

# A Review on Oral Manifestations of Systemic Diseases

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## ABSTRACT

Evidently, systemic diseases have frequently been encompassing the oral cavity for a variegated number of signs and symptoms. Henceforth, it is intensively imperative that a prudent exploration of the oral cavity is made looking for any sort of anomaly or pathology since they may indicate towards a more systemic condition. Even though a symptom may pertain to a large group of disorders, some of them are peculiarly associated with a specific pathology. Meticulous identification of such symptoms may help in early diagnosis and timely treatment. This article focuses on various oral manifestation associated with the general pathologies of the human body

**KEYWORDS:** Oral Manifestations, Diabetes, Aids, Leukemia, Bulimia

## INTRODUCTION

It is a reasonably accepted fact that the oral cavity of a human body is a clear reflection of the comprehensive condition of heterogeneous tissues in the human anatomy.<sup>1</sup> Majority of the pathologies have their first manifestation usually in the oral cavity. So it is highly obligatory that not only the dental practitioners but also the health care personnel and medical practitioners should have the utmost skills and vision to identify the oral signs. Both soft tissues and hard tissues in the oral cavity can be subjected to symptoms like ulcerations, discolorations or loss of elasticity associated to the systemic disease. Most of the systemic diseases have now been identified and linked to specific oral pathologies which prove to be pathognomonic for the pathology.

## ORAL MANIFESTATIONS OF VARIOUS SYSTEMIC DISEASES

Oral manifestation associated with specific diseases have been described as follows:

**Oral Manifestations of Diabetes:** Currently, based on the world-wide reports, diabetes mellitus is a supreme root of mortality and morbidity considering the impediment affiliated with pathology.<sup>2</sup> A typical observation involves deterioration of the salivary gland functioning leading to Xerostomia ranging from mild to moderate capacity. This contributed to increased chances of fungal and bacterial oral infections along with ruination of the taste sensation.<sup>3</sup> Long term manifestation involves periodontitis and some mucosal lesions like oral ulcers and stomatitis.

**Oral Manifestations of AIDS:** A colossal majority of

the population suffering from aids frequently display manifestations in the oral cavity. Due to the continuous proliferation of the CD8+ cells, around 35% of the patient suffering from AIDs experience severe Xerostomia that may eventually lead to cervical caries as well. Another common and prominent manifestation is oral hairy leukoplakia which is categorized as a white lesion which is usually present on the lateral surface of tongue. Some periodontal diseases, especially gingival erythema has been observed as well.

**Oral Manifestations of Addison disease:** Addison disease has been recognized as one of the least common diseases with a ratio of 1:100,000. However it's a fatal disease and if left untreated may lead to a life-threatening situation. The most common oral sign for the Addison disease is typical hyperpigmentation of the oral mucosa as well the skin. With treatment, skin pigments might disappear but the oral pigments persist for a very long time. Pigments may be confined to one particular location or may be dispersed and may sometimes manifest as oral melanotic macule.<sup>4</sup>

**Oral Manifestations of Leukemia:** Leukemia is recognized as one of the most life-threatening cancers that needs early detection and thorough treatment. The most basic oral symptom associated with the leukemia is the pallidness of the mucosa as well extreme bleeding contemplated in the gingiva. Gingival hyperplasia may also be observed owing to the leukemic cells as well as poor oral hygiene.<sup>5</sup> Petechiae and ecchymosis in the oral cavity are amongst the common findings too.<sup>6</sup>

**Oral Manifestations of Bulimia:** Bulimia, in both the sex groups, is associated with the episodes of repeated

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vomiting which is responsible for causing erosion and carious tooth structure<sup>7</sup>. A subject who doesn't seem to have any other medical condition and has erosion and multiple carious tooth structure should be considered to be possibly suffering from bulimia. Episodes of repeated vomiting leads to tooth erosion, affecting both enamel and dentin.

**Oral Manifestation of Thrombocytopenia:** Thrombocytopenia has been defined as a condition associated with a significant decline of platelets.<sup>8</sup> Reduced number of platelets leads to numerous oral manifestations, most commonly formation of pin-point purple lesions referred to as petechiae and purpura. Incidences of bleeding on minor injuries, inefficiency in clot formation and gingival hyperplasia are amongst the other oral manifestations.

