



CFAO GRADUATE STUDENT POSTERBOARD ABSTRACTS

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QUANTIFICATION OF MUTANS STREPTOCOCCI AND PERSISTENT CELLS IN ORTHODONTIC PATIENTS: PILOT INVESTIGATION

KO-ADAMS, CHELSEA¹, CIOFFI, IACOPO¹, DUFOUR, DELPHINE², NAINAR, HASHIM³, LÉVESQUE, CÉLINE² &
GONG, SIEW-GING¹

Disciplines of ¹Orthodontics, ²Oral Microbiology, ³Pediatric Dentistry
Faculty of Dentistry, University of Toronto, Toronto, ON;

Background: Orthodontic patients have higher risk of caries. Within plaque biofilm, mutans streptococci (MS), the bacteria of caries, are present together with persistent cells (PC), a subset that confers disease chronicity and relapse potential. PC levels are elevated by environmental stresses, e.g., orthodontic treatment.

Purpose: To quantify, for the first time, MS and PC in orthodontic patients.

Research Design: Plaque samples were collected in 17 patients at 0, 1, 3 and 6-mo after fixed appliance bonding. %MS and %PC were determined by microbiological assays.

Results: Overall, treatment did not affect %MS and %PC ($P>0.05$). However, %PC response to treatment appeared to be dependent on baseline %MS values. Patients with low %MS at baseline had an increase in %PC during treatment, while %PC decreased in those with high baseline %MS.

Conclusion: Orthodontic treatment may provide a way for MS to persist in specific orthodontic patient subtypes and contribute to higher caries incidence.