

# Spectrum of Oral Lesions in A Tertiary Care Hospital

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## ABSTRACT

**Aim:** The present study was undertaken to study the spectrum and pattern of various oral cavity lesions in a tertiary care hospital in Rohilkhand region of Uttar Pradesh, India.

**Background:** Oral cavity is one of the most common sites for tumour and tumour like lesions especially in males. It has been observed that benign lesions are more common than malignant ones.

**Materials and Methods:** A retrospective study was carried out in a tertiary care hospital during the period of two years from June 2012 to May 2014. The study included 133 cases of oral cavity lesions. The parameters included in the study were age, gender, site of the lesion and histopathological diagnosis. Special stains and Immunohistochemical markers were applied as and when required. Data collected were analysed.

**Results:** A total of 133 cases were included in the present study. The age ranged from 8 to 80 years. Males were affected more often than females with a Male: Female ratio of 3.3:1. The most common involved site was tongue 39 (29.32%) followed

by tonsil in 30 (22.56%), buccal mucosa 27(20.32%), floor of mouth 14 (10.53%), palate 12(9.02%), lower lip 8 (6.02%), upper lip 2(1.50%) and vestibule in 1 (0.75%) cases. Of the 133 cases, 63 cases (47.36%) were malignant, 52 non-neoplastic (39.10%) and 18 cases (13.53%) of benign neoplasias. The various lesions included - Squamous cell carcinoma, Verrucous carcinoma, Carcinoma-in-situ, Leukoplakia, Fibroma, Lipoma, Squamous cell papilloma, Lymphoid hyperplasia, Pseudoepitheliomatous hyperplasia, Haemangioma, Schwannoma, Atypical Pleomorphic adenoma, Pleomorphic adenoma, Epidermal cyst, Retention cyst, Parasitic infestation, Tubercular pathology, Granulation tissue, Chronic Sialadenitis and Chronic non-specific inflammatory pathology. A larger epidemiopathological study in this region needs to be carried out for detailed statistical analysis.

**Conclusion:** Benign lesions were the predominant pathology. Squamous cell carcinoma was the commonest malignant lesion. Histopathological typing of the lesion is mandatory to confirm or rule out malignancy and is essential for the rational management thus avoiding mutilating surgery.

**Keywords:** Buccal mucosa, Malignancy, Oral cavity, Squamous cell carcinoma, Tongue

## INTRODUCTION

India ranks 2<sup>nd</sup> in the consumption of tobacco and 3<sup>rd</sup> largest producer of tobacco in the World as per Global Adult Tobacco Survey Report 2009-2010 and Uttar Pradesh ranks 16<sup>th</sup> among all the States of India [1]. The association between tobacco chewing in the form of gutka and cigarette smoking with pathological lesions, both pre-cancerous and cancerous has already been proven [2]. Oral cavity lesions are usually asymptomatic. Most of the lesions are benign with the commonest being lymphoid hyperplasia, retention cyst, inflammation, haemangioma, fibroma etc. Among malignancy, squamous cell carcinoma is the most common pathology. At times early stages of malignancy may mimic benign lesions. This leads to incorrect treatment and thus potentially fatal consequences for the patient. Proper management of the patient begins with an accurate diagnosis. Histopathology is still the gold standard. Different sites in the oral cavity show propensity for different types of lesions. The present retrospective study was carried out to assess the pattern of various oral cavity lesions.

## MATERIALS AND METHODS

This retrospective study was carried out in the Department of Pathology of Rohilkhand Medical College and Hospital, Bareilly (Uttar Pradesh) during the period of two year from June 2012 to May 2014. An elaborate schedule was prepared before undertaking the study. The study included all the patients admitted in the ENT and/or Surgery ward of the hospital presenting with oral pathology. Findings of clinical history and physical examination were noted from patient records. The parameters included in the study were age, gender, site and histopathological diagnosis of the lesion. All the

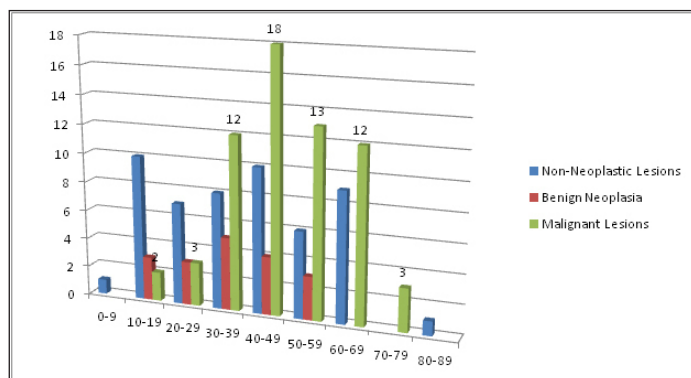
biopsy specimens of oral cavity lesions were included in the study. Any repeat biopsy for residual lesion after therapy was excluded from the study. The data collected was analysed.

