Spectrum of Oral Lesions in a Tertiary Care Teaching Hospital

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Abstract

Bbackground: Oral Lesions are increasingly reported in literature now a days.

Objective: To determine the spectrum of oral lesions reporting at tertiary care hospital in Lahore.

Methodology: This study was conducted in the department of Pathology, University of Lahore teaching hospital from March 2018 to March 2019. It was a descriptive cross-sectional study. Study duration was 1-year and total 34 cases were included in the study. For categorical data frequencies and percentages were calculated and data was presented in tables, bar and pie charts. Microphotographs were also illustrated.

Results: A total number of 34 cases of oral lesions, were included in the present study. Age ranged from 8 years to 76 years with a mean of 30.39 years. Out of total 34 cases, 16 (47.06%) were females and 18 (52.94%) were males. Female to male ratio was 0.8:1. In patients above 25 years of age, 6 (17.6%) were neoplastic and 28 (82.4%) were non-neoplastic. Out of 6 neoplastic lesions, 5 (83.3%) were in males and 1 (16.6%) was in female. The sites of involvement of various lesions included buccal mucosa 12 (35%), followed by mandible 11 (33.3%), lip 3 (8.8%), palate 3 (8.8%) and maxilla 5 (14.7%).

Conclusion: Benign lesions are more common and malignant lesions are only found in older patients with squamous cell carcinoma the commonest oral lesion noted in this study. Histopathological typing and differentiation of neoplastic from non-neoplastic lesions is mandatory for the proper management of patients.

Key words: Oral lesions, Adenomatoid odontogenic tumors, Ameloblastoma, Basal cell carcinoma, Radicular cyst,erous cyst, Squamous cell carcinoma.

Introduction

Oral lesions are one of the most commonly reported cancers, and its incidence is increasing globally with a clear country wise variation in incidence and mortality.[1] The variation in countries in south and south East Asia is also reported. In countries such as Pakistan, Bangladesh, India and Sri Lanka, oral cancer is the second most common cancer based on its frequency of incidence and prognosis.[2] Oral cancer is a lethal disease with mostly increasing incidence and quite low survival rates for the past decades. It is a matter of great concern globally and a major public health issue in Pakistan, however, wide geographical variation in incidence and mortality is noted. It is the eighth most common malignancy internationally but in Pakistan it is the second commonest as per recent records of cancer registry of Shaukat Khanum Memorial Hospital.[3] In 1975-2006 the oral cavity was ranked as one of the most common ten malignancies.[4] Worldwide very few studies have shown the entire range of possible oral lesions.[5] Among the non-neoplastic oral lesions, the commonest lesions are usually benign lymphoid hyperplasia, retention cyst, inflammation, haemangioma, fibroma etc. Squamous cell carcinoma is found to be the most common malignancy among oral neoplastic lesions.[6-8] In the western countries, usually males are more affected. Older individuals showed low prevalence of oral lesions.[9-11] The most common site for lesions in oral cavity is considered to be buccal mucosa. Oral lesions in Pakistan show a variety of spectrum of pathological conditions. The most prevalent form of neoplastic lesion in Pakistan is squamous cell carcinoma.[12-14] Proper management begins with the early and correct diagnosis of the patients that leads to the better quality of life of the affected individual.[11] Histopathology is still the gold standard for the diagnosis of lesions of oral cavity. Knowledge of pattern of various oral lesions may help to plan furthers studies to look into the etiology of these lesions and plan the preventive and therapeutic services accordingly. The study was undertaken to study various types of non-neoplastic and neoplastic lesions in a tertiary care hospital in Lahore. This study was carried out to assess the spectrum of oral

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lesions in the local population, reporting in Histopathology laboratory of a tertiary care hospital.

Methodology

This descriptive cross-sectional study of one year duration, from 1st March 2018 to 1st March 2019, was carried out in the Department of Pathology, University of Lahore. After getting approval from hospital ethical board, all the consecutive patients with oral lesions were enrolled in study. We received biopsies from 34 patients with oral lesions during the period of our study. Patients of both gender and of all ages were included in the study. Both non- neoplastic and neoplastic oral lesions were included. The parameters included in the study were age, gender, site and histopathological findings. The lesions which were included in this study were; adenomatoid odontogenic tumors, ameloblastoma, basal cell carcinoma, radicular cyst, dentigerous cyst, dentigerous cyst with ameloblastomatous transformation, fibroma, fibrous dysplasia, odontogenic cyst, inverted papilloma, keratosis secondary to trauma, lichen planus, pyogenic granuloma, squamous cell papilloma and squamous cell carcinoma. Biopsy specimens that were received in formalin were included in the study. Detailed gross examination was done and then sections were mounted and then stained with H and E staining. Microscopic examination was done and findings were interpreted. Microphotographs were taken. Data was then entered and analyzed by using the SPSS Version 20.

