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<th><strong>Title</strong></th>
<th>Profile changes of putative periodontal pathogens after non-surgical periodontal treatment</th>
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<td>Mak, RYL; Zee, KY; Leung, WK; Corbet, EF</td>
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Subjects: M.E. S.T.

MATERIALS AND METHODS:

OBJECTIVES:

- To describe the profile of the 8 putative periodontal pathogens before and at 3 months after non-surgical periodontal therapy.

- To describe the changes of the clinical parameters before and at 3 months after non-surgical periodontal therapy.

- To describe the changes of the profile of the pathogens after non-surgical periodontal therapy.

- To determine if the changes of the profile of the pathogens can be associated with changes of the clinical parameters.

METHODS and MATERIALS:

- Subjects: 4 male and 10 female patients (mean age 43.7) with moderate to severe periodontitis.

- Full mouth clinical data:
  - Supragingival plaque (PS%)
  - Probing pocket depth (PPD)
  - Probing attachment loss (PAL)
  - Bleeding on probing (BOP%)

- Microbial samples:
  - Microbial samples were taken from the deepest sites of two separate teeth of each quadrant using sterile cotton pellets.
  - Microbial samples were processed with a 16S rRNA-based polymerase chain reaction (PCR).
  - Microbial identifications were performed according to a protocol modified from Ashimoto et al. (1996).

- Microbial association:
  - Significant association (p<0.001 Fisher’s Exact Test) was found in 3 pairs of the pathogens: T.d./P.g., T.d./C.r. and P.g./C.r., which yield odds ratios of 30.7, 43.7 and 38.5 respectively. The pattern of association could be illustrated in Figure 3 showing the possible co-occurrence of these 3 species.

RESULTS:

Clinical parameters:

- At subject level, Figure 1 shows the changes in detection frequency of the 8 putative pathogens at baseline and 1-month after therapy.

- At site level, Figure 2 shows the changes in detection frequency of the 8 putative pathogens before and at 3 months after therapy.

- Microbial parameters:
  - The persistence of the complex at 1-month is associated with deeper residual PPD (4.1 mm vs. 2.3 mm), less PPD reduction (3.1 mm vs. 4.2 mm) and less PAL gain (1.6 mm vs. 2.3 mm).

- Microbial and Clinical Outcome:
  - The presence of the microbial complex (C.r./P.g./T.d.) was significantly associated with deeper sample site PPD at baseline, 6.8 mm vs. 5.4 mm when not all three were present.

CONCLUSIONS:

- The 3-month response to non-surgical therapy in this group of moderate to severe chronic periodontitis patients is comparable to other similar studies.

- 7 out of the 8 putative pathogens are frequently detected in the subgingival plaque of this group of patients.

- The persistence of the complex at a site is associated with deeper baseline probing pocket depth.

- The association of the complex with deeper residual PPD, less PPD reduction and less gain in PAL at 3-month.

References:


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