

# A Study on Malignancy of Oral Cavity Cases Presenting to a Tertiary Care Centre in Western Odisha

Satyajit Mishra<sup>1</sup>, Dipti Ranjan Patjoshi<sup>2</sup>

<sup>1, 2</sup> Department of ENT, Bhima Bhoi Medical College, Bolangir, Odisha, India.

## ABSTRACT

### BACKGROUND

Malignancy of oral cavity is quite a common disease entity in Western part of the state of Odisha. This is because of prevalence of habits like smoking, chewing tobacco, and consumption of alcohol. Ignorance about the severity of the condition in early stages leads to delayed diagnosis.

### METHODS

A study was undertaken in Bhima Bhoi Medical College, Bolangir, in Western Orissa from October 2018 to September 2020 to study about different patterns of presentations and histopathological variations of malignancy of oral cavity in this part of Odisha. Patients were thoroughly clinically evaluated, examined, and appropriate investigation protocol was followed to record data.

### RESULTS

About 0.33 % of all patients coming to the outpatient department (OPD) were found to be suffering from carcinoma of oral cavity. Maximum number of cases were males in the 5<sup>th</sup> and 6<sup>th</sup> decade with squamous cell carcinoma. Predisposing factors like areca nut and pan masala consumption were noted. A majority of patients were cultivators from lower middle-class families. Other common groups were businessman and industrial workers. They had come with burning sensation in the mouth and restricted mouth opening as complaints. Xerostomia, fibrous bands in mouth, cervical lymphadenopathy were signs that were detected. Cheek was seen to be a primary site of lesion in large number of cases followed by tongue and lip.

### CONCLUSIONS

In spite of them being easily assessable, patients ignored their symptoms leading to delay in reporting to healthcare facility. As the patients were from disadvantaged background, by the time they came to hospital, they were in an advanced stage (stage three). Squamous cell carcinoma is very common in this part of Orissa. Proper guidance to the patients about the symptoms and risk factors will go a long way in early diagnosis and a more favourable outcome post treatment.

### KEYWORDS

Malignancy, Oral Cavity, Predisposing Factor, Stage

*Corresponding Author:*

*Dr. Satyajit Mishra,  
Department of ENT,  
Bhima Bhoi Medical College,  
Bolangir, Odisha, India.  
E-mail: dr.satyajitmishra@gmail.com*

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## BACKGROUND

Malignancy of oral cavity is quite common in Orissa more so in Western part of Orissa. This might be due to unhealthy habits like smoking, alcohol consumption, chewing betel etc. As oral cavity including oropharynx is an associable part and symptoms develop early, a vigilant attitude both on the part of the patient and as well the treating medical person will lead to a favourable outcome.

The people in this part of Orissa get exposed to potential risk factors like chewing tobacco, smoking, eating gutkha (areca nut) at an early age. As they remain in closed social milieu and also work in close proximity in fields (in case of farmers) and business establishment, a sort of peer pressure comes into play in their beginning of these bad habits. Moreover, lack of education and access to information regarding carcinogenicity of such substances leads to chronicity of the habits. This leads to a cumulative habit and a very bad prognostic outcome. Number of health care personnel and health care facility is very less in this part of Orissa. Specialised cancer clinic and cancer hospital is also not available. So, the general public suffers from this malady for a number of years prior to their seeking medical help.

Oral cavity malignancy metastasise to nearby sites and sub sites as well as lymphatic spread to cervical lymph nodes. If so happens, the staging of the disease changes quickly and corresponding treatment modality and prognosis also changes. As is seen in our study, majority patients present in late stages like stage 3 and stage 4. Such patients at times decline any treatment or in many cases, the patient can only be provided with palliative care. Palliative care aims to alleviate most distressing symptoms without any intention of cure of the disease. So, a huge loss of manpower occurs and irreparable loss to the near and dear ones happens.

