

Preliminary US findings show new diabetes-gum disease link

By Judy Siegel

JERUSALEM (April 22) - Preliminary findings in the US have shown that the same immune system mechanism involved in type II diabetes is present also in chronic gum infection, and that periodontal disease - which individuals can suffer from for decades - could be a risk factor for triggering adult-onset (type II) diabetes.

It is known that periodontal bacterial infection increase the likelihood of atherosclerosis (clogged coronary arteries) and of premature birth in pregnant women; it may even be a factor in osteoporosis. It has also been noted in recent years that diabetics are more likely than non-diabetics to suffer from chronic gum disease, and that treating it (by periodic cleaning and scaling) can improve patients' blood sugar balance, thus reducing the risk of debilitating complications of diabetes such as blindness, neuropathy, and gangrenous feet.

Dr. Anthony Iacopino, of the division of prosthodontics at Marquette University's School of Dentistry in Milwaukee, Wisconsin, has evidence that chronic periodontal disease might actually contribute to the onset of type II diabetes. Speaking at yesterday's meeting of the American Academy of Periodontology (AAP) at the US National Institutes of Health in Bethesda, Maryland, Iacopino noted that bacteria under the gums enter the bloodstream and activate immune cells, which produce inflammatory biological signals called cytokines. These, said Iacopino, have a destructive effect throughout the body. In the pancreas, the cells responsible for insulin production can be damaged or destroyed by the chronic high levels of cytokines, with the potential of inducing type II diabetes - even in otherwise healthy individuals with no other risk factors for diabetes. High levels of blood cholesterol, he maintained, not impaired glucose tolerance, seems to be a significant risk factor for periodontal disease in diabetics.

Low-fat diets, lipid-lowering drugs, and exercise and other therapy for reducing cholesterol levels are vitally important for diabetics who want to improve their quality of life as well as their oral health, Iacopino said. "The next step to determine for sure whether or not periodontal disease can [actually] cause diabetes is to perform clinical studies and intervention trials to answer the question: "When periodontal disease is treated, does the risk for [developing] diabetes decrease?"

AAP resident Dr. Michael McGuire concluded that "until we have results from intervention studies to better understand the role periodontal disease may play in diabetes, as well as heart disease, pre-term births and respiratory disease, the best advice is for people to take excellent care of their oral health."

Dr. Dov Sydney, a dentist who runs the country's only dental clinic (at Meir Hospital in Kfar Sava) aimed at reducing cardiovascular and other complications in patients with periodontal disease, said he had planned to attend the AAP conference but was unable to go. However, he said that Iacopino's findings, while preliminary, were worth further study.

"These bacteria, that adhere to the roots of the teeth and swell the gums, remain there for 30 years or more. They enter the bloodstream and are bound to affect the rest of the body, not just the mouth."

Prof. Itamar Raz, president of the Israel Diabetes Association and head of the diabetes clinic at Hadassah-University Hospital in Jerusalem's Ein Kerem, commented, "We know that periodontal problems can worsen diabetics condition and that treating chronic gum infection can improve it. But we have seen no clinical proof that diabetes may be triggered by these infections."