

# Verrucous Carcinoma of Buccal Mucosa: A Case Report

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## Abstract

Verrucous carcinoma is a variant of squamous cell carcinoma. It most commonly affects the oral cavity with buccal mucosa being the commonest site affected. Clinically it has proliferative finger like projections or a cauliflower like appearance which is a significant factor in its diagnosis. It is more common in tobacco user males. The histopathological diagnosis of verrucous carcinoma is difficult and requires immense experience to report a case of verrucous carcinoma. Though verrucous carcinoma is described as a benign lesion with minimum aggressive potential but long standing cases have shown transformation into squamous cell carcinoma. Therefore early diagnosis and surgical excision of the lesion is the most appropriate treatment modality of verrucous carcinoma. In this paper we discuss a case of 42 year old female with verrucous carcinoma of left buccal mucosa.

**Keyword:** Female, Oral Cavity, Verrucous Carcinoma.

## Introduction:

Oral Verrucous Carcinoma (OVC), a variant of Squamous Cell carcinoma (SCC), was first described by Lauren V Ackermann in 1948 so it was known as ‘Verrucous Carcinoma of Ackermann’ or ‘Ackermann’s Tumor’.<sup>1</sup> other names used in literature are Buschke-Loewenstein tumor, florid oral papillomatosis, epitheliomacuniculatum, and carcinoma cuniculatum.<sup>2</sup> The most common site of occurrence is oral cavity, other sites being larynx, pyriform sinus, esophagus, nasal cavity and paranasal sinuses, external auditory meatus, lacrimal duct, skin, scrotum, penis, vulva, vagina, uterine cervix, perineum, and the leg.<sup>3,4</sup> OVC has a predilection for male in sixth decade with a slow growing rate and becomes locally invasive if not treated properly. But, distant metastasis is rare.<sup>5</sup> Clinically, it presents as a plaque like lesion with finger like projections resembling cauliflower,<sup>6</sup> Tobacco in both smoking and smokeless form, alcohol and opportunist viral infections are the most associated etiologies with OVC.<sup>5,10</sup> We report a case of a female patient with oral

verrucous carcinoma with differential diagnosis of the lesion.

## Case Report:

A 42 year old female patient (**Figure No. 1**) reported to our college with a chief complain of pain in the left side of mouth since 7 days. Patient noticed a small, painless growth over the left buccal mucosa 1 year back, which gradually grew to the present size. Patient developed pain 3 months back which was initially mild and intermittent but has aggravated since 7 days. She visited government hospital 2 weeks back with the same complain and was prescribed a course of antibiotic and analgesics. Patient had a history of chewing quid since 15 years, 7-8 times/day in the lower right buccal vestibule for 10 minutes following which she used to spit out the contents. Patient gave no relevant medical or family history. On general examination patient had normal gait and posture and was well oriented, conscious and moderately built. No evidence of pallor, icterus, cyanosis and clubbing was present. Single left

submandibular lymph node was palpable of approximately 1.5 cm by 1 cm in size, ovoid in shape, tender on palpation, mobile and firm in consistency.

On local examination, on inspection - intraorally there was presence of solitary proliferative verrucous growth over the left buccal mucosa (**Figure No. 2**), extending anteroposteriorly from retrocommissural area to posterior buccal mucosa and superoinferiorly from upper buccal vestibule to approximately 1 cm above the lower vestibule. The lesion was approximately 7x4 cm in size, well defined with irregular margins. Surface of the lesion was irregular at the periphery with finger like projections in the centre. Color of the lesion varied from pink in periphery to frank white in the centre. On palpation, inspectory findings of size, site, surface, shape were confirmed. Lesion was tender and elevated from adjacent mucosa with irregular and firm margins. Right buccal mucosa (**Figure No. 3**) revealed presence of diffuse, irregular erythematous area extending anteroposteriorly from retrocommissure area to posterior buccal mucosa and superoinferiorly from upper buccal vestibule to 1 cm above the lower buccal vestibule. Lesion was approximately 5x3 cm in size with focal areas of white spots and paan encrustations. On palpation, inspectory findings of size, site and shape were confirmed. Lesion was non tender, with no change in consistency from that of normal mucosa. Lesion had a rough surface with scrapable paan encrustations. Hard tissue examination revealed complete set of teeth with missing 18 and 28 with poor oral hygiene.