Results

A total number of 34 cases of oral lesions, were included in the present study. Age ranged from 8 years to 76 years with a mean of 30.39 years. Out of total 34 cases, 16 (47.06%) were females and 18 (52.94%) were males. (Figure I) Female to male ratio was 0.8:1. Various lesions included adenomatoid odontogenic tumors 1 (2.9%), ameloblastoma 1 (2.9%), radicular cyst 7 (20%), dentigerous cyst 2 (5.8%), Pleomorphic adenoma 2 (5.8%), fibroma 4 (11.7%), fibrous dysplasia 1 (2.9%), odontogenic cyst 1 (2.9%), inverted papilloma 1 (2.9%), keratosis secondary to trauma 2 (5.8%), lichen planus 1 (2.9%), pyogenic granuloma 2 (5.8%), squamous papilloma 3 (8.8%), basal cell carcinoma 1 (2.9%) and squamous cell carcinoma 5 (14.7%).

The youngest patient was 8 years old with squamous papilloma and the oldest patient was 76 years old with squamous cell carcinoma. Distribution according to age with relation to neoplastic and non-plastic lesions is shown in the figure II. Lesions observed in patients less than 25 years of age were all non-neoplastic. In patients above 25 years of age, 6 (17.6%) were neoplastic and 28 (82.4%) were non-neoplastic.

Figure I: Distribution of neoplastic and nonb neoplastic oral lesions according to gender

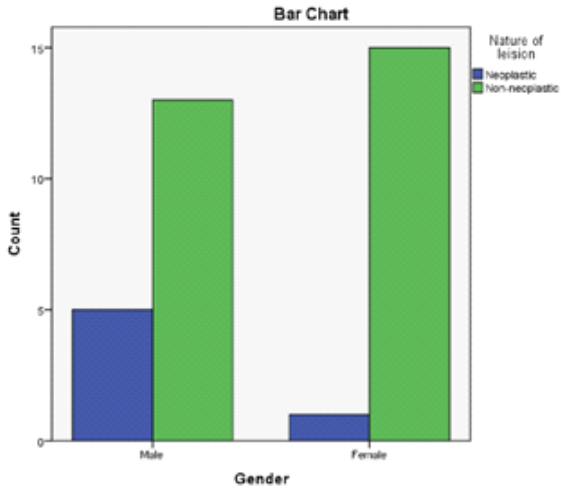
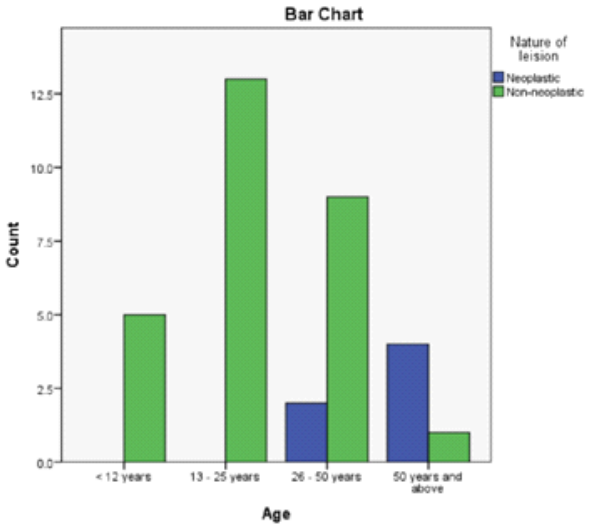


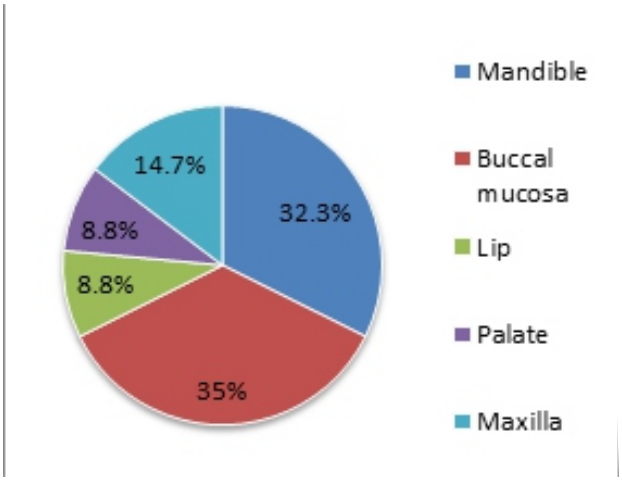
Figure II: Distribution of non-neoplastic and neoplastic lesions according to age



It was depicted that the carcinomas were mostly seen in older patients, while the benign lesions were found in the younger patients. Out of 6 neoplastic lesions, 5

(83.3%) were in males and 1 (16.6%) was in female. The sites of involvement of various lesions included buccal mucosa 12 (35%), followed by mandible 11 (33.3%), lip 3 (8.8%), palate 3 (8.8%), maxilla 5 (14.7%) figure III. This data showed that the most common site involved by oral lesion was buccal mucosa.

