Original Article

Oral Squamous Cell Carcinoma

Pattern of Oral Squamous Cell Carcinoma of Patients Presenting at Liaquat University Hospital Hyderabad (LUH)

Ghulam Habib[1], Adeela Mangrio[1], Parveen Memon[2], Imran Samejo[3]

ABSTRACT

Objective: To assess the pattern of oral squamous cell carcinoma in patients presenting at LUH Hyderabad Sindh.
Study Design: Descriptive Study
Place and Duration of Study: This study was conducted at Oral Surgery Department, LUH Hyderabad, Sindh from January 2011 to December 2011.
Materials and Methods: Present study was done on 144 cases. Patients with biopsy proven oral squamous cell carcinoma of all age group and gender were included in the study. radiated, benign, metastatic tumers were expelled from study.
Results: Out of 144 patients, 80 (55.5%) were females and 64(44.4%) were males. Mean age group was 31-40 years of age 50 (34.7%). the majority frequent site was Buccal mucosa 44 (30.5%). 120 (83.3%) patients were having well differentiated oral squamous cell carcinoma and slightest frequent type was poorly differentiated oral squamous cell carcinoma 4 (2.77%) cases.
Conclusion: This study gives detailed account of oral squamous cell carcinoma as regards widespread age, Gender, Location and histological type of lesion.
Key Words: Oral squamous cell carcinoma, age, sex, site, histological type

Citation of article: Habib G, Mangrio A, Memon P, Samejo I. Pattern of Oral Squamous Cell Carcinoma of Patients Presenting at Liaquat University Hospital Hyderabad (LUH). Med Forum 2016;27(12):17-20.

INTRODUCTION

High incidence of oral squmous cell carcinoma in many parts of the globe signifies a foremost health problem[1]. Oral squamous cell carcinoma is the frequent form of oral malignancey. About more than 90% of oral malignancey are oral squamous cell carcinoma.[2,3] oral Squamous carcinoma is a neoplasm of epithelial cells showing differentiation as characterize by the arrangement and presence of keratin and intercellular bridges respectively.[4] The oral keratinocytes are cells of source of oral squamous cell carcinoma.[5] Squamous cell carcinoma develops because of numerous molecular actions that build up from the mutual effect of those inherited predisposition and contact to ecological carcinogens such as alcohol, smoking , ultraviolet or radiations, chemical carcinogens, and microbes.[6]

[1.] Department of Oral and Maxillofacial Surgery Operative Dentistry[2] / Prosthodontics[3], Institute of Dentistry, Liaquat University of Medical & Health Sciences, Jamshoro, Sindh.

Correspondence: Dr. Ghulam Habib Arain, Lecturer, Department of Oral and Maxillofacial Surgery, Institute of Dentistry, Liaquat University of Medical & Health Sciences, Jamshoro, Sindh.
Contact No: 0333-2606590
Email: drhabib750@gmail.com

Received: September 17, 2016; Accepted: October 29, 2016

Gene and hereditary material such as chromosomes might be damaged by chronic exposure to carcinogens. Mutation of oncogenes because of genetic damage that endorse cell survival and proliferation.

Oral sq. cell carcinoma accounts for more or less 4% of all malignancy in the western world.[1] In some south east Asian countries oral cancer are the frequent form found about a third of all cancers.[7-9] In western earth the utilize of tobacco and alcohol are the greasiest risk factors. Smokers are six fold risk of emerging oral cancer compared to non smokes. Alcohol drinkers are also six fold more probably to develop oral cancer than non alcoholic. The combined use of tobacco and alcohol contain fifteen fold risk of developing oral sq. cell carcinoma as compared to non user .Betal quid chewing is popular in India Taiwan, Bangladesh and Pakistan, is associated with high risk of rising oral sq. cell carcinoma. It is report that HIV, human papilloma viruses, Epstein barr viruses, HCV and several genes are also play role of oral cancer.[10-12] In spite of progress management options the death rate is remain large. The occurrence of oral squamous cell carcinoma are increasing particularly in younger persons.[13-15]

MATERIALS AND METHODS

Present study was done on 144 cases at Oral Surgery Department LUH, Hyderabad, Sindh from January 2011 to December 2011. Biopsy proved cases of oral squamous carcinoma were included .exclusion criteria was radiated, metastatic and benign lesions. Following

sites of oral mucosa were distributed as tongue, cheek, buccalmucosa, lips, floor of mouth, gums and alveolus, palate and angle of mouth.

