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Title: Cardioprotective Effect of Periodontal Therapy in Metabolic Syndrome: A Pilot Study in Indian Subjects.

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Overview:

The aim of this study was to measure changes in systemic inflammatory markers following periodontal therapy in individuals with metabolic syndrome and healthy controls. A diagnosis of metabolic syndrome means having at least three risk factors or disorders at the same time. This group of risk factors occur together and increase the risk for coronary artery disease, stroke and type 2 diabetes. These risk factors include; high triglycerides, low HDL cholesterol, high blood sugar, high blood pressure and an above-average waistline.

Summary of research:

- 31 subjects with chronic generalized periodontitis enrolled in study, 16 with metabolic syndrome, 15 systemically healthy control individuals
- Non-surgical periodontal therapy provided for all 31 patients
- C-Reactive Protein, total leukocyte count, and measures of lipid metabolism measured at baseline and 2 months after perio therapy
- Baseline data also measured from 15 periodontally and systemically healthy individuals.

Results and conclusions:

- Baseline perio parameters and CRP levels significantly higher in metabolic syndrome group than systemically healthy group
- Following perio therapy, metabolic syndrome group had significant reductions in CRP, total leukocyte counts, triglycerides, along with a significant increase in HDL.
- In systemically healthy group no significant changes in inflammatory markers noted. LDL and mean cholesterol levels did not change in either group
- Periodontal therapy produced significant changes in markers of inflammation and may benefit individuals with both metabolic syndrome and periodontal disease.

Key take-aways:

Obesity, metabolic syndrome and atherosclerosis are linked with increased inflammatory activity. *Following perio therapy, there were significant changes in inflammatory markers, noted in the perio patients with metabolic syndrome, compared to the insignificant changes noted in the perio patients who were systemically healthy.* This interventional study demonstrated the potential benefit of perio treatment for individuals

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with metabolic syndrome and perio disease, potentially reducing the risks for coronary artery disease, stroke and type 2 diabetes. More studies will certainly be needed to affirm these results.

Implementation Strategies:

According to the National Institute of Health (NIH), metabolic syndrome, sometimes referred to as syndrome x, affects about 47 million adults in the United States (almost 25 percent). The number of people diagnosed with this condition is increasing and intimately linked to the rise in obesity rates among adults as well as our youth.

Interestingly enough few doctors actually give the diagnosis of metabolic syndrome, which explains why patients do not volunteer this condition as a medical concern. **The time has come in Dentistry to add metabolic syndrome to our dental / medical health questionnaires!**

Since it is possible to prevent or delay metabolic syndrome, as health care providers, we have a clinical and ethical responsibility to our patients to openly discuss this condition and when applicable assist them with treatment aimed toward reversal or prevention. As the results of this study indicate, treating periodontal disease in those individuals we suspect of having metabolic syndrome or those who have been diagnosed may help reduce their risk of coronary artery disease, stroke and type 2 diabetes.

Considering that approximately ¼ of the patients we see on a daily basis may have metabolic syndrome we have plenty of opportunity for intervention. Identify the patients who need your counsel by observing those with high blood pressure (>120/80) *and/or* diabetes. (About 85% of type 2 diabetics have metabolic syndrome) In addition, a waist size of >40 inches for men and >35 inches for women predispose individuals to metabolic syndrome as indicated by the NIH.

Successfully controlling metabolic syndrome takes long-term effort and teamwork with health care providers working together to assist patients in making good treatment decisions as well as proactive lifestyle changes. Many of our patients see us considerably more often than they do their physician putting us in the perfect position to intervene.

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