## RESULTS

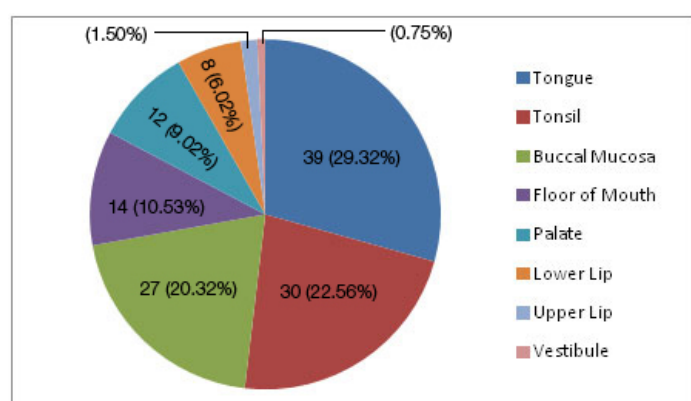
A total of 133 cases were included in the present study. The age ranged from 8 to 80 years. Out of total 133 cases, 100 (75.18%) were males and 33(24.81%) were females with a Male: Female ratio of 3.3:1. Youngest was an 8-year-old female child diagnosed with lymphoid hyperplasia tonsil and oldest was an 80-year-old male diagnosed with pseudoepitheliomatous hyperplasia tongue. The age-wise distribution of non-neoplastic, benign neoplasia and malignant lesions is shown in [Table/Fig-1]. Only 14 cases were observed in less than 20 years of age group, mostly having benign pathology. Only one case of squamous cell carcinoma of buccal mucosa was observed in a 19-year-old male.

The sites of involvement of various lesions included- tongue 39 (29.32%), tonsils 30 (22.56%),buccal mucosa 27 (20.32%),floor of mouth 14 (10.53%), palate12 (9.02%), lower lip 8 (6.02%), upper lip 2 (1.50%) and vestibule in 1 (0.75%) cases [Table/Fig-2]. Benign lesions mostly involved the buccal mucosa followed by tongue, tonsil, palate, oral cavity, lower lip, upper lip and vestibule in descending order of frequency. Of the Inflammatory lesions, buccal mucosa was the commonest site to be involved. Neoplastic lesions (including both benign and malignant pathology) accounted for 60.9% cases and non-neoplastic lesions accounted for 39.1% cases. In all the categories males were affected more than the females. Tonsils showed predominantly lymphoid hyperplasia and malignancy in the form of squamous cell carcinoma.

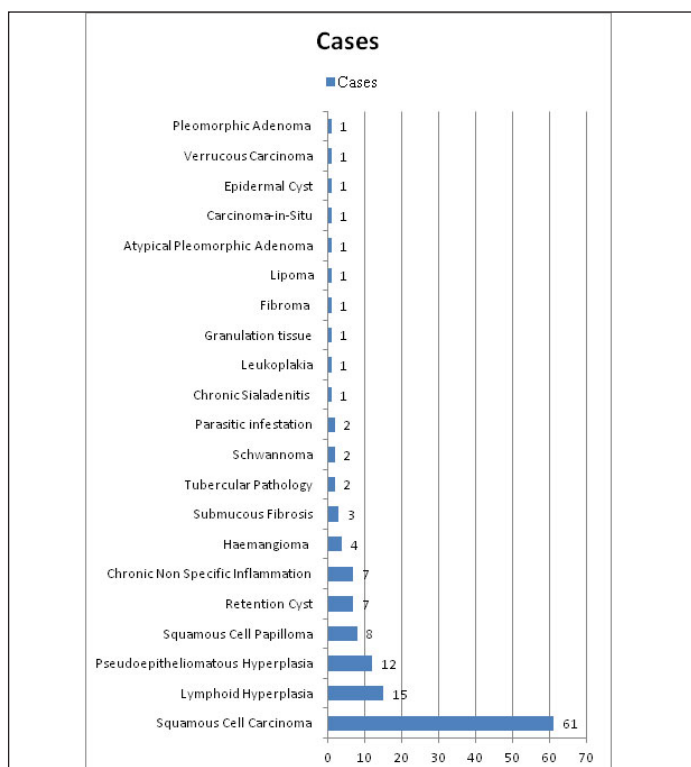
The various lesions have been depicted in [Table/Fig-3]. Of the 2 cases of Pleomorphic adenoma, one was reported as Atypical Pleomorphic adenoma due to the cytological atypia observed. Lipoma tongue was reported in a 12-year-old boy. Two cases of Schwannoma were observed, one in the tongue and the other in the palate.



