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PART I: COMPLETE DENTURES AND DIABETES CORRELATION

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Abstract

The aim of this study was to emphasize the importance of proper control and denture adaptation to oral environment for diabetic patients. It is common for diabetic patients wearing removable dentures when it comes to their oral rehabilitation. However, their functional and qualitative limitations can still lead to oral lesions. It is known that diabetic patients suffer from delayed wound healing, and have major susceptibility to infections. A good manufacturing and hygiene of a denture is of great importance in avoiding compromising the oral mucosa. Repeated use can cause denture lesions leading to mastication inefficiency and patient’s decreasing nutritional capacity. There is treatment to prevent the effects of diabetes when oral rehabilitation is performed (glycemic control factors) as well as removable dentures and patient’s oral health monitoring and periodic assessments.

Introduction

The concepts related to complete dentures and diabetes can be complicated due to the factors of indications, and contra-indications in treatment planning. Diabetes mellitus includes a group of diseases characterized by impaired action or secretion of insulin, or both. There are four etiologic types of diabetes, although the most frequent are type 1 and 2. Realizing that there are two generally known types of diabetes, we should define what they are. First type (also known as insulin dependent) is congenital, while type two (also known as non-insulin dependent) is acquired.

Diabetic individuals have peculiar oral and systemic characteristics such as periodontal disease, salivary dysfunction, fungal and bacterial infections requiring greater accuracy in adjusting their dentures to tissues. Furthermore, studies allow concluding that with the decrease of saliva secretion (xerostomia) can cause pain or burning sensation in the mouth defaulting swallowing, speech and mastication, decreased taste, intraoral negative pressure and poor prosthetic retention. It is also known that prosthetic wear is one of the main causes of lesions in the oral cavity. Between the most common lessons encountered in the oral mucosa are traumatic injuries and others resulting from incorrect planning of dentures such as angular cheilitis and stomatognatic system trauma, caused by errors in establishing occlusal vertical dimension or by insufficient occlusal adjustments. The determinations in complete denture planning should be established to evaluate a detailed analysis of the diabetic patient’s condition and needs in order to achieve a successful prosthetic treatment.

Materials and Methods

- Selected articles from the PubMed database. Eight scientific articles were selected.
- Key words: diabetes and complete dentures, complications and considerations for the dental fabrication.
- Selection criteria: 2000 to 2019
- Experts consulted: Doctor Burney Croll Prosthodontist, Doctor Katherine Melo Dentist, and Professor Avis Smith CDT.

Results

Type 1 patients are prone to develop dental caries and infections. Dental caries is related to poor oral hygiene, rare dental visits, and lack of metabolic control of diabetes. In addition, salivary flow rates are reduced increasing oral infections. Among several reasons which contribute to the decreased salivary flow rate in diabetes is hyperglycemia and glucosuria. All these oral complications generate challenges for the patients’ oral rehabilitation because most likely patients with poor oral health would require the replacement of their teeth at some stage of their life specially the ones who suffer from this condition at early age.

Type 2 conventional treatment involves changing habits, such as diet control and physical activity. Well-balanced diets provided by adequate mastication, is part of therapy in patients with type 2 diabetes. Use of immediate dentures as a therapeutic choice for diabetic patients has positive results. Type 2 patients reported an increase of consumption of protein, fruits and vegetables in denture wearers after insertion of complete dentures in comparison to the period when they were edentulous. It is important to mention that the presence of the immediate denture, with its compression might change the conditions of the post extraction wound healing process, representing another risk for impaired wound healing in diabetic patients.

Conclusion

Diabetes exists in a bidirectional relationship with periodontal disease and may lead to other oral pathologies. The wear of dentures might lead to mucosal and tissue ulcerations especially in diabetes (denture stomatitis and tissue lesions).

Doctors and dentists must be alert to the various oral manifestations of diabetes in order to make an accurate diagnosis and treatment. Patients who suffer from diabetes and are in need of oral rehabilitation require extra care when it comes to their oral treatment because the repeated use of dentures can cause oral lesions. Oral lesions are more common when there is a poor oral hygiene.

A proper fabrication and hygiene of a denture is crucial in order not to compromise the oral mucosa and general health of the patient.

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Doctor Barney Croll, Prosthodontist
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References