

CLINICAL EXPERIENCE OF ORAL VERRUCOUS CARCINOMA IN CENTRAL INDIA POPULATION: A PROSPECTIVE STUDY

**Chandrashekhar R Bande¹, Nitin Fating², Pawan V. Dawane³, Mayur J.
Gawande⁴, M.K.Gupta⁵**

1- Prof & Guide, 2-Senior lecturer, 3,4-Senior Resident, 5- Prof & HOD
Dept of Oral & Maxillofacial Surgery, Swargiya Dadasaheb Kalmegh Dental college
& Hospital Nagpur, Maharashtra, India

ABSTRACT:

Aim: Verrucous carcinoma is a progressive lesion of obscure etiology with high recurrence rate. It seems to have significant risk for progression of this disease entity to squamous cell carcinoma. Various treatment modalities have been advocated but poor response to treatment have been reported. We present our experience management of Verrucous Carcinoma with long term results in Central India population.

Methods & Materials: This study was observational and prospective randomized included 52 patients during the period of 2012 to 2015. All the patients were randomly divided into two groups. In group A, 26 (52) patients of OVC were treated with surgical treatment consisting wide local surgical excision with 1cm safe margin and management of cervical lymph nodes with Supraomohyoid neck dissection. In Group B, 26 (52) were treated with only local wide excision. All the patients were followed up for 10 to 18 months.

Results: 4 (26) patients in group A were showing positive cervical metastasis in the histopathological examination among. There was no recurrence in 1 year of follow up. 7 (26) patients in group B had recurrence in the form of cervical nodal metastasis. All 7 patient were reoperated and extended supraomohyoid neck dissection was performed along with wide local surgical excision of recurred lesion and fallowed up for 18 months. 3 out of 7 (42.85%) resected specimen had invasive carcinoma. Mostly the initial T2 & T3 size lesion showed recurrence & malignant transformation.. Distant metastasis not evident in both the groups.

Conclusion: In view of high recurrence and malignant transformation rate of verrucous carcinoma, we advocate the surgical strategy for the management of verrucous carcinoma same as that of squamous cell carcinoma.

Keywords: Verrucous carcinoma, Supraomohyoid neck dissection, Malignant transformation.

Cite this article : Chandrashekhhar Bande, Nitin Fating, Pawan V. Dawane, Mayur J. Gawande, M.K.Gupta, Clinical experience of oral verrucous carcinoma in central india population: A prospective study., J. Head & Neck phys and surg, Vol 3(3), 2015, Pg147-155.

INTRODUCTION:

Oral Verrucous carcinoma (OVC) is considered to be a morphological type of epidermoid carcinoma with typical variant clinical and pathological features. It was first described in 1948 by Lauren V Ackermann, also known as “Ackermann’s Tumor” or ‘Verrucous Carcinoma of Ackermann’ [1]. It is slow growing and locally invasive in nature and rarely metastasize. The appearance of OVC is a cauliflower like thick white plaque and painless in nature. The common site involvements in OVC include the buccal mucosa, followed by the alveolar crest, gingiva and tongue [2]. Verrucous hyperplasia has been considered as a forerunner of early form of verrucous carcinoma with same biological potential and the term coined by Shear and Pindborg in 1980 [3, 4].

The various treatment modalities have been discussed in the literature but the paramount treatment modality of OVC is surgical resection of the tumor. So, the treatment of choice is surgical removal of the lesion and regular follow up.[5]. Nevertheless it is not associated with distant metastasis but sometimes it may be associated with reactive lymphadenopathy. For such cases supra omohyoid neck dissection is considered to be a treatment of choice [5]. The prognosis of OVC is generally excellent since nodal metastases rarely occur. However, in 20% of cases, verrucous carcinoma co-exists with conventional squamous cell carcinoma with a significant reduced prognosis [6].

We present our experience of 52 patients with OVC to analysis the treatment modality, recurrence and outcome with treatment strategy in Central India population with 1 year of follow up.

