New Methods In Conservative Periodontitis Treatment

By Prof. Dr. Wolf-Dieter Grimm

The primary objective of conservative periodontal therapy which is aimed at destroying the primary lesion is to remove the subgingival bacterial flora, to reduce the clinical inflammation and to provide an environment for reattachment. (Loe et al. 1983). The effect of the procedure on the subgingival flora is evaluated by microbiological analyses (Loe et al. 1983). The results of these analyses will be used to determine the prognosis of the periodontal disease and to decide whether a surgical intervention is necessary.

Methods

Aim of the study

The aim of the study was to evaluate the clinical and microbiological results during conservative periodontitis therapy using a low-abrasion subgingival air polishing system (AIR-N-GO PERIO®).

Patients and methods

 Fifteen patients who had baseline chronic periodontitis were treated and re-examined over a period of three months. The clinical and microbiological parameters were recorded before starting, immediately after intervention (microbiological investigations only), after six weeks and after three months post-operatively (Table 1). After the preparative treatment had been carried out successfully and the patients had been informed of a written consent and written declaration in accordance with the Helsinki Declaration (Amstutz and Drisko 1993), they were examined in accordance with the EIVD/AAC guidelines. On the day of the microbiological investigations, the patients were asked to avoid eating and smoking for at least six hours. The test was carried out using the Welsome microorganism test (IAT PandoTest, Europe, Germany). The evaluation was pooled for all the periodontia treated. The microbiological results are summarized in Table 2. The statistical results were carried out using the SPSS statistics program. Results

Demographic data

The results of the microbiological study were compared with the original findings and the microbial flora was statistically significant (p < 0.01). The slight increase in the CR compared to the original findings reflects the improved inflammatory situation of the patients, which could be demonstrated after the AIR-N-GO PERIO therapy.

Microbiological results

The results for the periodontal marker bacteria A. actinomycetemcomitans, T. denticola (TBL) and, in addition, the total number of marker bacteria (TBL) were recorded. The results in each case are given in microorganisms per ml of sulcular fluid. The microbiological results are summarized in Table 2. An exhibition of the lowest concentration (0.05 ± 0.05) pre-operatively at the time base line, all of the species investigated, five weeks after treatment, the concentration of the periodontal marker bacteria T. denticola (TBL) was very low. Three months post-operatively it had almost reached the original value.

Discussion

The results of our investigation show that the AIR-N-GO PERIO® system is able to reduce the clinical and microbiological parameters in chronic periodontitis. The improvement in the BOP percentage after 6 weeks and after 3 months post-operatively it was statistically significant (p < 0.01). The slight increase in the CR compared to the original findings reflects the improved inflammatory situation of the patients, which could be demonstrated after the AIR-N-GO PERIO therapy.

Microbiological results

The results for the periodontal marker bacteria A. actinomycetemcomitans, T. denticola (TBL) and, in addition, the total number of marker bacteria (TBL) were recorded. The results in each case are given in microorganisms per ml of sulcular fluid. The microbiological results are summarized in Table 2. An exhibition of the lowest concentration (0.05 ± 0.05) pre-operatively at the time base line, all of the species investigated, five weeks after treatment, the concentration of the periodontal marker bacteria T. denticola (TBL) was very low. Three months post-operatively it had almost reached the original value.

Discussion

The results of our investigation show that the AIR-N-GO PERIO® system is able to reduce the clinical and microbiological parameters in chronic periodontitis. The improvement in the BOP percentage after 6 weeks and after 3 months post-operatively it was statistically significant (p < 0.01). The slight increase in the CR compared to the original findings reflects the improved inflammatory situation of the patients, which could be demonstrated after the AIR-N-GO PERIO therapy.

Microbiological results

The results for the periodontal marker bacteria A. actinomycetemcomitans, T. denticola (TBL) and, in addition, the total number of marker bacteria (TBL) were recorded. The results in each case are given in microorganisms per ml of sulcular fluid. The microbiological results are summarized in Table 2. An exhibition of the lowest concentration (0.05 ± 0.05) pre-operatively at the time base line, all of the species investigated, five weeks after treatment, the concentration of the periodontal marker bacteria T. denticola (TBL) was very low. Three months post-operatively it had almost reached the original value.
Dental sealants have been recognized as an effective measure for caries prevention in children. They are placed to prevent caries initiation and to arrest caries progression by providing a physical barrier that inhibits microorganisms and food particles from collecting in pits and fissures. It is generally accepted that the effectiveness of sealants for caries prevention depends on their long-term retention. What is the best way to clean the surfaces prior to fissure sealant application, contributes better to the sealant retention?

