2765 Periodontitis Progression in Monkeys over Three Years

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Animal models for investigating the co-morbidity of periodontal infection and cardiovascular disease are currently limited. Objective: To examine the incidence of periodontitis progression over three years in nonhuman primates fed a soft atherogenic diet. Methods: 75 Macaca fascicularis monkeys (45 females and 30 males) served as animal subjects in this three-year protocol during which they consumed a soft, high lipid diet. At baseline, 6, 12 and 36 months, monkeys received comprehensive periodontal exams that included measurement of pocket depth (PD), percent bleeding on probing (%BOP) and clinical attachment level (CAL). Results: In general, mean probing parameters increased with each exam interval. Baseline mean (SD) PD, % BOP and CAL were 2.29 (0.27), 67.9 (13.6) and 2.29 (0.25) respectively. At 36 months, PD, % BOP and CAL were 2.66 (0.25), 78.4 (17.1) and 2.68 (0.26). Although a higher incidence of periodontitis progression (CAL loss ≥ 2mm at 1 site) was noted in males versus females for the interval, baseline to 6 months (90.0% versus 70.0%, p<0.05), comparable rates were noted for the two genders for all other intervals. The three-year incidence rates for monkeys exhibiting CAL loss ≥ 2mm at ≥ 1, 2, 3 and 4 sites respectively were 95.7, 92.8, 84.2 and 82.8% respectively. Conclusions: These data indicate that monkeys ingesting a soft, high lipid diet over three years exhibit progressive periodontitis at a high incidence rate in the absence of any periodontal intervention. (Supported by P01 HL 45666 and 1 P60-DE 13079)