MATERIALS AND METHODS:

This study was observational and prospective randomized included 52 patients in the period of 2012 to 2015. All the patients were randomly divided into two groups after confirming the diagnosis clinically and histologically. All the cases were evaluated radiologically with computed tomography of head and neck region, chest X- ray and routine blood investigations carried out. All patients were operated under general anesthesia under all aseptic precautions.

In group A, 26 (52) patients of OVC were treated with surgical treatment consisting wide local surgical excision with 1cm safe margin and management of cervical lymph nodes with supraomohyoid neck dissection (Figure: I,II,III). In Group B, 26 (52) Patient were treated with only local wide excision (Figure: IV, V). All the patients were followed up for 1 year.



Figure I: Pre-operative lesion in lower alveolus



Figure II: Wide local excision with supraomohyoid neck dissection



Figure III: Post- operative view of patient



Figure IV: Illustrating the verrucous carcinoma on left maxilla



Figure V: Local wide excision of the lesion

RESULTS:

Results are tabulated in Table 1 and 2 respectively. *Age and Sex:* The ages of all patients ranged from thirty three to sixty seven years, with an average age of 54.84 year and 52.96 year in Group A and Group B respectively. *Location:* The lesions were distributed in the oral cavity shown in Table 1. Out of 52, 21 patients having buccal mucosal lesions, 10 lesions appeared to arise from the gingivo-buccal complex, 9 lesions from retro-molar trigone area, 6 lesions on mandibular alveolus and remaining 6 lesions on the tongue. Posterior maxilla and mandible accounted for most common site. *Gender Predilection:* Among all the patients there were 38 (52) males and 14 (52) females.

Group A: 26 (n=52) patients were managed with wide local excision with 1 cm safe margin along with extended supraomohyoid neck dissection. In that 4 (15.38%) patients were showing positive cervical metastasis in specimen in the histopathological examination. There was no recurrence for 10 to 18 months of follow up.

Group B: 26 (n=52) Patients were managed with only wide local excision with 1 cm safe margin. 7 (26.92%) patients treated had recurrence in the form of cervical nodal metastasis. All 7 patient were reoperated and extended supraomohyoid neck dissection was performed along with wide local surgical excision of recurred lesion. and followed up for 18 months. 3

(42.85%) resected specimen showed invasive carcinoma in histopathological examination. Mostly initial T2 & T3 size lesion showed recurrence & malignant transformation. None of the patient developed distant metastasis in any group.

TABLE 1: Illustrating Patient data from GROUP A

Sr No	Age	Sex	Location of Tumor	Size of Tumor in cm	Lymph node Status
1	54	M	Mandibular Alveolus	5x2	Level I
2	43	F	Buccal mucosa	3x4	Level II
3	65	M	Gingivo buccal complex	4x5	Not Palpable
4	45	F	Retromolar area	4x3	Level III
5	63	M	Buccal mucosa	3x5	Not Palpable
6	62	M	Gingivo buccal complex	4x5	Level I
7	54	M	Buccal mucosa	3x6	Level II
8	65	F	Mandibular Alveolus	5x4	Level II
9	39	M	Gingivo buccal complex	5x2	Not Palpable
10	45	M	Buccal mucosa	4x5	Level III
11	49	M	Mandibular Alveolus	3x4	Level I
12	65	M	Retromolar area	4x5	Level II
13	58	M	Buccal mucosa	3x4	Level II
14	63	F	Retromolar area	4x6	Not Palpable
15	49	M	Buccal mucosa	3x5	Level III
16	48	F	Gingivo buccal complex	4x5	Level I
17	60	M	Tongue	3x4	Not Palpable
18	54	M	Buccal mucosa	4x3	Level II
19	45	F	Retromolar area	5x4	Level II
20	34	M	Retromolar area	5x2	Level III
21	53	F	Buccal mucosa	2x4	Not Palpable
22	46	M	Gingivo buccal complex	3x4	Level II
23	61	M	Buccal mucosa	4x3	Level II
24	57	F	Tongue	5x3	Not Palpable
25	61	M	Buccal mucosa	5x2	Level II
26	54	M	Gingivo buccal complex	5x3	Level III

