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Pathology

CLINICOPATHOLOGICAL STUDY OF ORAL CAVITY MASS LESIONS IN A TERTIARY CARE CENTRE OF NORTH INDIA

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ABSTRACT

Background: Oral mass lesions, especially the potentially malignant and malignant lesions are a major health concern for a developing country like India. They pose a serious health and economic burden.

Aims: This study was carried out to analyze the clinical profile and reaffirm the frequency of various causes causing mass lesions in oral cavity in different age-groups in a tertiary care centre of North India.

Materials and Methods: All patients who had oral mass lesions and attended Departments of Otorhinolaryngology, General Surgery and the Dentistry of Hind Institute of Medical Sciences, Safedabad, Barabanki and Department of Surgery of School of Medical Sciences and Research, Sharda University, Greater Noida in two years (2015-2016) were included in the study.

Statistical Analysis: All the analysis was carried out on SPSS 17.0 version (Chicago, Inc., USA). The results are presented in percentages. The Chi-square test was used to assess the associations between categorical variables. The p-value<0.05 was considered significant.

Results: Of 126 cases with oral lesions, we found that 66 (52.4%) were benign, 12 (9.5%) were pre-malignant and 48 (38.1%) were malignant lesions. Squamous papilloma was the most common benign lesion followed by fibroepithelial hyperplasia. The premalignant lesions observed in our study in the decreasing order of frequency were leukoplakia, lichen planus and submucous fibrosis. The malignant lesions comprised of squamous cell carcinoma and verrucous carcinoma.

Conclusion: In our study it was found that though the benign oral lesions are commoner that malignant but still these form significant numbers. Hence the origin and the nature of oral cavity lesion should not be decided on clinical assessment alone but should also take into account the histopathological evaluation of the lesion also.

KEYWORDS : oral cavity; mass lesion; histopathology

Introduction:

The oral mucosa is affected by a wide range of reactive, infectious, cystic, pre-cancerous and neoplastic lesions, some of which could pose a significant health problem. [1,2] Though the majority are benign and non-neoplastic disease; some are malignant and life threatening.[3] The incidence of oral cavity mass lesions is increasing probably due to increasing use of tobacco, pan masala and also because of better clinico-histological diagnosis. An increase in oral cancer prevalence among young adults is now adays a cause of special concern.

This study was carried out to reaffirm the various causes of mass lesions in oral cavity and to compare the observed findings to similar studies in relation to age, sex, and site of distribution.

Design: Prospective case analysis.
Setting: Tertiary care center.

Materials and Method:

The study was carried out in the Department of Pathology, Hind Institute of Medical Sciences, Safedabad, Barabanki, Uttar Pradesh, India from January 2015 to December 2016. It had Institutional Ethical Committee clearance.

Inclusion Criteria: Cases:

All patients who had oral mass lesions and attended Departments of Otorhinolaryngology, General Surgery and the Dentistry of Hind Institute of Medical Sciences, Safedabad, Barabanki and Department of Surgery of School of Medical Sciences and Research, Sharda University, Greater Noida in two years (2015-2016) were included in the study. One hundred fifty cases were enrolled in the study. The written consent was taken from each participant. Sixteen participants who did not gave consent were excluded from the study. Eight cases were lost for follow up.

Exclusion Criteria:

a) All participants who did not give consent for participation in study.
b) Those patients who were lost for follow up were excluded.

One hundred twenty-six cases in all were included in the study. The relevant detailed clinical history (age, sex, tobacco chewing and smoking, betel nut intake, alcohol intake) was obtained. A thorough clinical examination including general, local and lymph node examination was performed in each case. Punch biopsy samples were collected from the patients with complaint of mass lesions in lip, cheek, tongue, gingiva, floor of the mouth, retromolar trigone, hard palate and soft palate. The biopsied tissues were subjected to grossing according to CAP protocol. After routine tissue processing 4micron thickness sections were taken and stained by Hematoxylin and Eosin. The slides prepared were examined under the microscope. The lesions were diagnosed and classified.

Statistical Analysis:

All the analysis was carried out on SPSS 17.0 version (Chicago, Inc., USA). The results are presented in percentages. The Chi-square test was used to assess the associations between categorical variables. The p-value<0.05 was considered significant.

