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Proof of Concept Study Explores Probiotic Approach to Treating Gum Disease

Alexandria, Va. – A new study published in the November issue of the *Journal of Dental Research* by an international research team (W. Teughels, M.G. Newman, W. Coucke, A.D. Haffajee, H.C. van der Mei, S. Kinder Haake, E. Schepers, J.-J. Cassiman, J. Van Eldere, D. van Steenberghe, M. Quirynen) entitled “Guiding Periodontal Pocket Recolonization: a Proof of Concept” shows that application of beneficial bacteria as an adjunct to traditional therapy may become a valid, non-antibiotic treatment approach for periodontitis (gum disease). In this small-scale animal study, researchers tested a concept called Guided Pocket Recolonization, or GPR, by applying a mixture of beneficial bacteria subgingivally after scaling and root planing (removal of bacterial plaque from the crown and root of the tooth surface). With the emergence of antibiotic resistance and the lack of non-antibiotic treatment options, this GPR approach may provide a valuable addition or alternative to treatment options for periodontitis in the future. The article can be viewed at:

<http://jdr.iadrjournals.org/cgi/content/abstract/86/11/1078?etoc>

This is the first study to test the concept of bacterial replacement therapy in the treatment of plaque-related periodontal disease, and analysis of the data showed, in a beagle dog model, that when beneficial bacteria were applied in periodontal pockets adjunctively after root planing, repopulation by bacteria associated with gum disease was delayed and reduced at a clinically significant level, as was the degree of inflammation.

“While this NIDCR-funded investigation provides a proof of concept that the application of beneficial bacteria may supplement traditional methods of periodontal therapy, additional studies are needed to determine how this concept can be applied in the clinical practice of periodontology,” said Wim Teughels, corresponding author and professor in the Department of Periodontology at Catholic University Leuven. “The principal investigator (Marc Quirynen) of the Catholic University Leuven (Belgium) and the international team behind this project [UCLA (Los Angeles), Forsyth Institute (Boston), University Medical Center Groningen (The Netherlands)] are continuing investigations with a focus on testing beneficial bacteria that are both helpful and non-pathogenic to humans. We hope that the current study will inspire other investigators to consider periodontal disease therapy from this novel perspective.”

The *Journal of Dental Research* (JDR) is the official publication of the International & American Associations for Dental Research (IADR/AADR), and continues to hold the top SIF ranking of all dental journals worldwide. The IADR is a non-profit organization with more than 11,000 individual members worldwide, dedicated to: (1) advancing research and increasing knowledge to improve oral health, (2) supporting the oral health research community, and (3) facilitating the communication and application of research findings for the improvement of oral health worldwide. The AADR is the largest Division of the IADR, with more than 4,000 members in the United States.

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