Valenzuela, Jara; J. Periodontology, 2009; 80(10): 1590-1598). Periodontal disease is more prevalent and more severe in the diabetic patient. Diabetics also have more progressive types of periodontitis. Interestingly enough, the sulcular microflora is virtually identical in the periodontal patient with and without diabetes. (Demmer, Jacobs, Desvarieux; Diabetic Care 2008; 31(7): 1373-1379). An increased severity of periodontitis is linked to glucose intolerance. Periodontal disease is a known risk factor for poor glycemic control. It is now believed that periodontal disease can be a clinically relevant predictor of Type II DM.
So, considering what we know of the interrelationship of these two disease processes, why do we see more periodontal problems and an increased incidence of periodontal disease in diabetics? What is the relationship between metabolic control and periodontitis?

It is now believed that DM promotes periodontitis through an exaggerated inflammatory response to the periodontal micorflora. In addition, patients with diabetes have a reduced ability to fight infections, including periodontitis. The same degenerative vascular changes seen throughout the tissues and organs of the diabetic patient also occur in the gingival tissues. Inflammatory mediators produced locally in the periodontal pockets are thought to be liberated into the systemic circulation. These proinflammatory factors, and the elevated glucose levels, result in many changes including the nonenzymatic glycation and oxidation of circulating proteins rendering them ineffective. In addition, there is an alteration of collagen metabolism and resorption in the gingival tissues and likely elsewhere throughout the body. This results in a disruption of normal gingival tissue turnover and replenishment. Equally important is that the inflammatory response in the periodontal tissues impacts diabetes. Periodontal disease can also lead to poorer metabolic (glycemic) control. One of the likely mechanisms of action is that the inflammatory mediators of periodontitis cause systemic changes, which further complicate and interfere with the metabolic control of the diabetic. An increasing severity of periodontitis has now been linked to the development of glucose intolerance.

There are a number of factors to consider in the assessment of the periodontal status of a diabetic patient. The clinician must be cognizant of the degree of metabolic control, the duration of diabetes and the presence of other long term complications of diabetes. Additional risk factors include smoking, alcohol abuse, stress and hormone changes. The longer a patient has had diabetes and the poorer their metabolic control, the greater the likelihood of significant periodontal problems and tooth loss. If there is any expectation of the control of periodontal disease, patients must be monitored and treated carefully and aggressively. The treatment protocol should include the removal of plaque and calculus deposits, especially subgingivally. Open and closed flap debridement, scaling and root planing, flap and osseous surgery and routine maintenance are also treatment modalities which should be considered. Adjunctive antibiotic treatment should be reserved for acute periodontal problems such as an abscess. Antibiotic therapy, delivered locally or systemically, is not a good option in the long term control of chronic periodontitis.

Health care providers outside of the dental community are frequently unaware of the clinical signs and symptoms of periodontitis. Physicians should be made aware of this correlation and also understand that their diabetic patients should seek the care of a appropriately trained dentist. Even patients routinely seen in the dental office are poorly informed about the inter relationship between periodontitis and diabetes. There is significant evidence which supports the correlation between improved metabolic control of diabetics subsequent to the treatment and stabilization of periodontitis. It is imperative that the dental professional be acutely aware of the interrelationship between diabetes and periodontal disease and aid in the appropriate management of these patients.

Dr. Kory Zussman is a 1988 graduate of the USC School of Dentistry. He completed a General Practice Residency at the West Los Angeles Veterans Administration Medical Center and his residency in Periodontics at the Veterans Administration Medical Center in conjunction with Marquette University in Milwaukee, Wisconsin. Dr. Zussman has maintained a private practice in Encino since 1991.

Dr. Zussman served as President of the San Fernando Valley Dental Society in 2003. He also acted as Co-Chairman of the Gold Foil Study Club for over 15 years. He has lectured extensively on a variety of subjects related to Periodontics and treatment planning.

By: Kory M. Zussman, D.D.S.

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