

Title:	Quantitative analysis of classical and new putative periodontal pathogens in subgingival biofilm: a case-control study
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Abstract:	<p>Background and Objectives: A number of species/phylotypes have been newly implicated as putative periopathogens. The objective of this study was to explore associations among classical and new pathogens in subgingival biofilm and to assess their relative importance to chronic periodontitis.</p> <p>Material and Methods:Pooled subgingival biofilm samples were obtained from 40 patients with chronic periodontitis 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, Filifactor alocis, oral Synergistetes and oral TM7s. Microbial associations were assessed using cluster analysis. Different statistical models were used to explore associations between microbial parameters and periodontitis. Results: The median log and relative counts were lowest for TM7s (4.4 and 0.0016%, respectively) and highest for oral Synergistetes (7.2</p>

	<p>and 1.4%, respectively). Oral Synergistetes clustered strongly with the red complex, particularly T.forsythia (100% rescaled similarity). All species/phylotypes except TM7s were significantly associated with periodontitis (Mann-Whitney test; p0.005). However, P.gingivalis and F.alocis lost association after adjusting for confounders (ordinal regression). In receiving operator characteristic curve analysis, the log counts of oral Synergistetes were the best markers of periodontitis (82.5% sensitivity and specificity), followed by those of T.forsythia, P.micra and T.denticola. In prediction analysis, however, P.micra was the only microbial predictor of periodontal parameters. Conclusions:Oral Synergistetes are presented here as new members of the red complex, with relative importance to periodontitis exceeding that of the classical members. P.micra is shown as an important periodontal pathogen warranting more attention.</p>
Keyword:	microbiology; parvimonas micra; pathogens; periodontitis; porphyromonas gingivalis; q-pcr; red complex; synergistetes; tm7; polymerase-chain-reaction; real-time pcr; porphyromonas-gingivalis; filifactor-alocis; treponema-denticola; epithelial-cells; oral-cavity; gen. nov.; disease; plaque
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