CAVITADAXIA – A DISTINCT UNDERLYING DISORDER

Abstract

Background: Cavitadaxia, is a distinct terminology used for describing the chronic habit of biting or chewing the oral cavity as whole, including Morsicatio buccarum, labiorum as well as liguarum. According to DSM-5, these lesions are categorized under obsessive-compulsive and related disorders and further subcategorized into body-focused repetitive disorder. These separate entities present similar to each other clinically as well as histologically, most common distinguishing features being the site of the lesion as well as female predilection. Cavitadaxia, is a common psychogenic disorder with rareity in their reported cases. Clinicopathological correlation is required for providing proper treatment. Dermoscopy, is a tool, by which one can detect the white and yellowish patches, lines and superficial erosions, in order to rule out the differential diagnosis, alongside a proper biopsy.

Keywords: Cavitadaxia, Morsicatio buccarum, Morsicatio Linguarum, Morsicatio Labiorum, psychogenic, biting

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I. INTRODUCTION

Morsicatio Buccarum (MB), also known as cheek biting, are common chronic self-inflicting lesions which are habitual or psychogenic injuries caused by biting, nibbling and tearing of the buccal mucosa.[1] Occasionally, lip and/or tongue are also involved, referred to as, Morsicatio Labiorum (MLa) and Morsicatio Linguarum (MLi) respectively. The term *Morsicatio* has derived from a latin word *morsus* meaning 'bite'.[2] In 2020, Moritz S, recommended the term ***"Cavitadaxia"*** which literally means *"oral cavity biting",* hence, referring to the biting of buccal & labial mucosa as well as the tongue, altogether.

II. CLINICAL FEATURES

These injuries are most commonly seen in individuals with psychological stress and/or compulsive neurosis and can often lead to bleeding in the respective areas. Prevalence of females is more than males and it affects approximately 1 in every 800 individuals.[4] These lesions usually occur bilaterally, or sometimes even limit to one site, according to the parafunctional habits of the individual. [2] Most common affected sites include areas accessible to the teeth such as the occlusal plane at the level of cheeks which appears more than a linea alba, peri-commissural area of the lips and lateral border of the tongue.[5] **(Figure 1)** Till date very less amount of literature has been found related to Cavitadaxia or MB, MLa, MLi separately, as it is mostly confused with various dermatological lesions of the oral cavity and often leads to a misdiagnosis. Individuals with these lesions are unaware of their habit and avoid visiting the clinician.[6]

Figure 1**:** (A) *Morsicatio Buccarum* exhibiting white linear erosive patches on the occlusal plane area, depicting habitual biting of the buccal mucosa ; (B) *Morsicatio Labiorum* showing areas of erosion depicting habitual biting and chewing of the labial mucosa.

III. CLASSIFICATION AND TERMINOLOGY

Cheek and/or lip biting, have been classified by Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5), under the category obsessive-compulsive and related disorders sub-categorized into 'body-focused repetitive disorder'.[6] **Moritz S et al.** presented a case of a 52 year old female, with Morsicatio buccarum along with Labiorum, wherein, she referred to an online self-help technique known as "decoupling". As a result of this technique, she was able to cease the habit within 2 days. However, the authors, recommended to re-name this disorder as "cavitadaxia", because of it's variation in site including the whole oral

cavity.[3] Due to the re-labelling of the term, general pathologists and dermatologists have been unfamiliar with this condition, thus, the role of an oral pathologist's in diagnosing Morsicatio Buccarum/Labiorum/Linguarum is essential.

