IADR/AADR publish study on obesity link to periodontitis

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In a study titled "MicroRNA Modulation in Obesity and Periodontitis," lead author Romina Perri, University of North Carolina School of Dentistry, Oral Health Institute, conducted a pilot investigation to determine whether obesity or periodontal disease modified microRNA expression and whether there was any potential interaction between obesity and periodontitis that could involve microRNA modulation. This study is published in the *Journal of Dental Research*, the official publication of the International and American Associations for Dental Research (IADR/AADR).

In this investigation, total RNA was extracted from gingival biopsy samples collected from 20 patients in 4 groups (5 non-obese [BMI 30kg/m2] participants with a healthy periodontium and 5 obese participants with periodontitis).

Two microRNA species (miR-18a,miR-30e) were up-regulated among obese individuals with a healthy periodontium. Two microRNA species (miR-30e,miR-106b) were up-regulated in non-obese subjects with periodontal disease and in the presence of periodontal disease and obesity, nine microRNAs were significantly up-regulated (miR-15a,miR-18a,miR-22,miR-30d,miR-30e,miR-103,miR-106b, miR-130a,miR-142-3p,miR-185 and miR-210). The authors conclude that the data are consistent with the concept that miRNA that are induced by chronic nutritional stress leading to obesity may also non-parsimoniously modulate inflammatory pathways within periodontal tissues and affect disease expression.

"The expression of specific microRNA species in obesity provides new insight into possible mechanisms of how risk factors might modify periodontal inflammation and may represent novel therapeutic targets," said JDR Editor-in-Chief William Giannobile.

A perspective article titled "Obesity, Inflammation and Oral Infections: are microRNAs the Missing Link?" was co-authored by Francesco D'Aiuto and Jean Suvan, University College London Eastman Dental Institute. In it, the authors suggest that these data could represent a mechanistic breakthrough in our understanding of the modulatory effects of obesity on periodontal tissue destruction, but caution reproducibility of these findings is needed in larger and well-characterized cohorts.

More information: jdr.sagepub.com/content/early/recent

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