Results:

The study was conducted on 126 cases of oral mass lesions. Most of the patients (n=32,25.6%) were of age group 51-60 years followed by 31-40 years. There were least number of patients (n=6,4.7%) in between 11-20 years. The mean age of all the cases was 47.81 years. (Table No.1) There is male preponderance. Majority of the patients were rural inhabitants (74.6%). Tobacco chewing was present in 80 patients (63.5%), betel and chewing in 74 patients (58.7%). 23.8% of patients were smokers and 14.3% were alcoholics. The patients presented with varied symptoms. Growth was the most common symptom of presentation followed by pain, ulcer, swelling at the site of lesion, enlarged cervical lymph nodes, foreign body sensation and lastly bleeding from the lesion.

Benign lesions were more common than malignant lesions. Among the 126 cases with oral lesions, we found that 66 (52.4%) were benign, 12 (9.5%) were pre-malignant and 48 (38.1%) were malignant lesions. Most of the lesions were seen on the buccal mucosa of cheek. 42.9% cases showed lesion on the cheek (buccal mucosa) followed by 25.4% with lesion on tongue. Gingiva (1.6%) was the least affected site in our study. Squamous papilloma was the most common benign lesion found in our study followed by fibroepithelial hyperplasia. The premalignant lesions observed in our study in the decreasing order of frequency were leukoplakia, lichen planus and submucous fibrosis. There were 6 cases of leukoplakia. The most common malignant entity of oral cavity noted in our study was squamous cell carcinoma (SCC). Of these well differentiated malignant the most common (66.7% of the total malignant lesions in oral cavity) followed by moderately differentiated (20.8%) and poorly differentiated (12.5%). Two cases of verrucous carcinoma were reported in patients of 41 and 35 years of age arising in cheek and gingiva respectively. (Table No.2)

Discussion:

This prospective study was done for reaffirm the causes of oral cavity mass lesions among the biopsy specimens in tertiary care institute of North India. A total of 126 cases of various oral cavity mass lesions received during the study period. It has been found that these lesions had high prevalence in the age group of 50-60 years (52.9%), in agreement to study by Kosam *et al*., observed this age group to be between 40 and 61 years.[4] In the present study, more number of males had mass in oral cavity as compared to females which was dissimilar to that reported by Claudia *et al*. [5] It could be due to the more prevalence of deleterious oral habits among males in North India. Regarding the site for the development of oro-mucosal mass lesion, the main site reported in our study was buccal mucosa which was similar as that reported by Singhania *et al*. [6] This indicates more prevalence of habits like pan-chewing, khaini, etc. The most common site of carcinoma was tongue reported in this independent studies by similar to findings by Modi et al and Agarwal et al [7,8] who also reported the posterior ventrolateral border of the tongue to be the commonest site. This could be attributed to their long-standing oral habits. Soft tissue lesions and potentially malignant disorders were the most common finding in the study subjects which correlated with other studies. There was also marked age-related increase in oral cancer in the study which was same as that reported by Malaovalla *et al*. [9] But four cases of SCC reported in our study in the age group of 21-30 years, reflects an increased in incidence of this tumor in younger age groups as reported by Sharma. [10] This could be attributable to early development of oral habits and easy availability of tobacco and other products in the state. The most common finding in our study were benign lesions in which squamous papilloma was the commonest. The observation was similar to study by Goyal et al [11] who also reported benign lesions to be common but in contrast to study by Riaz and Warriach on 119 cases 61.4% cases accounted for malignancy and among the benign lesions pyogenic granuloma was the commonest. [12] Mehrotra *et al*., [13] found non neoplastic lesions more. The observed overall SCC prevalence of 25.9% in our study similar to 22% observed by Mehta *et al*. [14] Our studies were dissimilar to the report by Riaz and Warriach [11] who reported 90% prevalence and an overall incidence of 80% SCC detected in the aerodigestive tract as reported by Sharma D et al.[10] We are of the opinion that individual demographic details such as age, gender, occupation, food habits, other deleterious oral habits, religion, and oral hygiene measures should have a provision in biopsy request sheet and should be duly filled which will help in identifying risk groups.

Conclusion:

In our study we conclude that oral cavity mass lesions are mostly benign in nature. Squamous papilloma is the commonest cause. Among the malignant causes squamous cell carcinoma is most common entity. The origin and the nature of oral cavity lesion should not be decided on clinical assessment alone but should take into account the histopathological evaluation of the lesion also. These data might be used as a guide for forming clinical impressions about oral mass lesions in North India and will go a long way to reduce the burden of oral cancer by taking timely action and, in turn, reducing the economic burden of treating oral cancer, on the country. Further nationwide population-based surveys are needed to ascertain the causes of oral mass lesions in Indians.

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