TABLE 2: Illustrating Patient data from GROUP B

Sr No	AGE	SEX	LOCATION OF TUMOR	SIZE OF TUMOR IN cm	STATUS OF LYMPHN NODES	RECURRENCE	HISTOPATHOLOGICAL REPORTS
1.	56	M	Retromolar area	3 X4	LEVEL II	+	Histopathological evidence of malignant tranformation noted
2	47	M	Buccal mucosa	4x5	Not Palpable		
3	60	M	Tongue	4x3	Level I		
4	46	M	Mandibular Alveolus	3x5	Level I	+	No malignant transformation on Histopathological examination
5	65	M	Buccal mucosa	4x5	Level I		
6	62	M	Gingivo buccal complex	3x6	Level I		
7	56	F	Buccal mucosa	5x4	Not Palpable		
8	62	M	Retromolar area	5x2	Level II	+	Histopathological evidence of malignant tranformation noted
9	35	M	Mandibular Alveolus	4x5	Not Palpable		
10	48	F	Buccal mucosa	3x4	Level II	+	No malignant transformation on Histopathological examination
11	45	M	Gingivo buccal complex	4x5	Not Palpable		
12	67	M	Retromolar area	3x4	Level I	+	No malignant transformation on Histopathological examination
13	55	F	Buccal mucosa	4x6	Level I		
14	61	M	Retromolar area	3x5	Not Palpable		
15	43	M	Buccal mucosa	4x5	Level I		
16	45	F	Tongue	3x4	Level I		
17	61	M	Gingivo buccal complex	4x3	Not Palpable		
18	51	M	Buccal mucosa	5x4	Level I		

19	42	M	Tongue	5x2	Level I		
20	33	F	Tongue	2x4	Level I		
21	55	M	Buccal mucosa	3x4	Not Palpable		
22	47	M	Gingivo buccal complex	4x3	Level II	+	Histopathological evidence of malignant transformation noted
23	61	F	Buccal mucosa	5x3	Level II	+	No malignant transformation on Histopathological examination
24	53	M	Mandibular Alveolus	5x2	Not Palpable		
25	65	M	Buccal mucosa	5x3	Level II		
26	56	M	Buccal mucosa	5x2	Not Palpable		

DISCUSSION:

Verrucous carcinoma, a low grade variant of squamous cell carcinoma and it is likely because of snuff, chewing tobacco and alcohol, primarily seen in the sixth and seventh decade of life. 16-51% of oral verrucous carcinomas are found in persons without tobacco habit [2]. But in this study, all the patients were tobacco chewers and 4% patients had associated history of alcohol consumption. But other etiologic factors includes like poor dental hygiene, ill-fitting dentures, low socioeconomic status and smoking [7, 8, 9, 10]. Recent studies have concluded that there is relation between Human Papilloma virus (HPV) and OVC by identifying HPV–DNA types 6, 11, 16, and 18 by polymerase chain reaction (PCR), DNA slot blot hybridization and restriction fragment analysis [11].

The requirement for neck dissection is debatable and significant consideration in treatment for OVC. The clinical presentation of OVC often influences the clinical decision in favor of lymph node dissection, whenever there is presence of clinical lymphadenopathy. Various treatment modalities have been documented in the literature, foremost among them being surgery, radiotherapy and chemotherapy. In this study, all patients underwent surgery as the primary major treatment includes wide local excision and Supraomohyoid Neck dissection in Group A whereas only wide local excision in Group B.

In literature, the transformation rate of OVC to SCC in 20% of cases [12] but in our study it was found to be 13.46%. Dhawan et. al. reported lymph node metastasis in 61% [13]. Transformation of OVC to anaplastic or poorly differentiated SCC has been reported (6.7%) after chemotherapy, laser surgery, cryosurgery and multiple conventional surgeries [14]. Ackerman suggested neck dissection patients with extensive lesions with involvement of bone [1]. Dhawan et al. (1993) proposed that if Level I and II lymph nodes are palpable and

have histologically confirmed the metastasis potential, radical neck dissection has to be carried out to prevent recurrence [13].

