



Dental Implications of Bleeding Disorders

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[Review Article](#)

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ABSTRACT

Hematological abnormalities manifesting in the oral cavity exhibit a varied nature, encompassing their causative factors and clinical presentations. The oral site often serves as an early indication of the forthcoming systemic signs and symptoms, preceding their actual manifestation. Blood disorders have the potential to influence the management of dental patients. The proper recognition of these signs is essential for the early detection of abnormalities. The present review elucidates the elementary abnormalities that can be detected in the oral cavity in case of bleeding syndromes.

Keywords: Anemia, Bleeding Disorders, Clinical Manifestations, Oral Manifestation, Leukemia.

Introduction

The oral cavity is often subject to various blood-related disorders, which can impact both the soft and hard tissues, each exhibiting distinct characteristics. The oral cavity holds significant importance in various functions, like digestion, respiration, and speech.¹ It also acts as an early warning system, because the oral cavity has an important role in the diagnosis of systemic conditions since it contains derivatives of all primary germ layers², most of the systemic diseases have their manifestations in the oral cavity. Due to which the oral cavity acts as the window to the body. The presence of these lesions signifies the manifestation of systemic disorders which occur in the oral mucosa, tongue, gingiva,

dentition, periodontium, salivary glands, facial skeleton, perioral skin, and other related structures³, which may include hemorrhage, infections, and cellular infiltration of tissues. Therefore, it is of utmost importance for your dentist to be well-versed with different bleeding disorders and the oral manifestations that may occur in individuals affected by these conditions so that the complications can be avoided and diseases can be promptly treated to prevent any inconvenience.

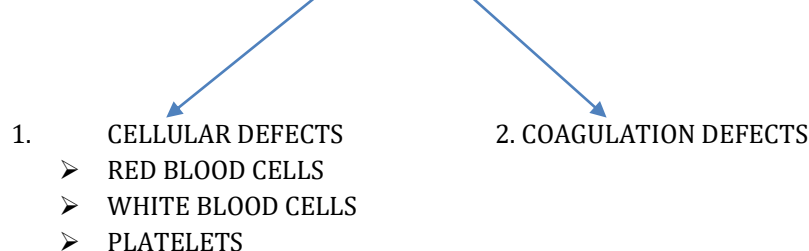
A clinically significant bleeding episode is one that continues beyond 12 hours, causes the patient to return to the dental practitioner or to seek medical treatment or emergency care, results in the

development of hematoma or ecchymosis within the soft tissues, or requires blood product support.⁴

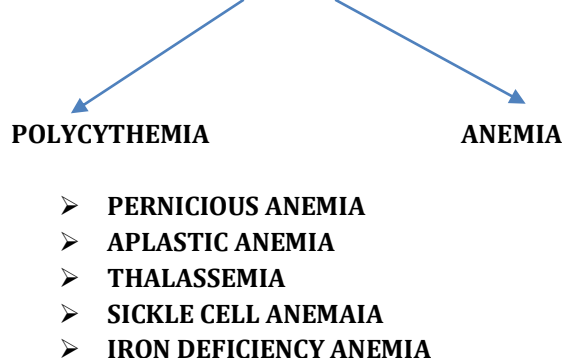
Hence when a bleeding disorder is suspected, laboratory investigations, including blood counts and clotting studies, should be carried out.⁵

Classification of Disease of Blood

Diseases of the blood can be classified as follows:



Disorders of the Red Blood Cells



Polycythemia

Oral Manifestations

1. Erythema of oral mucosa	3. Gingivitis
2. Glossitis	4. Gingiva bleeds spontaneously but no tendency to ulcerate

Pernicious Anemia

Oral Manifestations

1. Glossitis	4. Xerostomia
2. Beefy Red Tongue	5. Aphthous Ulcer
3. Hunter's Glossitis	

Aplastic Anemia

Oral Manifestations

1. Pallor oral mucosa	5. Gingival bleeding ^[4,6]
2. Petechiae	6. Oral Candidiasis
3. Submucosal ecchymosis	7. Herpetic lesion
4. Gingival hyperplasia	8. Ulcers covered with black or grey necrotic membrane

