Central Park Periodontics, P.C.

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Winter 2010/2011 • A Quarterly Update

Dear Colleague:

We wish to thank you for your trust and the wonderful patients referred to our office during the past year. All the best to you and your staff for a happy and healthy 2011.

Animated videos and procedurally specific slides are posted on our website to help familiarize patients with periodontal disease, dental implants, and many other dental treatments. We urge you to use this as a resource: http://centralparkperio.com/dentalvideos/

Central Park

Regards,

Alan, Navid, and Julia

Toothbrushing, Inflammation, and Risk of Cardiovascular Disease

de Oliveira C, Watt R, Hamer M.
BMJ 2010 May 27;340:c2451

The purpose of this study was to examine if self reported tooth brushing behavior is associated with cardiovascular disease and markers of inflammation (C reactive protein) and coagulation (fibrinogen). This was a national population based survey which drew a nationally representative sample of the general population (11,869 men and women, mean age 50) living in households in Scotland. Oral hygiene was assessed from self reported frequency of tooth brushing. Surveys were linked prospectively to clinical hospital records, and Cox proportional hazards models were used to estimate the risk of cardiovascular disease events or death according to oral hygiene. The association between oral hygiene and inflammatory markers and coagulation was examined in a subsample of participants (n=4830) by using appropriate statistical analysis.

Results showed that there were a total of 555 cardiovascular disease events over an average of 8.1 years of follow-up, of which 170 were fatal. In about 74% (411) of cardiovascular disease events the principal diagnosis was coronary heart disease. Participants who reported poor oral hygiene (never/rarely brushed their teeth) had an increased risk of a cardiovascular disease event in a fully adjusted model. They also had increased concentrations of both C reactive protein and fibrinogen. *The authors concluded from the results of this study that oral hygiene is associated with higher levels of risk of cardiovascular disease and low grade inflammation, though the causal nature of the association is yet to be determined.*

Efficacy of Amoxicillin and Metronidazole Combination for the Management of Generalized Aggressive Periodontitis

Yek EC, Cintan S, et al.
J Periodontol. 2010 Jul;81(7):964-74

The purpose of this study was to evaluate the effects of metronidazole-amoxicillin combination on clinical and microbiologic parameters in patients with generalized aggressive periodontitis. Twenty-eight patients were randomly included. The test group (n = 12) received amoxicillin-metronidazole combination and scaling and root planing; the control group (n = 16) received scaling and root planing alone. In addition to the clinical examinations, subgingival plaque samples were analyzed for total cultivable bacteria and the presence of Porphyromonas gingivalis, Tannerella forsythia (previously T. forsythensis), Treponema denticola, Prevotella intermedia, Prevotella nigrescens, Prevotella pallens, and Aggregatibacter actinomycetemcomitans (previously Actinobacillus actinomycetemcomitans) using polymerase chain reaction.

All clinical parameters improved significantly compared to baseline in both groups. There was a statistically significant reduction of pockets and clinical attachment gain in the combined group compared to the control group. Total counts of bacteria also decreased significantly at 3 and 6 months in both groups. T. denticola and T. forsythia were the most prevalent bacteria throughout the study. T. denticola showed a

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Amoxicillin ...*continued*

continuous decrease over 6 months in the test group, whereas no change was seen in the control group beyond 3 months. P. gingivalis decreased significantly at 3 months, whereas T. forsythia was the only pathogen decreased below detection limits by the combination therapy with a significant difference compared to the control group.

The results from this study suggest that combined amoxicillin and metronidazole use as an adjunct to scaling and root planing leads to better clinical healing compared to mechanical treatment alone. The polypharmaceutical approach used results in a significant and substantial decrease in T. forsythia and prevents its recolonization for 6 months, suggesting that T. forsythia may determine the long-term stability of periodontal treatment outcomes.

Human Bone Repair after Mandibular Symphysis Block Harvesting

Verdugo F, Simonian K, et al.
J Periodontol. 2010 May;81(5):702-9

There are limited data on the healing potential of osseous defects in the human mandible. Animal model studies have shown that defect fill is size dependent. Twenty patients who had autogenous block transplants harvested from the mandibular symphysis were included in the study. Computerized tomography (CT) scans were carried out at an average of 26.7 months after augmentation to assess bone healing. Subgroups were compared on the basis of bone volume harvested, healing time, incision design, symphysis midline preservation, age, and gender. Percentage bone fill was calculated by comparing the preoperative and postoperative CT scans using a computer software program.

CT scan analysis showed a significant percentage (74.5%) of bone fill at an average of 26.7 months (range, 4 to 72 months). Healing time and bone volume harvested were significant variables influencing the osteogenic potential of mandibular donor-site defects. Defects <0.5 cc with a healing period of 34.2 months showed 81% bone fill, whereas those >0.5 cc and 7.2 months of healing had a repair of 63.8%. A positive trend in bone fill was observed for subgroups receiving sulcular incisions (80%) and midline preservation (77.5%).

The authors concluded from the results of this study that the osteogenic potential of human osseous repair in the mandibular symphysis is size and time dependent. The process of osteogenesis of repair in humans seems to be multifactorial. Such factors as preservation of the periosteum and symphysis cortical midline may positively influence defect fill allowing for reharvesting.

Dimensional Changes of Peri-implant Soft Tissue Over 2 Years with Single-implant Crowns in the Anterior Maxilla

Gallucci GO, Grütter L, et al.
J Clin Periodontol. 2011 Jan 11

The purpose of this study was to compare the peri-implant soft tissue dimensions after insertion of single-implant crowns in the anterior maxilla. Materials and Twenty patients were accepted according to well-defined inclusion criteria and randomized to porcelain-fused-to-metal (PFM) or all-ceramic groups. Follow-up was at: Baseline (B), Crown Insertion (CI), 1-year (1Y), and 2-year (2Y). The following parameters were statistically analysed: distance implant shoulder to marginal peri-implant mucosa (DIM), papilla height (PH), width of keratinized mucosa (KM), crestal bone level (CBL), full mouth plaque score (FMPS), full mouth bleeding score (FMBS), and probing pocket depth.

Results found that between groups measurements for DIM, PH, KM, CBL, FMPS, and FMBS showed no statistically significant differences except the distal CBLs to adjacent tooth. DIM (mid-facial) decreased from B to CI remaining stable at 1Y and 2Y (p-value 0.0014). DIM mesial and distal aspects significantly increased from B to CI showing signs of stability at the 2Y. PH between B and CI increased at the mesial site and at the distal site, thereafter, peri-implant soft tissues were stable at the 2Y. *The authors concluded from the results of this study that the insertion of an implant crown affects the peri-implant mucosa morphology by an apical displacement at the mid-facial aspect and coronal at mesial and distal sites.*

Clinical Dentistry Advisor
Richard L. Wynn, PhD

Special Alert:
Sudden aspirin withdrawal may elevate the risk of myocardial infarction.

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