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Review article

BILATERALLY OCCURRING MUCOSAL ALTERATIONS OF THE ORAL CAVITY-A REVIEW

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ABSTRACT

Introduction: Lesions of the oral cavity could be unilateral / bilateral and could be the initial manifestation of certain underlying pathology. Oral diagnosticians' may be the ones who diagnose them in their initial stages. Unilateral lesions have been well documented whereas bilateral soft tissue lesions have been rarely documented in the literature. Hence we classified commonly occurring bilateral oro mucosal soft tissue lesions. Aim: To classify bilaterally occurring oro-mucosal soft tissue lesions bilateral occurrence of lesions could be a normal variant or indicative of pathology. Some of the lesions may or may not be symptomatic and some can even have a malignant potential. It is imperative to know the different types of bilaterally occurring lesions as diagnosing such lesions of the oral mucosa by the clinician is important through an adequate knowledge and thorough examination, followed by investigation for the proper management and better prognosis for the patients.

Keywords: Bilaterally occurring, Intraoral lesions, Mucosal lesions

INTRODUCTION

A majority of oral lesions occurring in the oral cavity are unilateral in nature. The anatomical structures in the oral cavity appear bilaterally and this feature usually provides the clinician a vital clue to differentiate between a normal anatomy and a clinical pathology. Bilaterally occurring maxillofacial pathologies though not very commonly encountered in our daily practice, are important since they may prove to be reliable indicators of certain kind of lesions and hence aid in early diagnosis thereby helping to reduce the morbidity and mortality rates.

Bilaterally occurring oral lesions can occur both intraorally and extraorally. The extraoral lesions that can occur bilaterally include those affecting the salivary glands, most commonly sjogrens syndrome, mumps & sialadenosis. Muscular hypertrophy is another commonly occurring extraoral bilateral swelling in the orofacial region. The present review

paper will discuss exclusively about the intraoral bilaterally occurring soft tissue lesions.

Intraoral bilaterally occurring mucosal alterations can be broadly classified as:

Normal anatomic variants: Lingual tonsils, Leukedema, Retrocuspid papillae, Palatal rugae Lingual varices, Parotid papilla, Linea alba buccalis, Racial pigmentation.

Developmental disturbances: Affecting the Lip- Congenital lip pits, Commissural lip pits, Cleft lip

Pigmented lesions: Physiologic pigmentation, Peutz jeghers syndrome, Addisons disease, Heavy metal pigmentation, Kaposi sarcoma, Drug induced pigmentation, Post inflammatory pigmentation, Smokers melanosis

White lesions of the oral cavity: White sponge nevus, Benign hereditary intraepithelial dyskeratosis, Traumatic keratosis, Lichen planus, Angular cheilitis, Oral hairy leukoplakia

Normal variants:

Lingual Tonsil: Referred to as the fourth tonsil in the Waldeyer's ring of lymphoid tissue. Situated at the root of the tongue behind the circumvallate papilla in front of the epiglottis.^[1] The lingual tonsils form nodular bulges in the root of the tongue, and their general structure is similar to that of the palatine tonsil. Crypts are deep, may be branched, and are lined by a wet stratified squamous epithelium that invaginates from the surface.

Leukedema: Sandstead and Lowe in 1953 was the first to describe leukedema.^[2] It is a common mucosal alteration than a pathologic change characterized by a grayish-white lesion of the buccal mucosa in humans. Although it can involve the labial mucosa and the soft palate, it most commonly affects the buccal mucosa bilaterally.^[3] It can occur in any age group, but more commonly seen in the adults.^[4] Although present in population of different countries and ethnic groups, it is more profound among the black Americans.^[5] Stretching of the buccal mucosa makes the lesion disappear and this characteristic of leukedema differentiates it from other white lesions.^[6]

Retrocuspid papillae: First reported by Hirschfeld in 1947, retrocuspid papilla is a circumscribed round or dome-shaped sessile nodule found on the lingual surface of the mandibular cuspids near the mucogingival junction measuring about 2-4mm. It is soft, homogenous and pink in colour.^[7] (Fig 1)