**Oral Manifestation of Crohn's disease:** Crohn's disease is a chronic condition characterized by severe inflammation of the gastro-intestinal tract.<sup>9</sup> Swelled up oral mucosa which may have the appearance of cobblestone along with inflammation of gingiva are the pathognomonic oral manifestations of the Crohn's disease. Others involve ulcers in the mucosal layers and polyp formations. The symptoms usually reside with the systemic medications, however use of topical steroids is imperative for management of oral ulcers.

**Oral Manifestation of Anemia:** Anemia is a condition characterized by the decline in the content of hemoglobin and oxygen due to reduced red blood cells.<sup>10</sup> Pallor of the oral mucosa is a common finding along with the inflammation of the tongue referred to as the glossitis. An extremely reddened tongue with atrophic borders is usually the preliminary sign of anemia. Angular stomatitis has been identified as an important oral manifestation of the iron- deficiency anemia.<sup>11</sup>

**Oral Manifestation of Vitamin Deficiency:** Vitamin deficiency, especially vitamin B complex deficiency, unfolds a variety of manifestations which includes fissures at the corners of the mouth called the cheilosis and inflammation of the tongue. Vitamin C deficiency may be manifested by gingival bleeding and mucosal atrophy.

Oral cavity suffers from a variety of symptoms that may be associated with systemic pathologies. Most of the diseases target the mucosa and gingiva followed by tongue, soft palate as well as hard palate. Majority of the symptoms involves inflammation, ulceration and disruption of the cell membranes. Even though the symptoms may seem very general to pin point any specific systemic pathology, there are a number of diseases with pathognomonic oral manifestation that would direct to a specific pathology. Timely diagnosis by the clinician is absolutely necessary which can be achieved on the basis of skillful evaluation of the oral cavity along with academic knowledge. If the patient is found to be suffering from periodontal problems, it is imperative to check the medical condition of the patient and look for diabetes, HIV and blood cancer as the possible pathologies. If the patient is found to be

suffering from oral ulcers, the patient needs a medical evaluation for Crohn's disease, pemphigus or anemia.

## CONCLUSION

Very often, oral manifestation would be the most preliminary sign of a systemic pathology. Numerous systemic pathologies may point to common oral manifestations or any specific oral manifestation may be associated with a particular disease. An accurate and timely diagnosis by the dentist can assist the patient in identifying the underlying pathology. Hence, a dentist must be well equipped both clinically and academically to be able to diagnose the pathology.

## REFERENCES

- 1) Casiglia JM, Mirowski, GW. Oral Manifestations of Systemic Diseases. 2013 ; March. Medscape.
- 2) Moore PA, Zgibor JC, Dasanayake AP. Diabetes: A growing epidemic of all ages. J Am Dent Assoc.2003; 134:11-15
- 3) Saini R, Al-Maweri SA, Saini D, Ismail NM, Ismail AR. Oral mucosal lesions in non-oral habit diabetic patients and association of diabetes mellitus with oral precancerous lesions. Diabetes Res Clin Pract.2010;89:320-6
- 4) Kautzman, Pavone M, Blanas N, Bradley G. Pigmented lesions of the oral cavity. Review, differential diagnosis, and case presentation. J Can Dent Association 2004; 70: 682-3
- 5) Greenberg MS, Glick M, Ship JA. (Editors.) Burkett's Oral Medicine. 11th edition. Hamilton. BC Decker Inc. 2008; 400-403.
- 6) Silva BA, Siqueira C, Castro P, Araújo SS, Volpato LE. Oral manifestations leading to the diagnosis of acute lymphoblastic leukemia in a young girl. J Indian Soc Pedod Prev Dent. 2012 Apr-Jun; 30(2):166-168.
- 7) Roberts MW, Tylenda CA. Dental aspects of anorexia and bulimia nervosa. Pediatrician. 1989; 16(3-4):178-84. [PMID: 2692004]
- 8) Levine SP. Thrombocytopenia: Pathophysiology and Classification. Ed. Greer JP, Foerster J, Rodgers GM, Paraskevas F, Glader B, Arber DA, Means RT. Wintrobe's Clinical Hematology. 12th ed. Lippincott Williams Wilkins Co. Philadelphia. 2009; pp. 1289- 1334
- 9) Cho JH, Brant SR (2011). "Recent Insights into the Genetics of Inflammatory Bowel Disease". Gastroenterology 140 (6): 1704-12
- 10) Rodak, Bernadette F. (2007). Hematology: clinical principles and applications (3rd Ed.). Philadelphia: Saunders. p. 220. ISBN 9781416030065
- 11) Long RG, Hlousek L, Doyle JL. Oral manifestations of systemic diseases. Mt Sinai J Med 1998;65:309-15

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