 and 12 months respectively after scaling and root planing (Zamet 1975), and by Ainslie & Caffesse (1981) 1 month after scaling, root planing and gingival curettage. Burgett et al. (1977) and Zamet (1975), found much more significant improvement in probing depth after gingival curettage than observed in this study. Whereas all these studies showed a decrease in probing depth following scaling and root planing, or scaling, root planing and gingival curettage, differences in methodology and design of the experiment may account for the differences among investigators.

In this investigation, gingival curettage did not result in an increased reduction in probing depth compared to scaling and curettage. This agrees with the results obtained by Ainslie & Caffesse (1981), but differs from the study by Zamet (1975), who found more probing depth reduction following curettage than with scaling and root planing. However, in this study the initial effect of scaling and root planing was not considered, since baseline measurements were recorded after initial preparation by scaling and root planing.

A statistically significant gain in the level of clinical attachment was found at the completion of this study in both treatment groups. Whether or not this change in clinical attachment level does reflect new attachment, or simply re-adaptation, cannot be determined from clinical

measurements. Resolution of periodontal inflammation results in firmer tissues. Healthy periodontal tissues offer more resistance than inflamed tissues to the penetration of the probe. It could be that a very close adaptation of connective tissue and epithelium occurred, which hugged the tooth surface (Hirschfeld 1962). Certain degree of "creeping attachment" (Goldman & Cohen 1973) might explain the apparent gain in attachment in this study.

The absence of gain of clinical attachment 4 weeks after scaling and root planing, and the small gain of clinical attachment at the completion of the study could be related to the small initial values in loss of clinical attachment. It has been shown that the shallower the initial pocket, the lesser the increase in periodontal attachment after the completion of the treatment (Ramfjord et al. 1968, Morrison et al. 1980). Pockets initially 1-3 mm consistently show a loss of clinical attachment following surgical periodontal treatment (Knowles et al. 1979).

At the completion of the study, gingival curettage did not result in greater gain of clinical attachment than scaling and root planing. This is in agreement with the results obtained by Ainslie & Caffesse (1981) in a similar study.

It has been suggested that gingival curettage should be carried out some time after scaling and root planing (Goldman 1960a). It has also been stated that "gingival curettage should be accomplished at least 7 days after scaling and root planing, when the clinical healing can be better assayed and the necessity for subgingival curettage best evaluated" (Moskow 1962). This study indicates that, in the treatment of shallow, suprabony pockets, gingival curettage does not represent an advantage over scaling and root planing alone.

Conclusions

Within the limits of this study the following conclusions can be drawn:

1. Scaling and root planing will reduce gingival inflammation, probing depth, and will gain clinical periodontal support.
2. Scaling and root planing followed by gingival curettage 4 weeks afterwards represent an effective treatment to reduce gingival inflammation and probing depth, and to gain clinical periodontal attachment.
3. After scaling and root planing, gingival curettage of shallow, suprabony pockets does not predictably improve the health of the periodontal tissues.
4. Gingival curettage is not necessary in routine treatment of shallow, suprabony pockets.

Zusammenfassung

Der therapeutische Effekt gingivaler Kürettage, die 1 Monat nach instrumenteller Behandlung der Zahnwurzeln vorgenommen wurde

Eine biometrische Wertbestimmung

Mit dieser Studie wurde beabsichtigt, die parodontale Reaktion auf gingivale Kürettage biometrisch zu bestimmen. Zur Teilnahme an dieser Studie wurden 15 Probanden mit gingivalen Taschen ausgewählt. Einleitend wurde der Gingivalindex (GI) an den für die Studie infrage kommenden Zähnen bestimmt. Die Sondierungstiefe und der Abstand vom freien Gingivalrand zur Schmelzzementgrenze wurde gleichzeitig, wie auch direkt nach der Zahnsteinentfernung und der Wurzelglättung gemessen. 4 Wochen nach der Zahnsteinentfernung und der Wurzelglättung wurden die klinischen Parameter registriert. Ein "split-mouth"-Versuchsansatz wurde gewählt, um 2 Quadranten zu bestimmen, in denen dann die gingivale Kürettage durchgeführt werden sollte. Daran anschliessend wurden die für das Experiment bedeutsamen Messungen erneut vorgenommen. Schliesslich wurde 5 Wochen nach der gingivalen Kürettage die Zahnfleischentzündung, die Sondierungstiefe und die Lokalisation des freien Gingivalrandes ein letztes Mal registriert. Alle erhaltenen Daten wurden statistisch analysiert. Es konnte gezeigt werden, dass die Zahnfleischentzündung, der Abstand vom freien Gingivalrand zur Schmelzzementgrenze sowie die Sondierungstiefe nach 4 und 9 Wochen reduziert war. Das klinische Attachmentniveau verbesserte sich nach 9 Wochen. Alle Veränderungen waren statistisch abgesichert. Diese Resultate wurden sowohl nach Zahnsteinentfernung und Wurzelglättung, als auch nach Zahnsteinentfernung, Wurzelglättung und gingivaler Kürettage beobachtet. Unterschiede zwischen den Resultaten beider Behandlungsvarianten wurden bei

keinem der analysierten Parameter gefunden. Im Vergleich mit der Zahnsteinentfernung mit Wurzelglättung kam es durch die gingivale Kürettagen zu keiner signifikanten Verbesserung des Gesundheitszustandes der parodontalen Gewebe.

Résumé

Action de curetages gingivaux pratiqués 1 mois après traitement instrumental des surfaces radiculaires
Evaluation biométrique

La présente étude avait pour but l'évaluation biométrique de la réaction du parodonte au curetage gingival. 15 sujets présentant des culs-de-sac supra-osseux ont été sélectionnés. L'Indice Gingival (GI) au niveau des dents choisies a été déterminé au départ. La profondeur de sondage et la distance du bord libre de la gencive à la jonction émail-cément ont aussi été mesurées à ce moment et immédiatement après détartrage et polissage des surfaces radiculaires des dents choisies. 4 semaines après détartrage et polissage des surfaces radiculaires, les paramètres cliniques ont été enregistrés. Une méthode dite "de bouche divisée" (split-mouth) a été utilisée pour choisir les 2 quadrants au niveau desquels le curetage gingival devait être pratiqué. Immédiatement après, les mesures expérimentales ont de nouveau été enregistrées. 5 semaines après le curetage gingival, l'inflammation gingivale, la profondeur de sondage et la position du bord libre de la gencive ont été enregistrées une dernière fois. Toutes les données ont été soumises à une analyse statistique. On a constaté que l'inflammation gingivale, la distance du bord libre de la gencive à la jonction émail-cément, et la profondeur de sondage étaient réduites au bout de 4 semaines et de 9 semaines. Le niveau de l'attache clinique s'améliorait après 9 semaines. Tous ces changements étaient statistiquement significatifs. Ces résultats ont été observés aussi bien après détartrage et polissage des surfaces radiculaires qu'après détartrage, polissage des surfaces radiculaires et curetage gingival. Aucune différence entre les 2 méthodes de traitement n'a été trouvée pour aucun des paramètres analysés. Le curetage gingival n'améliorait pas l'état des tissus parodontaux de façon plus significative que détartrage et polissage des surfaces radiculaires.

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