Fig 1: Retrocuspid papilla

Palatal rugae: Palatal rugae are bilateral, irregular, asymmetric ridges of the mucous membrane extending laterally from the incisive papilla and the anterior part of the median palatal raphe. Winslow was the first to describe them in 1732. Its size increases due to normal growth, but remains in the

same position throughout the patient's life and it is unique in each person.^[8]

Lingual varices: Varicosities are benign lesions of blood which are commonly seen in the head and neck region. In the oral cavity it is commonly seen on the ventral surface of the tongue, other sites involved are the lips and the cheeks.^[9, 10] Varicosities are more prominent in the elderly & are usually seen occurring bilaterally on either sides of the midline on the ventral surface of the tongue. Varicosity in the oral cavity presents as purplish blue spots, nodules or ridges and are usually asymptomatic.^[11] (Fig 2)



Fig 2: Lingual varices on the ventral surface of the tongue

Parotid papilla: The parotid papilla is a small elevation of tissue that marks the opening of the parotid duct on the inner surface of the cheek usually opposite the maxillary second molar.^[12] It can occasionally appear as an exaggerated growth giving it an appearance of a pathological condition.

Linea alba buccalis: It's a Normal variation which appears as a white line extending from the corners of the mouth to the posterior region at the level of occlusal plane bilaterally, usually associated with frictional keratosis /trauma from the facial surface of teeth.^[13]

Racial pigmentation: Physiologic pigmentation, which is common in African, Asian and Mediterranean populations, occurs due to an increase in the melanocyte activity rather than an increase in their number. It varies from light to dark brown. In the oral cavity, the attached gingiva is most commonly affected and is seen bilaterally in a ribbon like fashion.^[14] The other sites affected are the buccal mucosa, hard palate, lips and tongue.

Developmental disturbances:

Soft tissue disturbances affecting the lip

Congenital lip pits and commissural lip pits: Developmental defects that usually occur on the

paramedian portion of the vermilion border of lower lip and commissural lip pits are those seen at the commissural areas. It shows an autosomal inheritance pattern. Presence of congenital lip pits, with or without cleft lip and/or palate is termed as Van Der Woude syndrome.^[15] Other syndromes associated with congenital lip pits are popliteal pterygium syndrome, oral-facial-digital syndrome and Marres and Cremers syndrome.^[16] (Fig 3)



Fig 3: Commissural lip pits

Cleft lip: A cleft lip and palate is an abnormal gap in the upper lip and the roof of the mouth. As the lip and palate develop separately, it is possible for the development of an infant to be born with only a cleft lip, only a cleft palate, or a combination of both. Cleft can be either unilateral / bilateral/can be either only lip /palate or can be a combination.^[17]

Pigmentation: Pigmentation other than due to race can occur due to increased melanin deposition in association with certain systemic diseases like Peutz - Jeghers syndrome (mucocutaneous pigmentation spots of mouth hand and feet and intestinal polyps),^[18] Addisons Disease (homogenous or blotchy pigmentation of skin, oral cavity, conjunctiva and genitalia) ^[19,20] and can have both oral and extraoral manifestations.

Heavy metal pigmentation: Increased levels of heavy metals in the blood can cause discoloration in the oral cavity. It appears as a blue black line along the gingival margin extending bilaterally.^[21]

Post inflammatory pigmentation: Pigmentation of the oral mucosa which is usually seen associated with healed chronic oro-mucosal lesions like lichen planus, lichenoid reaction, pemphigus etc. appears as brown to black discoloration in the oral cavity and is usually seen as brownish black diffuse pigmentation present bilaterally.^[22] (Fig 4)



Fig 4: Post inflammatory pigmentation on the left buccal mucosa

Smokers melanosis: It was Hedin in 1977 who termed the brownish pigmentation present in the oral cavity associated with use of tobacco. It can occur anywhere in the oral cavity but more commonly it affects the attached gingiva in the mandibular anterior region and the interdental papilla.^[23]

