CLASSIFYING NODULAR LESIONS OF ORAL CAVITY

Sumit Bhateja

Department of Oral Medicine & Radiology, Dr. DY Patil Dental College & Hospital, Pune, Maharashtra, India.

Corresponding Author: Sumit Bhateja, A-3, FLAT NO. 204, Dwarka Lords Shivar Chowk, Pimple Saudagar Pune, India. Email: bhateja.sumit@gmail.com Ph: 91-9561334497

Abstract

Diagnosis of many lesions of the oral cavity is challenging to most clinicians because of their uncommon prevalence. A number of cystic, osteodystrophic, microbial, tumor and tumor like lesions of the oral cavity are present with characteristic exophytic/raised surface; which makes their diagnosis and study simpler. The present article is attempted at classifying the common nodular lesions of the oral cavity.

Keywords: Nodule, Lesion, Oral cavity, Classification

Introduction

"He who studies skin diseases and fails to study the lesion first will never learn dermatology" {Siemens (1891-1969)} [1]

The term "exophytic"/ "raised" lesion refers to any pathologic growth that projects above the normal contours of the skin/ mucous membrane surface Eg. Nodule. [1]

On skin, a nodule is a solid, round or ellipsoidal, palpable lesion that has a diameter larger than 0.5 cm. Size is not a major consideration in definition of a nodule. Depth of involvement and / or substantive palpability, rather than diameter, differentiates a nodule from a large papule or plaque. Nodule is also defined as the lesions which are present deeper in the dermis or mucosa.[2] Lesions may also protrude above the skin or mucosa but are generally wider than they are high. Depending on anatomic component(s) primarily involved, nodules are of five main types:[3]

1. Epidermal
2. Epidermal – dermis
3. Dermal
4. Dermal – sub dermal
5. Subcutaneous

Formation of an Exophytic Growth:

Each exophytic growth corresponds histologically to proliferation of new small blood vessels which are slightly lifted on the surface by thin covering of fibroblasts & young collagen. There are three phases observed in formation of an exo-proliferative tissue: [4]

1. Phase of Inflammation
2. Phase of Clearance
3. Phase of In growth of Tissue

Phase of Inflammation: Following trauma blood clots at the site of injury. There is acute inflammatory response with exudation of plasma, neutophils & some monocytes within 24 hours.[4]

Phase of Clearance: Combination of proteolytic enzymes liberated from neutophils, autolytic enzymes from dead tissue cells and phagocytic activity of macrophages clear off the necrotic tissue, debris and red blood cells.[4]

Phase of Tissue Growth: This occurs by 2 main processes:[4]

1. Angiogenesis (Neovascularisation):

Formation of new blood vessels at the site of injury takes place by proliferation of endothelial cells from the margins of severed blood vessels. Takes place under influence of various endothelial growth factors.

2. Fibrous Tissue Formation:

The new fibroblasts originate from fibrocytes as well as by mitotic division of fibroblasts. Collagen fibrils begin to appear. As maturation proceeds more & more collagen is formed while number of active fibroblasts & new blood vessels decreases.

Classification: [2,3,5,6,7,8]

I) Normal Anatomic Landmarks:

- Accesory tonsillar tissue
- Lingual tonsillar tissue
- Buccal fat pads
- Circumvallate papillae
- Foliate papillae
- Genial tubercles
- Palatine rugae
- Palatine tonsils
- Palatine raphe
- Retrocuspid papillae
- Retromolar papillae
- Stenson's papillae
- Sublingual caruncles
- Tongue
- Uvula

II) Developmental Conditions:

- Oral lymphoepithelial cyst
- Heterotrophic oral gastrointestinal cyst
- Epidermal inclusion cyst
- Lingual thyroid nodule
- Chelitis granulomatosis
- Choriostoma of tongue
- Bohn's nodules (Epstein pearls)

III) Inflammatory Hyperplasias

- Fibrous hyperplasia/Fibroma
- Pyogenic granuloma
- Hormonal tumor
- Epulis fissuratum
- Parulis
- Papillary hyperplasia of palate
- Peripheral giant cell granuloma
- Pulp polyp
- Epulis granulomatosum
- Acquired hemangioma
- Peripheral fibroma with calcification

IV) Infectious Conditions

- Early chancre & gumma of syphillis
- Chronic nodular candidiasis
- Sarcoidosis
- Granuloma inguinale
- Leprosy
- Tuberculosis
- Acute lymphonodular pharyngitis
- Condyloma acuminatum

V) Bony Lesions

- Tori
- Exotoses

VI) Cystic Lesions

- Mucocele
- Ranula

VII) Benign Tumors

- Lipoma
- Giant cell fibroma
- Oral focal mucinosis
- Xanthoma
- Traumatic neuroma
- Neurilemmoma
- Palisaded encapsulated neuroma
- Neurofibroma
- Neurofibromatosis type I
- Multiple endocrine neoplasia type 2B
- Granular cell tumor
- Myxoma
- Lymphangioma
- Fibrous histiocytoma
- Plemorphic Adenoma
- Rhabdomyoma

VIII) Malignancies

- Verrucous carcinoma
- Malignant Melanoma
- Basal cell carcinoma
- Minor salivary gland neoplasms
- Kaposi sarcoma of AIDS
- Keratoacanthoma

- Malignant variant of fibrous histiocytoma
- Rhabdomyosarcoma
- Malignant lymphoma
- Hodgkins lymphoma

IX) Miscellaneous Conditions

- Nodular variant of leukoplakia
- Smokers lip
- Cowden's syndrome

Summary

The present article is first documentation to the best of my knowledge which classifies nodular lesions of oral cavity. Classifying lesions is important for the process of making clinical diagnosis which helps in treatment planning in the case of nodular lesions of oral cavity which is of great concern to the patient as it determines the nature of future follow up care. This can be in the form of a reassurance that the lesion need not be a concern or in the form of a follow up advice after eliminating all possible local irritants.

In a few cases it can be an immediate biopsy followed by definite treatment. The path to be taken or the strategy to be adopted depends on the judgment making capacity of the oral diagnostician. Clinical diagnostic skills and good judgement forms the key to successful management of nodular lesions of the oral cavity. Under diagnosing followed by dismissal of suspicious early lesions or over diagnosing and instituting aggressive management strategies is deplorable and should be avoided in the interest of the patient community.

A careful observant eye and sensible judgement can add to the diagnostic skills of the clinician and are considered important for proper patient care.

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