Several premalignant conditions are also detected in people of Western Orissa like erythroplakia, leucoplakia, oral sub mucous fibrosis. Md Abdullah Jaber et al. (2020)<sup>1</sup> and Rupali Baruah et al. (2017)<sup>2</sup> had recorded majority of their cases in fifth and sixth decade. In different worldwide studies male patients were found to be the predominant sex in patient series. This was corroborated in the studies of N Rajesh (2014)<sup>3</sup>, Rupali Baruah et al. (2017),<sup>2</sup> Herity (1981), Halnan (1982) etc.

Smoking bidi and cigarettes and chewing tobacco is proven risk factors for development of carcinoma in general and for oral cavity in particular. Reverse smoking habit is also prevalent among people of Western Orissa. Many in the population have the habit of keeping betel with tobacco like khaini in their cheek for hours together. Different authors like Ravichandra Matcha et al.<sup>4</sup> noted smoking and chewing tobacco in 70 % of cases in their series. Rupali et al.<sup>2</sup> noted 87 % cases had habit of tobacco consumption, 59 % were betel nut chewer and 40 % were smokers, Khandelkar SP et al.<sup>5</sup> noted chewing tobacco in 71 % and smoking habit in 63 % of their cases. Smoking in closed environment lead to exposure of tobacco fume to other people present there. This is called passive smoking and it is as dangerous as active smoking. Both the number of cigarettes consumed as well as period of consumption are important factors for development of oral cavity malignancy. A number of years

passes before the symptoms develop and by that time the disease process has progressed far ahead culminating in late stage diagnosis and hence, a very poor prognosis.

Such patients usually presented with trismus, burning sensation and xerostomia as dominant symptoms. Other symptoms like altered taste sensation, referred otalgia,odynophagia and dysphagia are also reported. Ulcerated growth with indurated base, bleeding on touch, lymph node metastasis to jugulodigastric and submandibular lymph nodes were found on clinical examination. General complaints like loss of appetite, loss of weight, weakness and lethargy are common complaints. Jamileh B Taheri et al. (2013) and Rosai (1989)<sup>9</sup> had similar findings. Any part of the oral cavity may be involved. At times an adjacent sub site may also be involved. Bakyalakshmi et al. (2019)<sup>7</sup> reported buccal mucosa and tongue in majority of their cases. Same was the finding of Desai & Rao (1988). Ravichandra Matcha et al.<sup>4</sup> recorded 53 % of their cases in buccal mucosa & 26 % of cases in tongue. But, M. A. Jaber et al. (2020)<sup>1</sup> noted floor of mouth as commonest site in their series. Usually ulcer or ulcero proliferative growth are found in such patients. Such ulcers have at times a penetrating and indurated base. Taheri et al.<sup>6</sup> & Ravichandra et al.<sup>4</sup> recorded malignant ulcer or ulcero proliferative growths in many of their cases in their series. As the level of education and awareness is low, majority of such patients come to the hospital at an advanced stage. Same was the scenario with Ravichandra Matcha (83 % cases).<sup>4</sup>

This study has been carried out to gain knowledge about different premalignant and malignant conditions along with their predisposing factors to help us formulate a sound strategy for a favourable outcome in such conditions. A record of the presenting pattern of oral cavity malignancy in a well-defined demographic area will alert the health care professional about the degree of exposure of risk factors to that area population and alert the policy makers to formulate multi-disciplinary preventive approach to reduce morbidity and mortality caused by this disease.

## METHODS

A retrospective cross sectional study was carried out taking into consideration the patients coming with complaints of pain or burning sensation, dysphagia with mass in oral cavity, pain in ear without any local ear pathology (after ruling out other causes of referred otalgia) where malignancy was clinically suspected. They were studied, treated and followed up in the Department of E.N.T. & Head and Neck Surgery, Bhima Bhoi Medical College, Bolangir. The study period was between October 2018 and September 2020. Patients with other coexisting malignancy elsewhere in the body were excluded from the study. Written consent from the participating patients were obtained after informing them about their disease and investigations to be undertaken. They had other symptoms also like reduced mouth opening, neck swelling, and restricted tongue mobility, general symptoms like loss of appetite, weight loss etc. Detailed history as regards to chief complaint, duration