Based on the clinical examination a provisional diagnosis of verrucous leukoplakia of left buccal mucosa and erythroleukoplakia of right buccal mucosa was given. Differential diagnosis of verrucous carcinoma, verrucous hyperplasia was given. Complete blood count, Random blood sugar level revealed no abnormality so incisional biopsy of the lesion was done.

### Histopathology Report:

H and E section of the submitted tissue showed stratified squamous parakeratinized epithelium which was hyperplastic in nature with its down growth into the cellular connective tissue. The proliferating

epithelium showed pushing rete pegs into the connective tissue. Numerous cleft like spaces were seen with parakeratin plugging within them. The epithelial cells exhibited increase in the basal cell layer, some cells exhibited pleomorphism, hyperchromatism and mitotic activity. The underlying connective tissue showed infiltration of numerous darkly staining inflammatory cells. (**Figure No. 4 & 5**)

Histopathological diagnosis: Overall features suggestive of Verrucous carcinoma.

### Discussion:

OVC, as mentioned most commonly affects elderly male with adverse habits of tobacco and alcohol.<sup>5</sup> But the present case is of middle aged female with a thick cauliflower like growth in her left buccal mucosa histologically proved to be a verrucous carcinoma. OVC or Ackermann's tumor though has a predilection for oral cavity but cases affecting esophagus have also been reported.<sup>11</sup> Lesions often develop at the site where the tobacco was placed habitually.<sup>12</sup> In Ackerman's study, 11 out of 18 patients (61%) with buccal cancers were tobacco chewers. Majority of patients (76.2%) chewed tobacco and had buccal cancer.<sup>13</sup> Association of Human Papilloma Virus infection and verrucous carcinoma has also been proved in various studies.<sup>5,7-9</sup> Other etiologic factors like poor dental hygiene, ill-fitting dentures, low socioeconomic status, tobacco chewing, snuff and alcohol use, and smoking.<sup>5,8,14</sup> These are the same factors that predispose individuals to the development of premalignant lesions such as, leukoplakia, submucous fibrosis (SMF), and erythroplakia.<sup>15</sup> Rajendran et al. recorded leukoplakia in association with OVC in 48% of their patients.<sup>10,12</sup> Untreated long standing leukoplakia has been reported to change into OVC.<sup>16</sup> Most common site in oral cavity is buccal mucosa (61.4%) followed by (11.9%).<sup>13</sup> OVCs are mostly large, exophytic, soft, fungating growth with pebbly surface having locally aggressive nature. Enlarge lymph nodes are often palpable but are often reactive.<sup>7,8</sup> Histopathological diagnosis of verrucous carcinoma is difficult and reporting needs experience.<sup>17,18</sup> The term "verrucous" was applied for lesions showing a keratotic exophytic



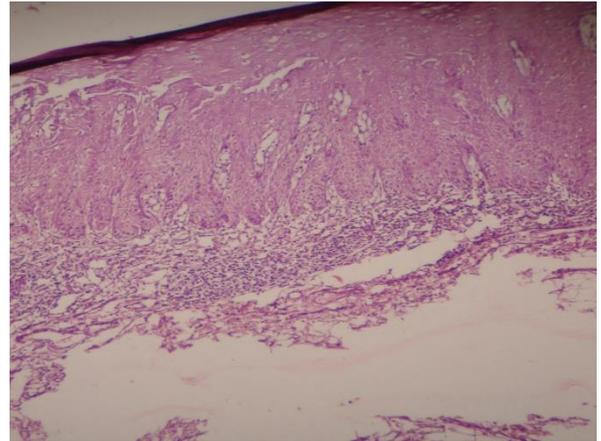
**Figure No. 1: Facial Profile**



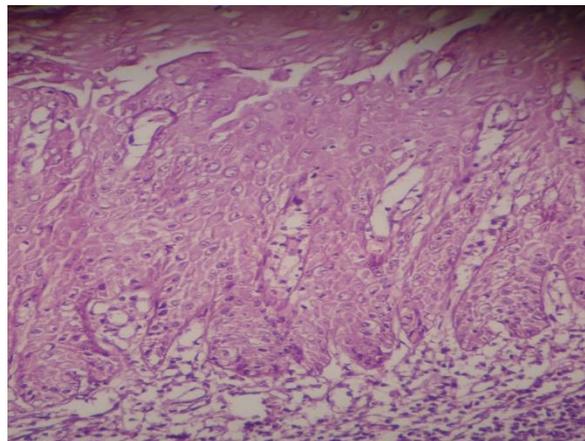
**Figure No. 2: Verrucous Growth of Left Buccal Mucosa**