Thalassemia**Oral Manifestations**

1. Excessive overgrowth of maxilla leading to excessive lacrimation and nasal stiffness	4. Chipmunk Facies
2. Pallor oral mucosa ^[4]	5. Rodent Facies
3. Open bite, increased overjet or other forms of malocclusion ^[7]	

Radiological Features

1. Coarsening of trabecula and blurring – ‘salt and pepper effect’	3. Crew-cut or hair on end appearance
2. Thickening of diploe of skull	

Sickle Cell Anemia**Oral Manifestations**

1. Pallor oral mucosa	6. Enamel hypoplasia ^[7]
2. Gingival enlargement	7. Osteomyelitis
3. Orofacial pain	8. Mongoloid facies
4. Paresthesia of mental nerve	9. Asymptomatic pulpal necrosis
5. Delayed eruption	10. Severe malocclusion

Radiological Features

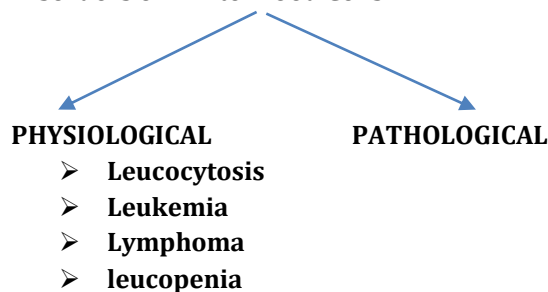
1. Osteoporosis	5. Prominent lamina dura
2. Marrow hyperplasia	6. Step ladder pattern
3. Ground glass appearance	7. Hair on end appearance
4. Thinning of the inferior border of mandible	

Iron Deficiency Anemia**Oral Manifestations**

1. Mucosal Pallor	2. Angular Cheilitis	3. Migratory Glossitis	4. Candidal Infection
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Plummer Vinson Syndrome**Oral Manifestations**

1. Dysphagia	2. Koilonychias	3. Angular cheilitis
4. Iron deficiency anemia	5. Atrophic glossitis	

Disorders of White Blood Cells

Leukemia**Oral Manifestations**

1. Mucosal pallor due to anemia	2. Bleeding or petechiae of the palate, tongue or lips due to underlying thrombocytopenia
3. Painful and deep oral ulcerations due to neutropenia or direct infiltration by malignant cells	4. Boggy swellings with leukemic infiltrates leading to diffuse gingival enlargement, less commonly numb chin syndrome [8]

Lymphomas

Lymphomas are a group of neoplasm affecting the lympho-reticular system. They are divided into Hodgkin's disease and Non-Hodgkin's disease.^{9,10,11}

Oral Manifestations

1. Involving the lymphoid tissues of Waldeyer's ring as well as the vestibule and gingivae	2. Painless, soft masses with or without traumatic ulceration
3. Painful loosening of the teeth due to bone and adjacent soft tissue destruction- Burkitt Lymphoma	4. Papule, nodule, or tumor with or without ulceration- Non Hodgkin Lymphoma

Disorders of Platelets

- **Hemophilia A**
- **Hemophilia B**
- **Von Willebrand disease**
- **Purpura**

Oral Manifestations

1. Prolonged episodes of gingival bleeding (either spontaneous or in response to trauma).	2. Hemarthrosis and musculoskeletal bleeding
3. Epistaxis	4. Women commonly present with menorrhagia and, in the more severe presentations, postpartum bleeding ^[12]

Conclusion

This review highlights the significant influence of hematological problems on every aspect of dentistry. In hematological disorders, the signs and symptoms affecting the oral cavity are often overlooked, despite their significant influence on the patient's quality of life and prognosis. Therefore, the dentist plays a pivotal role in the early identification of hematological disorders. As a result, it is necessary to clearly identify these symptoms in order to arrive at the ultimate diagnosis.

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