of symptoms, age, and sex, personal and family history, and occupation, habits of chewing tobacco, smoking and consumption of alcohol as well as duration of exposure to such risk factors were recorded. The lesions were studied for their size, shape, morphology, base, bleeding, consistency and lymphatic spread and a thorough general examination including cardiovascular and respiratory system assessment followed by otolaryngologic examination was done. Routine haematological and in deserving cases radiological investigation (computed tomography-CT / magnetic resonance imaging-MRI), scrap cytology and biopsy were done. They were regularly followed up and counselled to report about any new symptoms or any deterioration in status. In those who were taken up for surgery, post-operative histopathological study of all excised specimens was done. As part of the study, 90 cases of malignant oral cavity with varied presentation were considered.

**Statistical Analysis**

The statistical analysis was performed using SPSS statistics for Windows, version 23 (IBM Corp, Armonk, NY). Results of the study were expressed as percentage (%).

**RESULTS**

Period	Total No. of Cases Attending ENT OPD	Total No. of Cases having Malignancy	%
September 2018 to August 2020	27800	90	0.33 %

**Table 1. Prevalence of Oral Cavity Malignancy**

The number of cases of oral malignancy was 0.33 % of the total number of cases attending OPD in the given period.

Age in Years	Number	Percentage
Less than 30	1	1 %
30 - 40	8	8.88 %
41 - 50	20	22.22 %
51 - 60	23	25.55 %
More than 60	38	42.22 %

**Table 2. Distribution in Different Age Groups**

Maximum number of patients were found to belong to the age group of 50 to 60 years followed by 40 to 50 years.

Sex	No. of Patients	Percentage
Male	85	95 %
Female	05	5 %
<b>Total</b>	<b>90</b>	<b>100 %</b>

**Table 3. Sex Distribution**

In the present study males were observed to predominate the females.

Occupation	No. of Patients	Percentage
Agriculture	61	67 %
Business	10	11 %
Student	5	5 %
Industrial worker	10	11 %
Housewife	4	4 %

**Table 4. Occupation**

The occurrence of the disease is more among agricultural workers (57 %) followed by students (33 %).

The patients were divided into various socio-economic status based on modified Kuppuswamy and U. Pareekh scale - 2019 (Rabbanie Tariq Wani, Journal Of Family Medicine & Primary Care - Wolter Kluwer: Socioeconomic status scale - modified Kuppuswamy & U. Preekh's scale updated for 2019 - Aug 2020) and majority belonged to low socio-economic status. Most patients belonged to lower socio-economic class. The combined factor of poverty and adverse financial condition delays their seeking medical care for the malady. Moreover, lack of education leads to unawareness of the potential carcinogenicity of areca nut and smoking etcetera.

Predisposing Factors	Number of Cases
Areca nut with pan	22 (24.44 %)
Pan masala (gutka)	60 (66.66 %)
Tobacco	8 (8.88 %)
Tobacco with alcohol	6 (6.66 %)

**Table 5. Predisposing Factors**

Betel quid along with areca nut was the most common predisposing agents. Areca nut is taken alone or in the form of pan masala and gutkha in this part of the country. Some patients had multiple bad habits as predisposing factors.

Symptoms & Signs	No. of Cases	Percentage
Burning sensation	90	100 %
Reduced mouth opening	90	100 %
Dry mouth	58	65 %
Altered taste sensation	29	30 %
Otalgia	12	13 %
Neck swelling	18	20 %
Dysphagia	02	05 %
Trismus	90	100 %
Blanched mucosa	90	100 %
Fibrous band	90	100 %
Ulcer	36	40 %
Cervical lymphadenopathy	36	40 %
Restricted tongue mobility	55	62 %
Depigmentation	42	47 %

**Table 6. Symptoms and Signs**

Burning sensation on taking food as well as decreasing mouth opening were the most common symptoms being noted in all case in this study. Dry sensation in mouth and ulcer were next predominant symptoms. In our study trismus, blanching of mucosa and fibrous bands were seen in all patients. Ulceration, fibrosis along faucial pillars, restricted tongue movement were found in 14 %, 28 % and 25 % of cases respectively.