IV. DISCUSSION

MB needs to be distinguished from oral lichen planus, white sponge nevus, oral leukoplakia, pemphigus vulgaris and oral candidiasis. The most distinct clinical feature of MB includes irregular whitish plaques with a rough surface associated with epithelial desquamation.[7]

Kang HS et al. [8] reported 3 cases of Morsicatio labiorum. In the first case, a 22 year old female presented with yellow plaques on the lips. The patient had a habit of lip biting or MLa, and had tried to self treat it with corticosteroids, which further showed no improvement. Chair-side investigations including KOH examination showed no significant findings, therefore, the patient underwent biopsy. The histological examination revealed hyperkeratosis of the epithelium along with basophilic debris on the surface. Periodic Acid Schiff (PAS) stain was negative for any fungal infection, thus, Oral Candidiasis was ruled out. Follow-up unveiled that, since the patient was not able to stimulate/bite her lips at the biopsy site, the plaque lesions had almost disappeared with no recurrence till follow-up at 1 month.

The second case, was of a 21 year old male patient, who also presented with yellowish plaque-like lesions on the lips. Similar self-help and investigations were done as the first case. In contrast with the above case, this biopsy specimen showed marked acanthosis of the epithelium and exfoliation of the surface. Special stains such as Gram stain as well as PAS were negative for bacterial or fungal growth, respectively. The patient was advised to refrain from the habit which resulted in disappearance of the lesion within 3 months. Similarly, a 17 year old male presented with a whitish surfaced plaque on the lower lip. The chair-side investigations and histopathological features were similar to the previous case with an addition of an underlying retention cyst. Special stains were negative for any suppurative infections. The final diagnosis was given as "Morsicatio Labiorum with underlying Mucocele". The Cystic lesion was excised and habit was retrieved leading to disappearance of the lesion at 1 month follow-up.[8]

In another case report by **Carmona IT et al.** [9] a 21 year old female presented with a lesion on the lateral border of the tongue with vertically corrugated projections. The lesion had occurred 4 months back and was asymptomatic when she started observing white patch on the tongue. Antiseptic mouthwashes along with antifungal medications were prescribed, but the lesion could not subside. No habit of biting or chewing was reported. Differential diagnosis based on the clinical features included Oral Hairy leukoplakia, Oral Candidiasis, Leukoedema as well as chemical or thermal burn. Further, an incisional biopsy was performed to examine the lesion from a histopathological understanding. The H&E stained section showed epithelial hyperplasia with acanthosis, papillomatosis and hyper-orthoparakeratosis. No signs of dysplasia ruled out Leukoplakia as a diagnosis. Focal areas showed cytoplasmic clearing without significant koilocytes, intranuclear inclusion, thus, ruling out viral infection. Few areas showed bacterial colonization on the epithelial surface. Underlying connective tissue stroma showed absence of inflammatory infiltrate. PAS ruled

out any fungal infection. Also immunohistochemical analysis (IHC) was performed to rule out Human Papilloma Virus (HPV) and Epstein Barr Virus (EBV). Therefore, based on the histopathological findings as well as the macroscopic morphology of the lesion, a final diagnosis of Morsicatio Linguarum was given. [9]

Baklouti M et al.[10] in their study, enlightened the role of Dermoscopy (Dermalite DL4-3Gen) in ruling out the differential diagnosis, so as to avoid any invasive techniques and improper treatment. Dermoscopy, exhibits yellowish white structureless lines, areas, small erosions as well as white scales, in the regions of lesions. In some cases, clinical examination stretches the differential diagnosis, and necessitates a biopsy, however, the use of a Dermoscopy aids in the diagnosis.[10]

V. CONCLUSION

To conclude, the habit of biting/chewing the oral mucosa including the buccal & labial mucosa as well as the tongue, or "cavitadaxia", is a stress generated or psychogenic disorder and tends to subside gradually when the individual ceases the habit. According to the literature, very few cases of Morsicatio buccarum, labiorum and linguarum, have been reported till date. The habitual disorder needs to be taken care of and patient awareness should be given in order to treat the lesion at the earliest. Identifying the distinguishing histopathological pattern of Morsicatio, is crucial vis-à-vis providing a correct diagnosis, and thus advising the correct treatment. Psychological or Psychiatric evaluation may be compulsory in refractory cases, wherein the individual needs counselling.

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