

## **ORAL INFLAMMATION CAN BE MARKER FOR SERIOUS CHRONIC CONDITONS**

Inflammation that occurs in the oral cavity is often a marker for chronic conditions such as diabetes and cardiovascular disease, and dental care that addresses this inflammation will minimize the medical burden of these conditions.

“We need to tell patients that they may lose more than a tooth by not treating oral disease,” said Dr. Maria Emanuel Ryan, a professor in the department of oral biology and pathology and director of clinical research at the school of dental medicine at SUNY Stony Brook in Stony Brook, N.Y. “It may increase the risk of other conditions. When inflammation occurs in the body, it needs to be addressed. When you look at the oral cavity and see that there is a burden of inflammation, it increases the risk for diabetes and a number of systemic diseases”

Patients need education, so they do not equate the neglect of oral health with solely a lack of concern about the aesthetics of teeth, said Dr. Ryan.

Research is demonstrating that there are shared risk factors between conditions like cardiovascular disease and periodontal disease, such as obesity and smoking. Patients with diabetes are at greater risk for oral candidiasis, periodontal disease, and caries said Dr. Ryan.

“We need to ensure that physicians are informed as well, so that they are communicating with their patients about the importance of dental health,” said Dr. Ryan, in an interview with Dental Chronicle.

“I do not see why a physician who is treating a patient who has diabetes or cardiovascular disease would not ask the patient if they have seen a dentist in the past year,” she said. “If the patient has not seen a dentist, then a referral to a dentist is in order. That is the minimum we can ask. Healthcare providers need to ask these questions of patients in high-risk groups.”

## **Oral care benefits sugar control**

She noted a substantial body of evidence suggests that the severity of periodontal disease is linked with elevated levels of insulin resistance, regarded as a precursor of type II diabetes, as well as elevated levels of A1C, indicating poorer levels of glycemic control of diabetes. In an analysis of data from the National Health and Nutrition Examination Survey, 1988-1994, researchers found that individuals with periodontal disease had a two-fold risk of insulin resistance compared to individuals who did not have periodontal disease.

Research that Dr. Ryan presented at the annual meeting of the American Diabetes Association in San Francisco in 2008 highlighted that oral care benefits blood sugar control. Just as evidence has suggested that periodontal disease can exacerbate diabetes, intensive treatment of periodontal disease can improve blood sugar control.

In a study of 46 subjects with type II diabetes, Dr. Ryan and colleagues found a statistically significant decrease of .67 percent in A1C levels when measuring these levels 15 months after routine periodontal treatment. Investigators also examined the presence of pro-inflammatory cytokines, such as IL-1 beta and found 50 percent of patients who were insulin resistant had an IL-1 polymorphism, as well as more severe periodontal disease, while the presence of the polymorphism was 20 per cent in the general population.

More intensive periodontal treatment differs from conventional periodontal therapy: It involves scaling, rootplaning, and the administration of low doses of the antibiotic doxycycline (20 mg), known by the brand name Periostat. More intensive therapy can even further reduce A1C levels, said Dr. Ryan.

There are data to indicate that high sensitivity C-reactive protein (hsCRP) is at increased levels in patients with periodontal disease. “If you treat the periodontal disease, there is evidence to suggest that if you decrease the level of hsCRP, you are also decreasing the risk of experiencing a myocardial infarction or stroke,” said Dr. Ryan.

## **Oral Care Cost-Effective**

Studies have found an association between poor oral health in pregnant women and adverse outcomes in pregnancy such as pre-term births. Dentists have sometimes avoided treating women during pregnancy, but Dr. Ryan emphasized that pregnant women should be obtaining dental care throughout their pregnancy. “It’s certainly not a bad thing to be providing dental care to pregnant women,” she said.

When the global medical costs of caring for patients with diabetes and cardiovascular disease are weighed against dental costs for these patients, it is a prudent and cost-effective step to provide dental care to high-risk patients in the U.S., according to Dr. Ryan

Health professionals in some specific areas of practice, such as psychiatry, need to be alerted to the side effects of prescribing certain medications, which might put patients at risk for periodontal disease.

“Many psychiatric medications produce dry mouth, which increases your risk for caries and periodontal disease,” said Dr. Ryan. “This should all be taken into consideration when managing the patient. The patient can either be on another medication that will not cause dry mouth, or we need to ensure that they are getting dental care to reduce levels of plaque in their mouth or using an antiseptic rinse.”