Cheek was the commonest site of lesion - 44 cases (49 %) followed by tongue (24 %), lip (11 %) and palate (8 %). Majority of the case were ulcerative lesions in gross morphology (40 %) followed by proliferative lesions. Cheek was the commonest site of affection Tongue and cheek were next sites in incidence of lesions. In spite of these being quite assessable parts, the patients have neglected symptoms for quite a long period of time leading to their presentation at an advanced stage.

All the patients were biopsy proven as sub mucous fibrosis.

Histopathology	Number of Cases	Percentage
Oral submucous fibrosis	90	100 %
Squamous cell carcinoma	88	97 %
Adenocarcinoma	02	3 %

**Table 7. Histopathology Finding and Staging**

Maximum number of cases were found to be squamous cell carcinoma followed by adenocarcinoma. Majority of

squamous cell carcinoma 57 (64 %) were in stage 3 followed by 17 (19 %) in stage 4.

## DISCUSSION

Incidence of malignancy of oral cavity is increasing in the general population every year. Maximum number of oral malignancies attending our hospital (23 %) belonged to the age group of 50 to 60 years followed by 40 to 50 years. Md Abdullah Jaber et al. (2020)<sup>1</sup> in their study found that the mean age of incidence was 52 years. Rupali Baruah et al. (2017)<sup>2</sup> had similar finding in their study.

Gender wise majority of the patients were males (95 %). N Rajesh (2014),<sup>3</sup> Rupali Baruah et al. (2017),<sup>2</sup> Herity (1981), Halnan (1982) also noted male predominance in their study. Ingestion of pan masala or gutkha (66 %), areca nut with pan (24 %) was quite common in the diagnosed cases. Alcohol consumption with or without tobacco was also contributory. Ravichandra Matcha et al.<sup>4</sup> noted smoking and chewing tobacco in 70 % of cases in their series. Rupali et al.<sup>2</sup> noted 87 % cases had habit of tobacco consumption, 59 % were betel nut chewers and 40 % were smokers. Khandelkar SP et al.<sup>5</sup> noted chewing tobacco in 71 % and smoking habit in 63 % of their cases.

Trismus, burning sensation, xerostomia were dominant symptoms. Ulcer and lymphadenitis were found in 40 % cases. Jamileh B Taheri et al. (2013)<sup>6</sup> and Rosai (1989) had similar findings. As agriculture is the predominant profession in Western Odisha, naturally majority (67 %) patients belonged to this profession. Cheek (49 %) followed by tongue (24 %) & lip (11 %) were sites of involvement in large number of cases. Bakyalakshmi et al. (2019)<sup>7</sup> reported buccal mucosa and tongue in majority cases. Desai & Rao (1988) had also similar noting. Ravichandra Matcha et al.<sup>4</sup> recorded 53 % case in buccal mucosa & 26 % in tongue. But, M. A. Jaber et al. (2020)<sup>1</sup> noted floor of mouth as commonest site in their series.

In our series ulcerative growth accounted for 60 % cases and proliferative ones 26 % cases. Similar was the finding with Taheri et al.<sup>6</sup> & Ravichandra et al.<sup>4</sup>

As the level of education and awareness is low, majority presented at an advanced stage of stage 3 and 4. Same was the scenario with Ravichandra Matcha (83 % cases).<sup>4</sup>

## CONCLUSIONS

Malignancy of oral cavity is gradually assuming a great health care problem all over India and more so in Orissa.

Lack of awareness about the adverse effects of common bad habits like chewing tobacco, smoking, alcohol consumption etc. has led to more and more people taking up these habits as their lifestyle. They ignore the early symptoms leading to advanced progress of the disease and their late presentation to hospital. This in turn leads to an adverse outcome of the disease. This study has been undertaken to keep a database of different clinical and other aspects of such cases in Western Odisha to facilitate further research to provide better health care to these patients.

Data sharing statement provided by the authors is available with the full text of this article at jebmh.com.

Financial or other competing interests: None.

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