

748 ORAL SYNERGISTETES CLUSTER WITH THE RED COMPLEX IN CHRONIC PERIODONTITIS

Friday, June 27, 2014: 8 a.m. - 9:30 a.m.

Location: Meeting Room 2.41 (CTICC Convention Center)

Presentation Type: Oral Session

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Objective: the objective of this study was to explore associations among classical and new periopathogens in subgingival biofilm and to assess their relative importance to chronic periodontitis.

Method: DNA was extracted from pooled subgingival biofilm samples obtained from 40 chronic periodontitis patients and 40 healthy controls. Taqman q-PCR assays were used to determine the absolute and relative counts of *Porphyromonas gingivalis*, *Tannerella forsythia*, *Treponema denticola*, *Parvimonas micra*, *Fillifactor alocis*, oral synergistetes, and oral TM7. Microbial associations were assessed using cluster analysis. Significance of differences in microbial parameters between cases and controls were sought using Mann-Whitney test and ordinal regression.

Result: the detection rate was 100% except for *P. gingivalis*, *T. denticola*, and TM7 that were detected in 71.2%, 91.2% and 95% of the samples, respectively. The median log and relative counts were lowest for TM7 (4.4 and 0.0016%, respectively) and highest for oral synergistetes (7.2 and 1.4%, respectively). In cluster analysis, oral synergistetes joined the red complex at a shorter distance than *P. gingivalis* and *T. denticola*, linking with *T. forsythia* at a 100% rescaled similarity. All species/phylogenies except TM7 were significantly associated with periodontitis ($P \leq 0.005$). In regression analysis, oral synergistetes showed the strongest association with periodontitis, while in ROC curve analysis their presence at log counts ≥ 7.2 was the best marker of periodontitis (82.5% sensitivity and specificity).

Conclusion: oral synergistetes are shown here to be members of the red complex in strong association with chronic periodontitis.

This abstract is based on research that was funded entirely or partially by an outside source:
University of Malaya

Keywords:

Bacterial, Microbiology, Periodontal disease and Periodontal organisms

Presenting author's disclosure statement:

I have a significant financial interest/arrangement or affiliation with an organization/institution whose products or services are being discussed in this session. I understand that I must disclose this information to the participants who attend my presentation. No

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Signed on 12/18/2013 by **N. AL-HEBSHI**

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