[Table/Fig-1]: Showing distribution of benign and malignant oral lesions in different age groups



[Table/Fig-2]: Showing site-wise distribution of oral lesions



[Table/Fig-3]: Showing histopathology of various oral lesions

## DISCUSSION

This retrospective study was done to assess the distribution of oral cavity lesions among the biopsy specimen received. In our study

the age range was 8 to 80 years with a mean of 40.16 years. This co-relates with many studies done in the different parts of the world. In the present study, men had oral mucosal lesions more frequently than in females, which is similar to the report by Pudasaini S and Barar R [3]. In contrast, previous studies by Modi et al., [4] and Claudia et al., [5] reported a higher incidence of oral lesions in females, probably due to more deleterious oral habits in females in their area of study. However, malignant lesions were more common in males in their study as well, as also reported by Iype et al., [6]. The peak incidence of benign lesions were seen in age group 30–39 years and maximum malignant lesions were seen in age group 40–49 years similar to the findings of Saraswathi et al., [7], but different from that reported by Iype et al., [6], Gangane et al., [2] and Modi et al., [4]. It was observed in our study that benign neoplastic lesions accounted for 18 (13.53%) cases. Malignant neoplastic lesions (47.37%) accounted for the maximum number of cases, an observation similar to that reported by Modi et al., [4]. If the non-neoplastic and benign neoplasias were clubbed together the incidence was 70 cases (52.63%), similar to that observed by Mehrotra et al., [8].

Neoplastic lesions are also more common in males than in females with M: F ratio of 3.3:1 which is higher than the findings of Pudasaini S and Barar R who observed a ratio of 2:1 [3]. This observation can be attributable to more unhygienic oral habits especially in males in this region. It was found that oral mucosal lesions had high prevalence in the age group of 30 to 69 years (75.2%), probably attributable to the long standing oral habits of use of tobacco during this age. There was age related increase in the incidence of oral cancer in the present study which was similar to the observation of Modi et al., and Malaovalla et al., [4,9]. However, one case of malignancy reported in our study in a 19-year-old male reflects an increased incidence of this tumour in younger age groups as reported by Lund [10]. This could be attributable to early development of oral habits and easy availability of tobacco and other products in the region.

Regarding the site for the development of oro-mucosal lesions, the most common site affected was tongue followed by tonsil and then the buccal mucosa. Study by Modi et al., [4], reported buccal mucosa as the main site to be involved. In the present study malignancy was observed to involve tongue most frequently, probably due to use of tobacco in the form of pan and khaini. Modi et al., [4] and Mirbod and Ahing [11] also reported ventrolateral border of tongue to be the commonest site for carcinoma tongue.

The most frequent sites of occurrence of cysticercosis are brain, subcutaneous tissue, muscles, heart, liver, lungs, and peritoneum. Although the exact incidence is still unknown, oral cysticercosis is a rare event [12,13].

Lipomas are known to involve the head and neck region in 15 to 20 % cases. The incidence of lipomas in the oral cavity is between approximately 1 to 4.5% of all benign oral lesions. Only 0.3% of all the tumours involving tongue are lipomas. The most common location for lipomas in the maxillofacial region is cheek followed by buccal sulcus, tongue, and floor of the mouth, lips, gingiva and palate [14].

Tongue and gingiva are the most common sites of infection in patients with oral tuberculosis, followed by that of tooth sockets, soft palate, and floor of mouth, lips and buccal mucosa. Oral tubercular lesions progressively extend from the gingival margin to the depths of the adjacent vestibule and are often associated with enlarged cervical lymph nodes [15].

About 25% to 48% of schwannomas originate in the head and neck region. Intraoral schwannomas constitute only 1%. Tongue is the commonest site for intraoral schwannomas. The other intraoral sites to be affected include hard palate, buccal mucosa, lips and the gingiva. The present study included two cases of Schwannoma, one each occurring in the tongue and palate. Both the cases presented

as painless masses histopathologically, the tumour tissues were well encapsulated and comprised of Antoni A and Antoni B areas [16].

It should be noted that the data from a single institution may have some limitations. It usually reflects the specific patient population reporting to the hospital rather than the community as a whole. Oral cavity is easily accessible to examination, so early diagnosis of pre-cancerous and cancerous lesions can be detected much easily. However, the most important step is in preventing the use of tobacco or its products. Various research techniques have been used to increase the sensitivity and specificity of detection of oral lesions especially malignancy but all have their own limitations. These diagnostic tests include – Toluidine blue staining, oral brush cytology, tissue reflectance, narrow emission tissue fluorescence, tumour markers and molecular diagnostic techniques [17,18].

## CONCLUSION

From the present study it was observed that majority of the oral cavity lesions are benign in nature; however, malignant lesions are reported in greater frequency. Any mass lesion especially in the oral cavity should be biopsied to rule out malignancy. Submucosal fibrosis was observed in the younger age group, which is known for malignant transformation. Tuberculosis of the vestibule as a primary lesion is very rare. Similarly, Schwannoma of the hard palate is also rare. Diagnosis of these rare lesions is important from the management point of view. Further it is suggested that individual and demographic details such as age, gender, occupation, food habits, other deleterious habits, religion or oral hygienic measures should be included in the biopsy request forms and be duly filled by the referring consultant thus helping in identifying the high risk groups.

Better efforts for increasing the awareness among the mass regarding the harmful effects of tobacco should be exercised. Health professionals need to play a vital role in this regard.

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