



Impact of Diabetes on Oral Health

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Abstract

Oral cavity is a hub for all diseases as they contain facultative bacteria which may contain various toxins. Certain systemic diseases make oral cavity vulnerable to the ill effect of microorganisms thus compromising the health of teeth and its supporting tissues. Diabetes is one such systemic condition which is present in 80 out of 100 populations. This disease has no definite cause except for type I diabetes which has a genetic predilection, most of the other forms of diabetes presents with type II. Recent researchers presented type II diabetes as one of a chronic condition which may affect the entire population by next 10 years. The reason for this revelation is a scientific prediction as the main reasoning behind this prediction is the transformed diet and life style.

Keywords

Oral Cavity; Diabetes; Bacteria

Summary

The general population globally is suffering from diabetes, even after they follow strict diet control methods. Compared to the cities and townships, now the villages also are getting the ill effects of this disease and there are also 10-20% increase in the prevalence of type I diabetes in the west and Middle Eastern countries. The predilection for diabetes among urban-rural population India is about 8%. European countries has come up with a new approach towards type II diabetes and additionally they classified it as Severe autoimmune diabetes (SAID), severe insulin deficient diabetes (SIDD), severe insulin resistant diabetes (SIRD), mild obesity related diabetes (MOD) and mild age related diabetes (MARD). This recent European classification was well appreciated by Indian researchers as well, as they also took part in that research and found the classification authentic for Indian subjects. Prevalence for type I diabetes is less as compared with type II, but type I diabetes is predominantly noticed in young pupation with age ranging from 10-30 years. Type I predominantly affects the male gender with weight gain, recurrent infections, multiple tooth abscess, periodontal infections and loosening of their teeth being its warning sign. Oral cavity is the first diagnostic site for any advanced systemic diseases as it shows its oral manifestation at the earliest. Diabetes either type I or type II presents with changes in the mouth odour, thus diabetic subjects presents with a fruity odour. When the diabetes turns chronic or long standing then odour of ammonia can be smelled from the oral cavity giving us an indication of long standing diabetic nephropathy [1-3].

Apart from odour, the chronicity of diabetes type I and II can be noted by compromised salivary flow in the oral cavity. Systemically the long standing diabetes compromises the function of the major salivary glands especially the parotids. The amount of serous salivary secretion will be reduced thus causing reduction in the buffering capacity of the saliva. The mucosa associated with the oral cavity appears to be dehydrated and dry. Patients always complain of burning sensation in the oral cavity and loss of taste sensations. The prevalence of such symptoms are generally more prominent with elderly population, with females more affected than males. Caries predominance can be more prevalent with type I juvenile and adult onset diabetes in younger age groups. The community dentistry surveys and indices reveal major developments with higher caries incidences rates among type I diabetic subjects than compared to type II diabetes. Type I diabetic females suffer much tooth loss due to caries than males. The major reasoning behind the caries tooth loss is faulty tooth brushing, improper oral hygiene and higher intake of sticky carbohydrate diet. Most of the type I diabetes patients with a better oral hygiene still encounter gum swellings, infections and gingival bleeding. These warning signs are more important for the any dentist to realise and refer the patient for a medical review. Patients with type I diabetes will have minimal tooth mobility but there will be increase in periodontal pockets and interdental bone loss. The latter patients may be diagnosed as aggressive periodontitis without realising the main systemic factor. Type II diabetic patients usually have grade II to Grade III tooth mobility

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with multiple systemic complications. The main predictor for a good control with diabetes type I or Type II is glycated haemoglobin levels (HbA1c). The controlled diabetes should maintain a glycated levels around 5.5 to 6 %. The glycated levels show the percent of glucose available in the blood. The success of a good control diabetes comes from glycated levels. An individual suffering from diabetes from past 5 years and if he maintains his glycated levels with 6%, then his overall systemic health will be maintained as healthier as he was before. Care must be taken to put excessive awareness on diabetic screening via HbA1c levels. An extensive research has been done on diabetes from past and still the researchers are working on the risk factors associated with the disease. The current population lacks awareness about the fact that type I or type II diabetes has a pessimistic shock on oral health [4,5].

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