Based on our Observation, it is obvious that patients with verrucous carcinoma have to be followed up very carefully and regularly as other malignancies develop in a high percentage of cases. The presence of verrucous carcinoma has, in our opinion, to be interpreted as an expression of an ever present premalignant change in the whole oral epithelium. Oral Verrucous lesions are having distinct clinical and histological features. Treatment plans for each case should be based on the histological nature of the lesion, site, accessibility, lymph node enlargement etc. A surgical excision with wide margins and Supraomohyoid Neck dissection where pathological diagnosis is uncertain and appropriate reconstruction is necessary to enhance functional outcome in order to prevent the recurrence. Supportive treatment in the form of adequate nutrition and cessation of habits should be incorporated in the planned therapy.

REFERENCES:

1. Ackerman LV. Verrucous carcinoma of the oral cavity. *Surgery* 1948;23(4):670–8
2. Passi D, Singh G, Gupta C, Patra D. Verrucous carcinoma – A Diagnostic Dilemma: Case series, Differential diagnosis, Therapy and Literature Review. *J Adv Med Dent Sci* 2014;2(2):141-6
3. Shear M, Pindborg JJ. Verrucous hyperplasia of the oral mucosa *Cancer*. 1980;46:1855–62
4. Murrah VA, Batsakis JG. Proliferative verrucous leukoplakia and verrucous hyperplasia. *Ann Otol Rhinol Laryngol*. 1994;103:660–663
5. Walvekar RR, Chaukar DA, Deshpande MS, Pai PS, Chaturvedi P, Kakade A et al. Verrucous carcinoma of the oral cavity: A clinical and pathological study of 101 cases. *Oral Oncol* 2009;45:47–51
6. Julia A. Woolgar. Histopathological prognosticators in oral and oropharyngeal squamous cell carcinoma. *Oral Oncology* 2006; 42: 229–239
7. Oliveira DT, Moraes RV, Fiamengui Filho JF, Fanton Neto J, Landman G, Kowalski LP. Oral verrucous carcinoma: a retrospective study in Sao Paulo Region, Brazil. *Clin Oral Invest* 2006;10(3):205–9
8. Tornes K, Bang G, Stromme KH, Pedersen KN. Oral verrucous carcinoma. *Int J Oral Surg* 1985;14(6):485–92
9. Jacobson S, Shear M. Verrucous carcinoma of the mouth. *J Oral Pathol* 1972;1(2):66–75
10. Sundstrom B, Mornstad H, Axell T. Oral carcinomas associated with snuff dipping: Some clinical and histological characteristics of 23 tumours in Swedish males. *J Oral Pathol* 1982;11(3):245–51
11. Prioleau PG, Santa Cruz DJ, Meyer JS, et al. Verrucous carcinoma: A light and electron microscopic autoradiographic and immunofluorescence study. *Cancer* 1980; 45: 2849-57
12. Hatsumi et al. Maxillary Verrucous Carcinoma Coincident With Cervical Lymph Node Metastasis of Colon Adenocarcinoma. *Int Surg* 2012;97:270–274
13. Dhawan IK, Verma K, Khazanchi RK, Madan NC, Shukla NK, Saxena R. Carcinoma of buccal mucosa: incidence of regional lymph node involvement. *Indian J Cancer* 1993;30:176-80
14. Tippu SR, Rahman F, Pilonia D. Verrucous carcinoma: A review of the literature with emphasis on treatment options. *Indian J Stomatol* 2012;3:22-6

Acknowledgement- None

Source of Funding- Nil

Conflict of Interest- None Declared

Ethical Approval- Not Required

CORRESPONDENCE ADDRESS:-

Dr Mayur J. Gawande MDS
Senior Resident
Dept of Oral & maxillofacial surgery,
Swargiya Dadasaheb Kalmegh Dental college & Hospital Nagpur
Email Id-drmayurgawande@gmail.com

JHMPDS