Figure III: Distribution of neoplastic and non-neoplastic lesions according to site of occurrence.



Discussion

Our study was meant to assess the distribution of all types of oral lesions in patients of all age groups with both genders. The age of patients ranged from 8 years to 76 years with a mean of 30.39 years, which was slightly lower than shown in the study done by Neville BW, Day TA,[9] this difference can be due to the population distribution.

In the current study out of 34 cases, affected patients were mostly males with female to male ratio of 0.8:1, which was similar to the results shown by Claudia F, Marqués N, Berini-Aytés L, Gay-Escoda C[12] and Modi D, Laishram RS, Sharma LDC, Debnath K[13] however, these results showed a contrast with one of the studies performed by Pudasaini S, Baral R.[14] This change can be because of demographic variation. The malignant lesions in this study were mostly seen in male population. This result lies in close agreement with the studies done by Pudasaini S, Baral R and Bouquot JE.[15] The age of the youngest patient to have an oral lesion in our study was 8 years. This correlates with the results of study done by Derazne E Almoznino G, Zadik Y, Vered M, Becker T, Yahalom, et al.[6] The oldest patient was 76 years old and the commonest lesion among them was squamous cell carcinoma. These results and this increase of incidence of cancer with increase of age was almost similar to the study done by Malaowalla A, Silverman Jr S, Mani N, Bilimoria K, Smith LW[17] and Modi D, Laishram RS, Sharma LDC, Debnath K.[13] In the current study the young patients were mostly diagnosed with the non-neoplastic lesions while the older patients showed malignant lesions. These results coincide with the most of the studies done in different parts of the world for example the studies done by Lund V[18], dos Santos Costa SF, Brennan PA, Gomez RS, Fregnani ER, Santos-Silva AR, Martins MD et al and Chinn SB, Myers JN. Among the benign oral lesions radicular cyst was the commonest lesion, which is comparable to the results of one of the studies done in a western country by Robinson RA.[21] While the most common malignant lesion was squamous cell carcinoma followed by basal cell carcinoma. These observations were similar to that of the studies done by Debaugnies M, Sánchez-Danés A, Rorive S, Raphaël M, Liagre M, Parent MA, et al. YAP and TAZ[22], Bruna F, Arango-Rodríguez M, Plaza A, Espinoza I, Conget P[23] and Sekulic A, Migden MR, Basset-Seguin N, Garbe C, Gesierich A, Lao CD, et al.[24]

Regarding the site for the development of oro-mucosal lesions, the most common site affected in our population under study was buccal mucosa, followed by mandible and then maxilla, but different trends were showed in the study done by Mirbod SM, Ahing SI. This difference can be due to the different eating and oral hygienic habits in the particular population. One study showed that the commonest site for the development of oral lesions is buccal mucosa.[3] A previous study, conducted in 2013 at Lahore, Pakistan, with the objective to assess the demographic and clinicopathological features of oral cancer patients reporting to Department of Pathology of a tertiary care hospital showed that out of total 57 cases majority of patients were in their 4th and 5th decades of life with male predilection as male to female ratio was 1.3:1, these findings were similar to current study conducted in the same city. They reported smoking, and tobacco chewing as main risk factors and found that buccal mucosa was the most commonly affected site followed by tongue.[26] *In*

*another study, conducted t*o correlate the clinico-pathological aspects of Oral Squamous Cell Carcinoma **(OSCC)** with risk factors to determine the variations in the profile. In that case control study, one hundred patients of OSCC and one hundred age and sex matched controls were selected. They found that maximum cases were detected in the fifth decade. Male: Female ratio was 2.8:1.[27] These findings were closely related to our results in current study as well. Strong association with tobacco smoking and chewing, betel quid and its substitutes was reported in that study, with smoking being more prevalent in males and betel quid in females.

Conclusion

In this study we found that among the oral lesions, benign lesions are more common and malignant lesions are only found in older patients with squamous cell carcinoma the commonest. Histopathological typing and differentiation of neoplastic from non-neoplastic lesions is mandatory for the proper management of patients.

Authors Contribution: MG: Conception of work and Design of Work. **SAR:** Drafting and Revising. **MFM:** Acquisition & analysis of data and interpretation of data. **SG:** Analysis of data and drafting.
All the authors gave final approval for publication and agreed to be accountable for all aspect of work.

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