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## Oral Manifestions in a Diabetic Patient – Diagnosis and Management.

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### ABSTRACT

Diabetes mellitus is a syndrome of abnormal carbohydrate metabolism which results in acute and chronic complications due to the absolute or relative lack of insulin. This is a systemic disease affecting every system of the body. Changes in oral soft tissues can be helpful in the diagnosis of diabetes in undiagnosed patients and may serve as an aid in monitoring patients with known diabetes. In this paper, we present a case of oral manifestations in a 55- year-old male patient with uncontrolled diabetes.

**Keywords:** Diabetes mellitus, Candidiasis, Salivary gland, Antifungal agents

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## INTRODUCTION

Diabetes mellitus is a systemic disease affecting each and every system of the body. It causes changes in oral mucosa, periodontal tissues, salivary gland function and oral neural function and increases the risk for caries. In this paper, we present a case of oral manifestations in a 55-year-old male patient with uncontrolled diabetes.

## CASE REPORT

A 55-year-old male patient reported to our dental OP with a chief complaint of whitish plaque on dorsum of tongue and palate since two months. Patient also complained of burning sensation on his tongue since a month Patient gave a history of being diabetic since 9 years and was under medication.

On examination of soft tissues revealed a whitish plaque evident on dorsum of tongue and hard palate (Figure 1 and 2). It was scrapable and left behind a raw red area. Intraoral examination revealed poor oral hygiene, generalized gingival inflammation with recession, periodontal pocket and periodontal abscess. Generalized tooth mobility was also evident.



Figure 1: White scrapable plaque evident on palate



Figure 2: White scrapable plaque evident on tongue

Bilateral submandibular lymph nodes were palpable, one on each side, each measuring approximately 0.5 X 1cm in size, roughly oval in shape, and firm in consistency, tender and mobile.

Patient's blood sugar level was elevated (Fasting blood sugar: 235mg/dl and Post prandial: 415mg/dl) and was not under medication. Culture of smear made from dorsum of tongue and palate revealed positivity for candidiasis.

Considering the positive findings of case history and investigations we have concluded that the patient had oral manifestations of diabetes including candidiasis.

Patient was first treated for diabetes. Patient was referred to Department of Diabetology. He was prescribed insulin injection (25 units/ day). Patient was treated with topical clotrimazole (Candid mouth paint) and Fluconazole tablet 500mg for a week and resolution was achieved (Figure 3 and 4). Patient is now under regular follow up and is posted for full mouth rehabilitation.



Figure 3: Post treatment after two weeks



Figure 4: Post treatment after two weeks

#### DISCUSSION

A 55-year-old patient reported to our dental OP with uncontrolled diabetes mellitus and associated oral manifestations. It is important to initially identify and control diabetes to achieve resolution of oral

manifestations. Various changes can occur in the oral tissues of a diabetic patient including salivary gland and mucosal changes such as xerostomia, candidiasis, fissured tongue, burning sensation, periodontitis etc.

Xerostomia is related to decrease salivary flow rates, especially the unstimulated whole saliva. The mechanism by which salivary flow is affected in diabetic patients is thought to be the result of autonomic nerve dysfunction or microvascular changes that diminish the ability of the salivary glands to respond to neural or hormonal stimulation [1]. Other causes may include dehydration, side effects of drugs used in diabetic patients (e.g., antihypertensives, diuretics, and antidepressants) [2]. Lack of adequate saliva leads to an increased risk of oral yeast infections, difficulty in maintaining oral hygiene, increased caries rate and a decrease in quality of life because of discomfort from talking, eating and swallowing [3].

The combination of a low flow rate and immune dysfunction greatly increases the risk of oral candidiasis. This may also be the result of increased salivary glucose levels, which promote overgrowth of *Candida*, as well as decreased antifungal immunoglobulins in saliva caused by diabetes [4]. Candidiasis may affect the palatal, buccal, or labial mucosa. [5] White areas on oral mucosal surfaces that can be wiped off with cotton gauze leaving a reddened, bleeding surface are likely to be acute pseudomembranous candidiasis [6].

Oral mucosal conditions such as candida infections, lichen planus, and dryness can cause burning sensations in diabetic patients, a neuropathic basis is supported by observations that the burning sensations in diabetic patients is frequently accompanied dysgeusia [7]. Patients with peripheral diabetic neuropathy is likely to have burning sensations in oral tissues [8].

Mucosal disorders in diabetic patients include candidiasis, atrophy of the mucosa and lichen planus or lichenoid mucositis [9]. These disorders are related to salivary hypofunction and generalized immune dysfunction.

In a fissured tongue, the smooth texture of the dorsum is interrupted with fissures that are predominantly aligned along the length of the tongue. This fissuring may be the result of a low salivary flow, which changes the environment in the oral cavity such that slow-healing soft tissues is easily traumatized [4].

## CONCLUSION

To conclude, oral manifestations of diabetic patients include periodontitis, oral dryness, caries, burning mouth sensation, neuropathy, atrophic or lichenoid mucosal changes, enlarged parotid glands and candidiasis. Thus early diagnosis and prompt treatment can prevent undesired complications.

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