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Verrucous Hyperplasia of Tongue -A Case Report

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ABSTRACT

Oral verrucous hyperplasia (OVH) is one of the rare exophytic premalignant lesion that is claimed to have high chance of malignant transformation. Lack of invasion into the underlying cell layer is one ofthe striking histological differences between verrucous hyperplasia and carcinoma. Verrucous hyperplasia (VH) is considered as the precursor to verrucous carcinoma (VC) which is a well- differentiated variant of oral squamous cell carcinoma. It is more prevalent in individuals with habits such as areca nut chewing or smoking.

Here, we have reported a case of 58-year-old female who presented with whitish patch over the lateral border of the tongue region associated with mild discomfort for 6 months. she had a history of diabetes for past 2 years. There was a habit of using betel quid with areca nut for past 20 years. Physical examination revealed no abnormalities. The lesion over the left lateral border of tongue presented as ill-defined, whitish homogeneous exophytic patch which was rough, non-tender and non-scrapable on palpation. Followed by excisional biopsy a histopathological diagnosis of verrucous hyperplasia was given. Patient showed no re-occurrence in the subsequent follow-up session for one year. So, for management of such Oral pre-malignant lesions, the patient's history pertaining to deleterious habits should be evaluated followed by a systematic clinico-pathological diagnostic approach.

Key words: Malignant potential, Histopathological diagnosis, Verruca- papillary lesion.

CASE REPORT

A 58-year-old female patient reported to the Department of oral medicine and radiology with the chiefcomplaint of white patch over the left lateral border of the tongue for past 6 months. The patient initially observed a small white patch, which later gradually increased to its current size during the course of past 6 months. She did not report any burning sensation or pain unless she bit the growth accidently during speech or mastication. She is a known diabetic for past 2 years under anti- hypoglycemic medication. She discontinued wearing her acrylic complete denture for the past 5 months as she experienced discomfort due to poor retention with it. Patient had been chewing crushed areca nut along with betel leaf with a frequency of three times a day for past 20 years and has refrained the habit for past 1 year.

On extra-oral examination patient showed a symmetric face with normal skin tone and color. No lymph nodes were palpable on both side of her neck. On intra-oral examination, patient was completely edentulous with virtually intact residual ridge. An ill-defined, exophytic homogeneous whitish patch which measures approximately around 3 × 2.5 cm present over the left lateral border of tongue and extending inferiorly towards the ventral surface of tongue was noted **(Figure I)**. On palpation it was rough, non-tender, non-scrapable with no signs of ulceration or purulent exudate over the lesion. So based on her habit history and the clinical presentation, a provisional diagnosis of Homogeneous type of leukoplakia over the left lateral border of tongue was provided. Excisional biopsy was performed under regional block local anesthesia, the hemostasis was achieved and suturing was done using non-resorbable 4-0 silk suture for closure **(Figure 2)**. Fixation of the excised tissue done using 10% neutral buffered formalin. Histological examination of Hematoxylin and eosin- stained sections revealed Hyper-para keratinized stratified squamous epithelium with underlying connective tissue stroma which is moderately collagenized with sparse inflammatory cell infiltrate **(Figure 3)**. Clinical presentation and histopathological correlation revealed verrucous hyperplasia of lateral border of tongue. The patient was then followed up once a week during the first month and once every 6 months thereafter (figure IV). No evidence of recurrence of the lesion was found after a follow-up period 1 year.

Figure I: Intraoral photograph showing a whitish plaque like lesion on the lateral border of thetongue

Figure II: Immediate post-operative.

Figure III: Photomicrograph depicting oral verrucous hyperplasia. (H&E Stain,×10)

