Timing of Systemic Antibiotic Important

Generalized aggressive periodontitis (GAgP) exhibits severe destruction of supporting alveolar bone, often leading to edentulism early in life. The initial phase of treatment is reducing or eliminating the pathogenic microorganisms. Researchers suggest adding systemic antibiotics when treating GAgP.

Researchers at the Eastman Dental Institute in London, UK wanted to know if the timing of when a systemic antibiotic was given changed the outcome of treatment. In a two-phase study they first treated a group of 41 GAgP subjects with full-mouth SRP within two days, giving half the subjects placebo pills and the other half amoxicillin and metronidazole to be taken for seven days. Subjects were all given chlorhexidine mouth rinse to be used twice daily for two weeks. Clinical indices were monitored at baseline, two and six months.

At six months, all subjects again received full-mouth SRP. Those that had received the placebo before were now given the antibiotics.

The greatest healing took place in the first two months following treatment for both the test and placebo groups. At eight months, more healing had been realized in both groups, confirming other research that reported healing up to nine months after initial treatment. Those who received antibiotics at baseline showed greater overall healing than those who received antibiotics later at re-treatment. This might be due to increased vascularity in the beginning, delivering more antibiotic to the area.

Clinical Implications: If you are treating a patient with GAgP, consider using systemic antibiotics at the initial phase of treatment rather than waiting.

Removing subgingival bacterial biofilm and any deposits on the root surfaces is the primary goal of both surgical and nonsurgical therapy for moderate to severe periodontitis. The time frame for accomplishing the scaling and root planing (SRP) can be one quadrant per week or full-mouth (FM) instrumentation within two days. Comparisons show both approaches achieve similar clinical outcomes, so the choice is up to the patient and the clinician.

Researchers at Pontificia University in Bogota, Colombia compared quadrant SRP to FM instrumentation with and without systemic antibiotics, to see if the antibiotics would enhance healing. A total of 29 periodontal maintenance patients were evaluated at Saint Louis University and Southern Illinois University. Mandibular posterior teeth were evaluated at baseline, six and 12 months. Clinical indices included plaque, bleeding, probing, attachment levels, calculus and furcations. All patients had at least two interproximal sites with 3mm or more of clinical attachment loss. Digital radiographs were used to measure alveolar bone levels.

Nutritional supplements were taken by 23 of the subjects and nutritional analysis was used to determine total daily intake of vitamin D and calcium for both test and control groups.

Total daily calcium and vitamin D intakes varied significantly between the groups. Those with supplementation averaged 1,769mg of calcium and 1,049IU of vitamin D. Those not taking supplementation were estimated from diet analysis to be receiving an average of 642mg of calcium and 156IU of vitamin D each day.

Both groups showed significantly improved periodontal health over the one-year period. Those taking calcium and vitamin D supplementation showed a modest positive effect on periodontal health. It's difficult to separate out all the factors that influence periodontal health, including oral hygiene and subgingival instrumentation. Randomized clinical trials are needed to confirm a positive effect for supplementation.

**Clinical Implications:** Although calcium and vitamin D supplementation showed a slight benefit, at this time we cannot suggest these two nutrients will significantly enhance periodontal health.


Calcium and Vitamin D Supplementation

In an earlier report, short-term calcium and vitamin D supplementation seemed to enhance periodontal health. The same research group evaluated the periodontal maintenance patients after one year to determine if the positive benefits of nutritional supplementation persisted.

A total of 51 periodontal maintenance patients were evaluated at Saint Louis University and Southern Illinois University. Mandibular posterior teeth were evaluated at baseline, six and 12 months. Clinical indices included plaque, bleeding, probing, attachment levels, calculus and furcations. All patients had at least two interproximal sites with 3mm or more of clinical attachment loss. Digital radiographs were used to measure alveolar bone levels.

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Quadrant and Full-mouth SRP Equivalent

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Periodontal disease begins between the teeth, yet oral hygiene instructions begin with tooth brushing and eventually add dental flossing. Cleaning between the teeth with floss is more difficult than brushing, and consequently, the majority of people rarely use dental floss. Other effective, easy-to-use devices need to be recommended.

Researchers at the University of Amsterdam in the Netherlands compared three interdental devices in a group of 104 university students (no dental students). To participate in the study, students had to have bleeding scores of at least 50 percent, with at least five teeth per quadrant and no advanced periodontal disease. Subjects were randomly assigned to one of three groups: Johnson and Johnson waxed dental floss, Water Pik WaterFlosser with the standard jet tip and the Water Pik WaterFlosser with a new irrigator tip with three tufts of bristles around the opening.

Bleeding was evaluated at baseline, two weeks and four weeks. All three groups showed reduced bleeding scores at two weeks, with relative reductions of 13 percent in the flossing group, and 20 and 26 percent in the two irrigation groups. By week four, the flossing group had returned to baseline bleeding levels. The oral irrigation groups also showed some backsliding, but still maintained significant bleeding reductions of 15 and 17 percent. There was no significant difference between the two irrigation tips for reducing bleeding.

Clinical Implications: Based on these findings, the Water Pik WaterFlosser is better than waxed floss for reducing gingival bleeding.


Many studies have been published over the past two decades comparing power and manual toothbrushes. The evidence reported in these research studies shows power toothbrushes to be at least as effective as manual toothbrushes and in some cases better. Concerns have been raised that power toothbrushes might potentially cause trauma to both hard and soft tissues, raising questions of safety. Many studies do include an evaluation of power toothbrush safety, but few studies are focused specifically on safety.

No review articles covering the published literature on the safety of specific power toothbrushes were available. Therefore, a team of researchers from universities in Amsterdam, Germany, Missouri and Michigan evaluated published research comparing oscillating-rotating power toothbrushes to manual toothbrushes for safety.

They evaluated several hundred papers and found 35 studies that met their stated research and reporting criteria. In most studies, toothbrush safety was measured by gingival recession and/or abrasion. Only two of these studies looked primarily at safety outcomes and there was no significant difference in recession reported when comparing the oscillating-rotating brush to a manual brush. A descriptive analysis was reported in 24 of the studies which showed very few brushing related adverse events. These studies also showed no difference in recession between the power and manual brushes tested.

Based on these findings, the research until now shows that oscillating-rotating power toothbrushes do not pose a risk for gingival recession.

Clinical Implications: According to the research, oscillating-rotating power toothbrushes are as safe as manual toothbrushes.