Kaposi sarcoma: Is a malignant, multifocal systemic disease that originates in the vascular endothelium.^[24] It is the most common malignancy seen associated with HIV. Orally it manifests as single or multiple painless, brownish red to violaceous macule or papule. The most commonly affected sites are the hard palate and gingiva.^[25] (Fig 5)



Fig 5: Kaposi sarcoma affecting the palate

White lesions of the oral cavity:

White sponge nevus: An autosomal dominant disorder which affects the skin and the oral mucosa. In the oral mucosa it appears as bilateral, asymptomatic white, diffuse corrugated plaques. It usually affects the buccal mucosa, ventral surface of the tongue, labial mucosa, alveolar ridge and floor of mouth in the descending order.^[26]

Hereditary benign intraepithelial dyskeratosis (HBID): Rare autosomal dominant disorder

characterized by elevated epithelial plaques located on the ocular and oral mucous membranes. It has a seasonal variation with increase in the severity during the spring and summer.^[27] Oral lesions are usually asymptomatic and appear as multiple white plaques, bilaterally.^[28]

Traumatic keratosis/ frictional keratosis: A chronic white lesion/patch which is benign and self-limiting seen usually on the buccal mucosa as a result of constant rubbing of two surfaces. Usually it is seen bilaterally along the line of occlusion or because of constant rubbing of the wisdom teeth in buccal mucosa against the cheek. It disappears once the causative agent is removed.^[29]

Lichen planus: Is a chronic immune mediated disease which has a mucocutaneous involvement with varied presentations. In the oral cavity, it's usually seen bilaterally and presents as either reticular, plaque, bullous, erosive, atrophic and/or pigmented forms. More commonly it affects the middle aged women. Lichen planus can involve any site but more common sites are buccal mucosa, gingiva, dorsum of the tongue, labial mucosa, and lower vermilion lip in descending order.^[30] (Fig 6)



Fig 6: Oral lichen planus on the buccal mucosa

Angular Chelitis: Also known as perleche which is derived from French meaning to lick one's lip. Seen in older people and manifests as inflammation of the lips at the two corners of the lips, which starts as erythema followed by ulceration and then crustations. Patient complains of soreness, pain and burning sensation. Predisposing factors leading to angular chelitis include malnourishment, immunocompromised conditions, decreased vertical dimension of mouth, superimposed candidal infection, xerostomia etc.^[31] (Fig 7)

Oral hairy leukoplakia: Caused by Epstein Barr-Virus and is most commonly seen in patients infected with HIV. It manifests as hairy white

nonscrapable, bilateral lesion on the lateral /ventral surface of the tongue and it could be an early indicator of undiagnosed HIV. (Fig 8)



Fig 7: Angular Chelitis



Fig 8: Hairy leukoplakia on the lateral border of the tongue

DISCUSSION

Among the various lesions occurring in the oral cavity few lesions could be normal variants, while others could be with or without malignant potential and most of them are not diagnosed at an early stage.³² Some of these lesions occurring in the oral cavity could heal spontaneously while other lesions may need treatment to prevent any further complications. Biopsy maybe considered for those lesions that persist to rule out any dysplastic changes.³³ Hence, diagnosing such lesions in the very early stage could in turn be beneficial for the patient. We have attempted here to provide a concise classification of the soft tissue lesions that most commonly occur bilaterally in the oral cavity. We also believe this should be useful for the dental practitioners for easy identification of such unique lesions.

CONCLUSION

The occurrence of a lesion can be a vital indicator to the kind of disease group it belongs. To formulate appropriate treatment strategies for the management of oral disorders, it is imperative that one should be trained to recognize and differentiate normal morphological conditions that occur bilaterally from Oro-mucosal pathologies. Furthermore, the early clinical diagnosis of such bilaterally occurring maxillofacial pathologies can result in better, faster intervention and management of such unique conditions.

The aim of this paper here is to create awareness and provide a ready reckoner about these specific conditions which can provide a useful guide for a more efficient diagnosis by the clinician.

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Conflict of Interest: Nil

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