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## CASE REPORT

### TRANSFORMATION OF ORAL SQUAMOUS CELL CARCINOMA FROM ORAL VERRUCOUS LEUKOPLAKIA- A CASE REPORT

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#### ABSTRACT

White lesions are selectively frequent in the oral cavity. The prevalence of oral leukoplakia is quite prevalent among such lesions. There are many variants of oral leukoplakia, one of which is oral proliferative verrucous leukoplakia (OPVL), it is a rare clinico-pathological entity which is slow growing, long term progressive lesion, but remains an enigmatic and difficult to define. According to the published case series, OPVL regarded as a disease with aggressive biological behaviours due to its high probability of recurrence and high rate of malignant transformation. This article presents the clinico-pathologic characteristic of verrucous leukoplakia turning into squamous cell carcinoma involving right buccal mucosa and commissural area of a sixty eight years old male patient.

## INTRODUCTION

Oral proliferative verrucous leukoplakia now-a-days appears to be a quite prevalent white lesion affecting the oral cavity (Munde, 2016). The disease seems to have an idiopathic origin. There is an association between leukoplakia and Human Papilloma Virus. But, its direct relation with verrucous leukoplakia is controversial as it occurs both in smokers and non-smokers (Warnakulasuriya *et al.*, 2007). It is most frequently observed in elderly women involving the tongue and buccal mucosa (Munde, 2016 and Warnakulasuriya, 2007). Oral verrucous leukoplakia is a long term progressive condition, which initially develops as a white hyperkeratotic plaque which eventually becomes a multi-focal disease with confluent of exophytic, and proliferative features. WHO implicated the term potentially malignant disorder for such lesions (Warnakulasuriya, 2007; Khairnar, 2016 and Singh, 2012). Oral malignancies are considered to be a serious cause of morbidity and mortality throughout the world amongst which the oral squamous cell carcinoma is considered to be the most potent.

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Tobacco chewing habit with or without the betel nut and smoking are considered to be the most important risk factors (Khairnar, 2016). The initial noticeable morphologic alterations of oral cancer are the manifestation of the precancerous lesion at the site, of which the most frequent ones are leukoplakia and erythroplakia (Singh, 2012). Due to its aggressive biological behaviour, higher recurrence rate, and high rate of potentiality to malignant transformation, prognosis is questionable for such harmless appearing white lesions (Singh, 2012 and Issrani, 2013). The clinicopathological characteristic of verrucous leukoplakia turning into squamous cell carcinoma involving right buccal mucosa and commissural region of a sixty eight years old male patient have been discussed herewith.

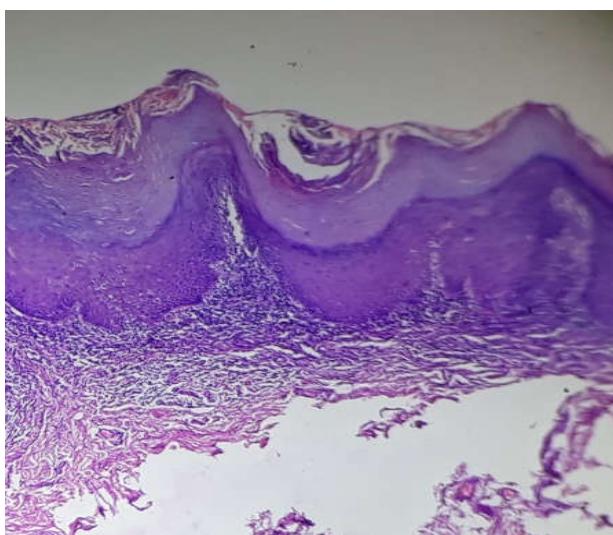
#### Case Report

A 68 years old male patient from semi-urban area reported to the Department of Oral and Maxillofacial Pathology, GNIDSR, Panihaiti, Kolkata for the second time with chief complaint of white patches involving oral cavity for last one year. He had already taken oral medication for the white patches with no signs of improvement. He had the habits of smoking and chewing tobacco, which he presently continued with reduced frequency despite being advised to quit.

The same patient was reported to the department one year back with the history of white, non-scrapable, non-tender, keratotic patch which was then diagnosed as oral proliferative verrucous leukoplakia through incisional biopsy (Fig.1 and Fig.2). Patient was then advised for complete withdrawal of the habit, complete excision of the lesion, and periodic check-up. But, the patient did not report to the department for further treatment. On examination, the patient was found to be apparently healthy. Extra-oral examination revealed no significant abnormality. On intraoral clinical examination, patient was found to be completely edentulous and had been on complete dentures for last ten years. Intra-orally a diffuse, greyish white, coarse patch with surface granularity approximately of 3cm x2cm involving the right buccal mucosa near to the right commissural region (Fig.3). The regional mucosa was found to be mild erythematous. Routine haematological investigation, PCR test for human papilloma virus (HPV) were performed. Haematological investigation values were found to be within normal limits while HPV was not detected by PCR. Based on clinical findings, provisional diagnosis of oral proliferative verrucous leukoplakia was made. The differential diagnosis of malignant ulcer transitioned from oral verrucous leukoplakia was also considered in this case based on clinical history.



