|  |
| --- |
| **Name:** |
| Christina Chen |
| **Group:** |
| 6A-4 |
| **Pathology Question:** |
| What are oral manifestations of uncontrolled diabetes? |
| **Report:** |
| Diabetes mellitus is a group of metabolic disorders characterized by high levels of blood glucose, or hyperglycemia, as a result of either insulin resistance (type 2 diabetes) or a lack of insulin production (type 1 diabetes) (Guta & Kumar, 2011). Insulin, oral hypoglycemics, and/or an adequate diet can help manage hyperglycemia in these patients (Quirino et al., 1995). These methodologies not only help to improve and reduce systemic complications from diabetes mellitus, but have also been found to improve oral manifestations of the disease. In their study titled “Oral Manifestations in Controlled and Uncontrolled Diabetic Patients” authors Shamikh Hamadneh and Ayesh Dweiri compared oral manifestations of diabetes mellitus between controlled and uncontrolled diabetic patients. They ultimately observe a higher prevalence of xerostomia, burning mouth sensation, taste alteration, parotid enlargement, candidiasis and oral ulceration among uncontrolled versus controlled diabetic patients (Hamadneh & Dweiri, 2012). Of all the oral manifestations examined in the study, benign neoplasms was the only one that was not found to have a higher prevalence among uncontrolled diabetic patients (Hamadneh & Dweiri, 2012).  Uncontrolled diabetes was also found to negatively impact periodontal health and treatment in an article by J.S. Mattson and D.R. Cerutis. They noted that uncontrolled or poorly controlled diabetics have a greater incidence of severe periodontal disease among both type 1 and type 2 diabetics. Additionally, they found that uncontrolled or poorly controlled diabetic patients often did not respond to periodontal treatment or were unable to remain stable long term compared to well-controlled diabetic patients who were found to respond well to periodontal treatment (Mattson & Cerutis, 2001). They concluded: “the success of periodontal treatment appears to be dependent on the control exhibited by the diabetic patient” (Mattson & Cerutis, 2001). Aoyama et al. similarly found poorer periodontal health among uncontrolled diabetic patients in their study “Increased Oral Porphyromonas gingivalis Prevalence in Cardiovascular Patients with Uncontrolled Diabetes Mellitus.” Specifically finding worsened clinical attachment loss and bleeding on probing rates in uncontrolled versus controlled diabetic patients (Aoyama et al. 2018). The same study also found increased salivary Porphyromonas gingivalis counts in their uncontrolled patient group (Aoyama et al. 2018). In addition to impacts on periodontal health, Cynthia Stegeman, in her study on the oral manifestations of diabetes, states that uncontrolled diabetic patients have an increased risk of infection, as well as an increased healing time (Stegeman, 2005). According to De lima et al.’s study, “Diabetes mellitus and poor glycemic control increase the occurrence of coronal and root caries: a systematic review and meta-analysis,” diabetic patients with poor glycemic control are actually more likely to have dental caries than well controlled diabetics (de Lima et al., 2020). Diabetes mellitus can negatively impact many different components of the oral cavity, from the manifestation of oral diseases to their treatment. The findings of these studies and systematic reviews suggest that these effects are further exacerbated among uncontrolled diabetic patients, suggesting that a collaborative approach between a patient’s primary care physician and dentist is essential in achieving better health and treatment outcomes for these patients. |
| **References:** |
| Aoyama, N., Suzuki, J. I., Kobayashi, N., Hanatani, T., Ashigaki, N., Yoshida, A., Shiheido, Y., Sato, H., Izumi, Y., & Isobe, M. (2018). Increased Oral Porphyromonas gingivalis Prevalence in Cardiovascular Patients with Uncontrolled Diabetes Mellitus. *International heart journal*, *59*(4), 802–807. <https://doi.org/10.1536/ihj.17-480>  de Lima, A., Amorim Dos Santos, J., Stefani, C. M., Almeida de Lima, A., & Damé-Teixeira, N. (2020). Diabetes mellitus and poor glycemic control increase the occurrence of coronal and root caries: a systematic review and meta-analysis. *Clinical oral investigations*, 10.1007/s00784-020-03531-x. Advance online publication. <https://doi.org/10.1007/s00784-020-03531-x>  Gupta, S., & Kumar, A. C. (2011). A Comparative Study on Oral Manifestations of Controlled and Uncontrolled Type 2 Diabetes Mellitus in South Indian Patients. *Journal of Indian Academy of Oral Medicine and Radiology,* *23*, 521-526. doi:10.5005/jp-journals-10011-1214  Hamadneh, S., & Dweiri, A. (2012). Oral Manifestations in Controlled and Uncontrolled Diabetic Patients. *Pakistan Oral and Dental Journal*, *32*(2), 456. Retrieved September 8, 2020, from <http://connection.ebscohost.com/c/articles/85474541/oral-manifestations-controlled-uncontrolled-diabetic-patients-study-jordan>  Mattson, J. S., & Cerutis, D. R. (2001). Diabetes mellitus: a review of the literature and dental implications. *Compendium of continuing education in dentistry (Jamesburg, N.J. : 1995)*, *22*(9), 757–773.  Quirino, M. R., Birman, E. G., & Paula, C. R. (1995). Oral manifestations of diabetes mellitus in controlled and uncontrolled patients. *Brazilian dental journal, 6*(2), 131–136.  Stegeman C. A. (2005). Oral manifestations of diabetes. *Home healthcare nurse*, *23*(4), 233–242. <https://doi.org/10.1097/00004045-200504000-00009> |