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Dental researchers at the New York University (NYU) College of Dentistry have found the first long-term evidence that periodontal disease may increase the risk of cognitive dysfunction associated with Alzheimer ś disease in healthy individuals, as well as in those who already are cognitively impaired. The NYU study offers fresh evidence that gingival inflammation may contribute to brain inflammation, neurodegeneration, and Alzheimer ś disease.

The research team, led by Dr. Angela Kamer, assistant professor of Periodontology and Implant Dentistry, examined 20 years of data that support the hypothesis of a possible causal link between periodontal disease and Alzheimer ś disease. "The research suggests that cognitively normal subjects with periodontal inflammation are at an increased risk of lower cognitive function compared to cognitively normal subjects with little or no periodontal inflammation," Dr. Kamer said.

This study builds upon a 2008 study, also by Dr. Kamer, that found that subjects with Alzheimer ś disease had a significantly higher level of antibodies and inflammatory molecules associated with periodontal disease in their plasma compared to healthy people. Dr. Kamer ś latest findings are based on an analysis of data on periodontal inflammation and cognitive function in 152 subjects in the Glostrop Aging Study, which has been gathering medical, psychological, oral health, and social data on Danish men and women. Dr. Kamer examined data spanning a 20-year period ending in 1984, when the subjects were all 70 years of age. Dr. Kamer ś team compared cognitive function at ages 50 and 70 years, using the Digit Symbol Test (DST) a part of the standard measurement of adult IQ. The DST assesses how quickly subjects can link a series of digits to a corresponding list of digit-symbol pairs.

Dr. Kamer ś team found that periodontal inflammation at age 70 years was strongly associated with lower DST scores at age 70 years. Subjects with periodontal inflammation were 9 times more likely to test in the lower range of the DST compared to subjects with little or no periodontal inflammation. This strong association held true even in those subjects who had other risk factors linked to lower DST scores, including obesity, cigarette smoking, and tooth loss unrelated to gum inflammation. The strong association also held truein those subjects who already had a low DST score at age 50 years.

Dr. Kamer plans to conduct a follow-up study involving a larger, more ethnically diverse group of subjects to further examine the connection between periodontal disease and low cognition.
(Source: NYU College of Dentistry news release, August 2, 2010)