**Fig. 1.** Intra-oral clinical photograph of the patient (one year prior to intervention) showing white, non-scrapable patch

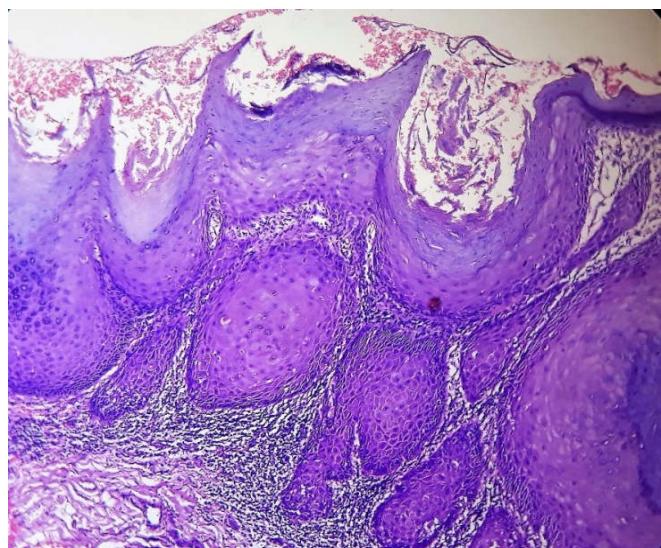


**Fig. 2.** Intra-oral histopathological photograph of the patient showing characteristic features of proliferative verrucous leukoplakia

Patient was again advised for routine incisional biopsy which was performed under local anaesthesia and specimen was sent for histopathological evaluation. The section stained with H and E revealed the presence of hyper-parakeratotic stratified surface squamous epithelium with underlying fibro-vascular connective tissue. The epithelium revealed areas of hyperplasia, being thrown into papillary folds at places, with para-keratin plugging. Mild to moderate degree of dysplasia was also noted throughout the epithelium (Fig. 4). The most striking feature is the presence of tumour islands in the underlying connective tissue, being composed of proliferating neoplastic epithelial cells showing pronounced cellular and nuclear pleomorphism, being arranged in whorled fashion (Fig.4). The juxta-epithelial connective tissue revealed intense nonspecific chronic inflammatory cell infiltration chiefly consisting of lymphocytes. The overall light microscopic features are suggestive of well differentiated squamous cell carcinoma. Patient was then advised for further surgical treatment and management.



**Fig. 3.** Intra-oral clinical photograph of the patient (one year later) showing diffuse, greyish white, coarse patch near the right commissural region



**Fig. 4.** Intra-oral histopathological photograph of the patient (one year later) suggestive of proliferative verrucous leukoplakia transforming into squamous cell carcinoma demonstrating proliferating, neoplastic epithelial cells arranged in whorled fashion

## DISCUSSION

White lesions both physiologic and pathologic are relatively frequent in oral cavity. The most common pathology being oral leukoplakia (Munde, 2016; Warnakulasuriya, 2007 and Khairnar, 2016). There are many variants of oral leukoplakia, one of which is oral proliferative verrucous leukoplakia (OPVL). Latest World Health Organisation nomenclature-OPVL- conforms to the new terminology that is potentially malignant disorder, which is neither a de-limited lesion nor a condition (Munde, 2016; Warnakulasuriya, 2007 and Khairnar, 2016). According to authors of various studies, clinically OPVL is characterised by the presence of numerous keratotic plaque with rough surface projections. In our case the patient presented with same type of clinical features. As the lesion progress its shows persistent growth and eventually it become exophytic and verrucous. After attaining certain maturity they may go through a stage which is completely indistinguishable from verrucous carcinoma, but they latter usually develop dysplasia and transform into full-fledged squamous cell carcinoma within eight years of initial OPVL diagnosis (Khairnar, 2016; Singh, 2012; Issrani, 2013; Silverman, 1997 and Kharma, 2012). The presented case report was supported by this above mentioned thought. Histopathologically, the present case was characterised by the presence of hyper-para keratinised stratified squamous surface epithelium being backed by fibro-vascular connective tissues. The epithelium revealed areas of hyperplasia being thrown into papillary folds at places with parakeratotic plugging which mimics the conventional histopathological features of OPVL. The most striking features in our case is the presence of neoplastic tumor islands invading in the underlying connective tissue stroma, being composed of proliferating neoplastic epithelial cells revealing pronounced cellular and nuclear pleomorphism arranged in whorled fashion. This light microscopic features are suggestive of well differentiated squamous cell carcinoma which is strongly supported by the previous published case reports (Silverman, 1997; Hansen, 1987 and Kharma, 2012). Hence the lesion was finally diagnosed as oral squamous cell carcinoma based upon clinical and histopathological findings. Since, surgical excision is the main stay of treatment. In our case patient was advised to go for further treatment and management.

## Conclusion

Oral verrucous leukoplakia is an aggressive lesion and requires awareness from both clinician and patient. Early diagnosis and management, stoppage of all tobacco habits, and periodic follow up for life time has immense importance to avoid its life threatening malignant transformation.

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