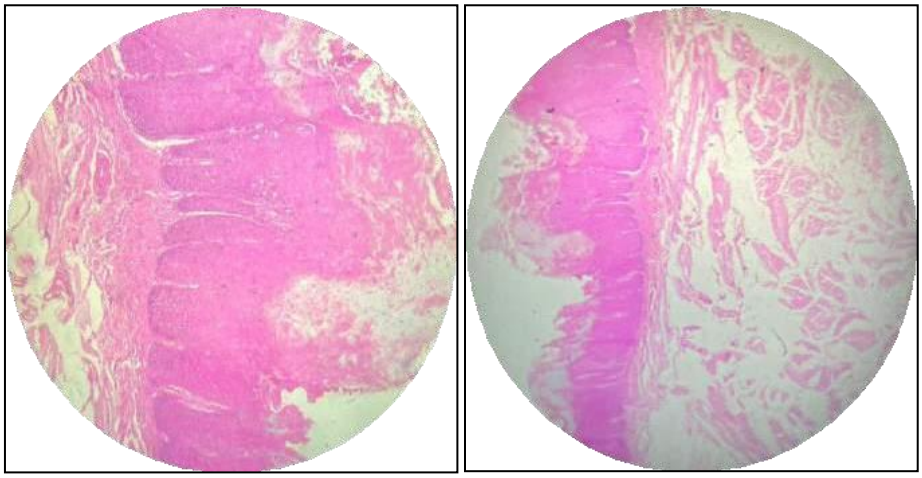

Figure IV: The site after 4 months of follow-up

DISCUSSION

Oral verrucous hyperplasia is a rare, potentially malignant condition characterized by a whitish, exophytic (outgrowth) plaque on the oral mucosa. The surface may appear verrucous (wart-like) or papillary (with small projections). This terminology was first described by *Shear and Pindborg* [1].The Buccal mucosa (57.89%) is considered as one of the predominant sites in oral cavity followed by the tongue, gingiva and alveolar mucosa [2]. It is an aggressive premalignant lesion which depicts various dysplastic alteration in the oral mucosal layer. They lack the characteristics of invasion into the deeper tissue as they are entirely superficial to the adjacent mucosa. The prevalence rate among male is 68% and in female it is 32% commonly found in 4th decade of life [3]. But histologically, gradual progression of these lesion includes normal stratified mucosa, hyper-keratinization of the epithelium, verrucous hyperplasia, verrucous form of carcinoma, papillary variant of squamous cell carcinoma and poorly differentiated squamous cell carcinoma [4]. *Batsakis et al.* noted the histological resemblance between verrucous hyperplasia and verrucous carcinoma, rendering them challenging to differentiate [5]. Verrucous carcinoma portrays a pushing border with prominent invasion of hyperplastic epithelium into the underlying connective tissue with intact basement membrane [6]. There is a conspicuous association between tobacco, areca nut chewing and malignant transformation of verrucous hyperplasia. These non-smoking tobacco products are composed mainly of alkaloids, tannins, flavonoids, triterpenoids, steroids, and fatty acids of which the Arecoline, has been proposed as a possible carcinogen for human beings by the International Cancer Research Institute. The mean time for malignant transformation of oral verrucous hyperplasia was 22 ± 11 months within a period of 5-year follow-up [7]. Clinically both verrucous hyperplasia and verrucous carcinoma present as diffuse, thick, whitish

plaque or patch with exophytic verrucous appearance. Uncertainty in differentiation of these lesion is bewildering. *Wang et al*. categorized VH into plaque-type and mass-type of verrucous hyperplasia lesions and found substantial differences in their rates of malignant transformation [8]. Evidence shows that an untreated oral leukoplakia may turn into a verrucous hyperplasia and/or a verrucous carcinoma in time [9]. Utilization of certain immunohistochemical stains like Ki-67, P53, MMP,E-cadherin, P21, MDM2 aids to establish these two entities and may present as an adjunct in such difficult cases [10]. *Klieb and Raphael* determined that verrucous carcinoma exhibited more widespread staining for p53 and Ki67 in the upper layers compared to verrucous hyperplasia [11]. Surgical excision of the lesion with adequate soft tissue margins is considered as one of the gold standard techniques for the management of verrucous hyperplasia. Different procedures that have been implied in the treatment of verrucous hyperplasia such as chemotherapy, cryotherapy, radiotherapy or combination of these to obtain a synergistic effect [12]. Studies have reported that topical 5-aminolevulinic acid- mediated photodynamic therapy as one of the effective modalities in treatment of large hyperplasticlesions and showed complete regression after 6 complete treatment episodes [13].

CONCLUSION

Although verrucous hyperplasia is a benign torpid tumor, need for multiple deep biopsies is recommended to discern from verrucous hyperplasia and other groups of oral squamous cell carcinoma displaying verrucous features. The present report described a case of verrucous hyperplasia of tongue which are one of the rare exophytic pre-cancerous lesion which was successfully diagnosed and treated by surgical excision with no signs of recurrence in an observed period of one year. Furthermore, due to its potential for increased malignant transformation in verrucous hyperplasia, patients should receive treatment similar to those with verrucous carcinoma.

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