It has been long known that removal of the caries-plaque complex from the fissural surfaces is essential prior to etching in order to allow adequate bonding of the sealant. The clinical technique for removing the debris prior to sealing is prophylaxis with a non-fluoridated toothpaste, now however there have emerged, as air-powder, air-brushing techniques. Air-polishing technique with sodium bicarbonate is a non-invasive removal of organic and other elements from pit and fissure walls. The surface of the sealant is dried, in order to ensure that the sealant penetrates into the deeper parts of the fissure. The sealant is completely retained (0.4%), as compared to 17% for all four bacteria to be at a lower level than in the original findings. The bacteria P. gingivalis and T. denticola were on average at a lower level than in the time at which this was analyzed during measurement immediately after intervention. Only A. actinomyce- tosum was found in 4% of patients at the week six, with an increase to 0.1% in the third month. Porphyromonas gingivalis was detected in 0.28% of pockets after its use, suggesting that the retention of bacteria in the sealant material at the deeper parts of the fissure is significantly reduced.

Sealants can be repaired when completely or partially lost. Partially retained repaired, partially lost sealants have exhibited a reduction to 0.26 which corresponds to a mean elimination of 84% compared to the original findings. The bacterium T. forsythia exhibited a reduction to 0.28 which corresponds to a mean elimination of 93% compared to the baseline findings. Microbiological profile Microbiological analysis of the pooled samples, based on data not detailed here, has shown, when initially examined, that 37% of the samples presented with As, 83% Pg, 51% Pi, 91% Td and 80% Td. The proportion of contaminated pockets decreased immediately after treatment and increased again after six weeks, and in the third month, but without returning to the original values. Pg exhibited the greatest prevalence of all the species of bacteria at each point; the bacterium was detected in 40% of pockets prior to treatment and in 20% of pockets immediately after interventional therapy, in 33.3% after six weeks and in 6% in the third month after the AIN-GO PERIO treatment. It occurred in 60% of all pockets at the initial examination. Postoperatively, the species was only found in 30% (immediately after intervention), 60% (in the sixth week) and 67% of pockets after three months.

Conclusions: When both techniques of air abrasion and acid-etching are used, tensile strength is improved, never became the standard for pit and fissure sealants and appears logical situation three months after the intervention. Dental sealants have been recognized as an effective measure for caries prevention in children. They are placed to prevent caries initiation and to arrest caries progression by providing a physical barrier that inhibits microorganisms and food particles from collecting in pits and fissures. It is generally accepted that the effectiveness of sealants for caries prevention depends on their long-term retention. What is the best way to clean the surfaces prior to fissure sealant application, contributes better to the sealant retention?

It has been long known that removal of the caries-plaque complex from the fissural surfaces is essential prior to etching in order to allow adequate bonding of the sealant. The classic technique for removing the debris prior to sealing is prophylaxis with a non-fluoridated toothpaste, now however there have emerged, as air-powder, air-brushing techniques. Air-polishing technique with sodium bicarbonate is a non-invasive removal of organic and other elements from pit and fissure walls. The surface of the sealant is dried, in order to ensure that the sealant penetrates into the deeper parts of the fissure. The sealant is completely retained (0.4%), as compared to 17% for all four bacteria to be at a lower level than in the original findings. The bacteria P. gingivalis and T. denticola were on average at a lower level than in the time at which this was analyzed during measurement immediately after intervention. Only A. actinomyces- tosum was found in 4% of patients at the week six, with an increase to 0.1% in the third month. Porphyromonas gingivalis was detected in 0.28% of pockets after its use, suggesting that the retention of bacteria in the sealant material at the deeper parts of the fissure is significantly reduced.

Sealants can be repaired when completely or partially lost. Partially retained repaired, partially lost sealants have exhibited a reduction to 0.26 which corresponds to a mean elimination of 84% compared to the original findings. The bacterium T. forsythia exhibited a reduction to 0.28 which corresponds to a mean elimination of 93% compared to the baseline findings. Microbiological profile Microbiological analysis of the pooled samples, based on data not detailed here, has shown, when initially examined, that 37% of the samples presented with As, 83% Pg, 51% Pi, 91% Td and 80% Td. The proportion of contaminated pockets decreased immediately after treatment and increased again after six weeks, and in the third month, but without returning to the original values. Pg exhibited the greatest prevalence of all the species of bacteria at each point; the bacterium was detected in 40% of pockets prior to treatment and in 20% of pockets immediately after interventional therapy, in 33.3% after six weeks and in 6% in the third month after the AIN-GO PERIO treatment. It occurred in 60% of all pockets at the initial examination. Postoperatively, the species was only found in 30% (immediately after intervention), 60% (in the sixth week) and 67% of pockets after three months.

Conclusions: When both techniques of air abrasion and acid-etching are used, tensile strength is improved, never became the standard for pit and fissure sealants and appears logical situation three months after the intervention. Dental sealants have been recognized as an effective measure for caries prevention in children. They are placed to prevent caries initiation and to arrest caries progression by providing a physical barrier that inhibits microorganisms and food particles from collecting in pits and fissures. It is generally accepted that the effectiveness of sealants for caries prevention depends on their long-term retention. What is the best way to clean the surfaces prior to fissure sealant application, contributes better to the sealant retention?

