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Title: The Prevalence of Inflammatory Periodontitis is Negatively Associated with Serum Antioxidant Concentrations.

Author: Chapple et al.

Overview: This study examines the relationship between antioxidant concentrations in the bloodstream and periodontal disease. NHANES III is the third national health and nutrition examination survey. About 34,000 patients of all ages were evaluated for many parameters. The objective was to obtain information on the health and nutritional status of the population of the U.S. The data is used for many epidemiological studies.

Summary of research:

- Analysis of 11,480 NHANES III adult patients
- Association between antioxidant concentrations in the bloodstream and the risk for periodontitis development evaluated
- Serum concentrations of vitamin C and total antioxidant concentration (TAOC) evaluated

Results and conclusions:

- Elevated serum antioxidant levels associated with reduced risk of periodontal disease
- Strongest association in most severe cases of periodontitis
- Increased serum antioxidant concentrations are associated with a reduced relative risk of periodontitis

Key take-aways:

A large number of studies have demonstrated the relationship between nutrition and health. A growing body of research indicates the protective effect of antioxidants such as vitamins A, C and E, carotenes and bilirubin among others. An inverse relationship between antioxidant (AO) levels and gum disease exists; such that higher levels of AO in the bloodstream are associated with lower risk for severe periodontitis development.

Implementation Strategies:

We have known for a long time that good overall health is associated with good nutrition, exercise and adequate rest. More specifically, we now know that a relationship exists between low levels of AO and poor periodontal health. This data is extremely important when considering risk factors for the progression of periodontal disease (PD) as well as the medical systemic implications of PD. Poor nutrition must now be added to the list of risk factors we consider during the diagnosis and treatment planning of PD. When a patient under our care has even one risk factor for the progression of PD we should be

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including the recommendation of nutritional supplements targeted to increase AO levels. Most patients cannot achieve the antioxidant levels required to combat free radical damage through diet alone and therefore supplementation should be recommended. (Current FDA guidelines suggest 8-12 servings of fruits and veggies per day to meet our antioxidant requirements).

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