**Figure No. 3: Erythroplakia of Right Buccal Mucosa**



**Figure No. 4: H and E Picture of Verrucous Carcinoma**



**Figure No. 5: H and E Picture of Verrucous Carcinoma**

surface composed of sharp or blunt epithelial projections with keratin-filled invaginations (plugging), but without obvious fibrovascular cores. The histological features of VC, for example, verrucous surface and “elephant feet” like down growth seeming to compress the underlying connective tissue and typically showing minimal or absent cytological atypia, are widely known.<sup>19</sup> By flow cytometry, VC is a diploid lesion; on the contrary, the conventional squamous cancer often shows aneuploidy and genomic instability.<sup>20</sup> The pathologist, when a surgeon asked him the specific “nature” of a problematic lesion arisen on the oral cavity, replied as “The bad kind!” to confirm the difficulty in the diagnosis of a VC on incisional biopsies.<sup>1</sup> Because it is cytologically benign, besides the focal basal cell nuclear hyperchromatism, distinction from VC and verrucous hyperplasia (VH) cannot be based only on cytologic features.<sup>19,21</sup> Differential diagnosis of verrucous carcinoma includes: (i) squamous cell carcinoma showing verrucoid features, (ii) Proliferative verrucous leukoplakia, (iii) epithelial hyperplasia, (iv) pseudoepitheliomatous hyperplasia, (v) verruca vulgaris, (vi) keratoacanthoma.<sup>22</sup> As per literature, the best treatment modality of OVC is surgical resection of the tumor.<sup>13</sup> So, this patient was also advised for surgical removal of the lesion and regular follow up. Though OVC does not show distant metastasis and mostly associated with reactive lymphadenopathy so supra omohyoid neck dissection is sometimes considered.<sup>13</sup> OVC has been reported to erode the margin of mandible but marrow infiltration is extremely rare.<sup>12</sup> Rajendran et al., in their study of 426 cases of OVC, found the incidence of bone invasion to be 1.2%.<sup>10</sup> Oliveira et al. did not find bone invasion in their series.<sup>5</sup> Recurrence of lesion can be due to improper section, false negative frozen section report and sometimes due to the slow growth pattern surgical margins are compromised.<sup>7,8,24</sup> Slaughter et al. emphasized the fact that in situ carcinoma involves the mucosa over wide surface area than in depth. The presence of carcinoma in situ microscopically in clinically negative resections can explain the phenomenon of recurrence of invasive cancer in apparently normal epithelium or previous excision

sites.<sup>25</sup> Radiotherapy is contraindicated in treatment of OVC as radiation induced anaplastic transformation.<sup>15</sup> As the literature is confusing, it is retained that radiotherapy could be used only in selected clinical settings, when surgery is not possible.<sup>23</sup>

### Conclusion:

In most of the cases Verrucous carcinoma, verrucous hyperplasia, verrucous keratosis are clinically indistinguishable from each other so histopathological evidence is necessary to give an appropriate diagnosis. Verrucous carcinoma presents as thick warty keratotic lesion which is more common in males and is usually painless or asymptomatic. In our case we present a female with painful, warty, exophytic lesion of left buccal mucosa histopathologically proved to be verrucous carcinoma. OVC associated with leukoplakia or submucous fibrosis may be an indication of “field cancerization” and can lead to multiple recurrences, so it is highly suggestive, that such patients be kept under regular follow up.

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**How to Cite:** Asha ML, Vini K, Chatterjee I, Patil P. Verrucous Carcinoma of Buccal Mucosa: A Case Report. *Int J Adv Health Sci* 2014; 1(4): 19-23.