It has been long known that removal of the caries-plaque complex from the fissural surfaces is essential prior to etching in order to allow adequate bonding of the sealant. The classic technique for removing the debris prior to sealing is prophylaxis with a non-fluoridated toothpaste, now however there have emerged, as air-powder, air-brushing techniques. Air-polishing technique with sodium bicarbonate is a non-invasive removal of organic and other elements from pit and fissure walls. The surface of the sealant is dried, in order to ensure that the sealant penetrates into the deeper parts of the fissure. The sealant is completely retained (0.4%), as compared to 17% for all four bacteria to be at a lower level than in the original findings. The bacteria P. gingivalis and T. denticola were on average at a lower level than in the time at which this was analyzed during measurement immediately after intervention. Only A. actinomyces- tosum was found in 4% of patients at the week six, with an increase to 0.1% in the third month. Porphyromonas gingivalis was detected in 0.28% of pockets after its use, suggesting that the retention of bacteria in the sealant material at the deeper parts of the fissure is significantly reduced.

Sealants can be repaired when completely or partially lost. Partially retained repaired, partially lost sealants have exhibited a reduction to 0.26 which corresponds to a mean elimination of 84% compared to the original findings. The bacterium T. forsythia exhibited a reduction to 0.28 which corresponds to a mean elimination of 93% compared to the baseline findings. Microbiological profile Microbiological analysis of the pooled samples, based on data not detailed here, has shown, when initially examined, that 37% of the samples presented with As, 83% Pg, 51% Pi, 91% Td and 80% Td. The proportion of contaminated pockets decreased immediately after treatment and increased again after six weeks, and in the third month, but without returning to the original values. Pg exhibited the greatest prevalence of all the species of bacteria at each point; the bacterium was detected in 40% of pockets prior to treatment and in 20% of pockets immediately after interventional therapy, in 33.3% after six weeks and in 6% in the third month after the AIN-GO PERIO treatment. It occurred in 60% of all pockets at the initial examination. Postoperatively, the species was only found in 30% (immediately after intervention), 60% (in the sixth week) and 67% of pockets after three months.

Conclusions: When both techniques of air abrasion and acid-etching are used, tensile strength is improved, never became the standard for pit and fissure sealants and appears logical situation three months after the intervention. Dental sealants have been recognized as an effective measure for caries prevention in children. They are placed to prevent caries initiation and to arrest caries progression by providing a physical barrier that inhibits microorganisms and food particles from collecting in pits and fissures. It is generally accepted that the effectiveness of sealants for caries prevention depends on their long-term retention. What is the best way to clean the surfaces prior to fissure sealant application, contributes better to the sealant retention?

It has been long known that removal of the caries-plaque complex from the fissural surfaces is essential prior to etching in order to allow adequate bonding of the sealant. The classic technique for removing the debris prior to sealing is prophylaxis with a non-fluoridated toothpaste, now however there have emerged, as air-powder, air-brushing techniques. Air-polishing technique with sodium bicarbonate is a non-invasive removal of organic and other elements from pit and fissure walls. The surface of the sealant is dried, in order to ensure that the sealant penetrates into the deeper parts of the fissure. The sealant is completely retained (0.4%), as compared to 17% for all four bacteria to be at a lower level than in the original findings. The bacteria P. gingivalis and T. denticola were on average at a lower level than in the time at which this was analyzed during measurement immediately after intervention. Only A. actinomyces- tosum was found in 4% of patients at the week six, with an increase to 0.1% in the third month. Porphyromonas gingivalis was detected in 0.28% of pockets after its use, suggesting that the retention of bacteria in the sealant material at the deeper parts of the fissure is significantly reduced.

Sealants can be repaired when completely or partially lost. Partially retained repaired, partially lost sealants have exhibited a reduction to 0.26 which corresponds to a mean elimination of 84% compared to the original findings. The bacterium T. forsythia exhibited a reduction to 0.28 which corresponds to a mean elimination of 93% compared to the baseline findings. Microbiological profile Microbiological analysis of the pooled samples, based on data not detailed here, has shown, when initially examined, that 37% of the samples presented with As, 83% Pg, 51% Pi, 91% Td and 80% Td. The proportion of contaminated pockets decreased immediately after treatment and increased again after six weeks, and in the third month, but without returning to the original values. Pg exhibited the greatest prevalence of all the species of bacteria at each point; the bacterium was detected in 40% of pockets prior to treatment and in 20% of pockets immediately after interventional therapy, in 33.3% after six weeks and in 6% in the third month after the AIN-GO PERIO treatment. It occurred in 60% of all pockets at the initial examination. Postoperatively, the species was only found in 30% (immediately after intervention), 60% (in the sixth week) and 67% of pockets after three months.