RESULTS

There were 144 cases of oral squamous cell carcinoma. The youngest and oldest were 10 years male and 87 years female respectively. Mean age of patients was 39.6 years. Utmost number of patients (34.7%) were in 31-40 years of age group, followed by 41-50 years of age group (25%). Results regarding age involvement of patients are shown in table-1. Frequent location of oral squamous cell carcinoma was Buccal mucosa (30.5%) patients followed by cheek 34 (23.6%) of patients. Table: 2 shows the results of site distribution of patients. Frequent histological type of oral squnomous cell carcinoma was well differentiated squamous cell carcinoma No.120 (83.3%) follow by the moderately differentiated squamous cell carcinoma No.20 (13.8%) cases detailed distribution of histological types is given in table:3.

Table No.1: Age Distribution of Patients

Age in years	No. of Cases	%age
1-10	2	1.3%
11-20	2	1.3%
21-30	22	15.2%
31-40	50	34.7%
41-50	36	25%
51-60	20	13.8%
61-70	6	4.1%
71-80-	4	2.7%
81-90	2	1.3%

Table No.2: Distribution According to Site.

Site	No of Cases	%age
Tongue	26	18%
Buccalmucosa	44	30.5%
Cheek	34	23.6%
Gums & Alveolus	8	5.5%
Floor of mouth	4	2.7%
Lips	16	11.1%
Angle of mouth	6	4.1%
Palate	6	4.1%
Total	144	100%

Table No.3: Histological Types of Oral squamous Cell Carcinoma.

Histological Type	No of Cases	%age
(a) Well differentiated	120	83.3%
(b) Moderately differentiated	20	13.8%
(c) Poorly differentiated	4	2.7%
Total	144	100%

DISCUSSION

Squamous cell carcinoma has significant geographic difference in frequency, age of patient, site of involvement and its histological type. This may also be considered that exposure to different environmental factors and ethnic specific high risk social habits play role in pathogenesis of oral squamous cell carcinoma.[16-20] In developing countries oral squamous cell carcinoma is more than in developed countries. In Israel it is more common among Sephardic Jewsthan Ashkenazijews because of different geographic origin.[21] In UK it is more widespread among Indian people born in Indian Sub continent and migrated to U.K. than among Indian instinctive in U.K.[22] Several studies has shown that squamous cell carcinoma is equal or more frequent in males then females.[23,24]

In this study most of the patients were female No. 80 (55.5%) compared to male patients No: 64 (44.4%). Social habits in females are also common in rural areas of Sindh. Most of the patients presenting to Liaquat University Hospital are from rural areas of Sindh, representing possible reason for female predominance.

In this study most of the cases found between the age 31-40 No. 50 (34.7%) followed by 41-50 years of age No. 36 (25%). Previously it was seen that oral squamous cell carcinoma was common after 4th decade of life.[25] Age of occurrence of squamous cell carcinoma is declining and involvement of younger age is becoming common as in this study. This is also supported by other studies.[26,27] Possible reason for this is social habits are becoming more common in younger age peoples.

Site of the lesion has prime importance regarding prognosis. Regional lymph nodes are commonly involved by metastasis of squamous carcinoma of lip .hard palate, and maxillary gingival with relatively favourable prognosis. as squamous cell carcinoma of tongue, floor of mouth and mandibular gingiva a lot metastasize to regional lymph nodes and are more insistent with less favourable prognosis. Squamous cell carcinoma of posterior division of oral cavity are much more probable to metastasize to regional lymph nodes than anterior division of oral cavity. Squamous cell carcinoma of tongue is frequent site in western globe .But in this study Buccal mucosa was the frequent site. Results of this study regarding common site of oral squamous cell carcinoma are matching with the other studies conducted in Pakistan.[28,29] Possible reason for this is social habits of chewing tobacco products in our country.

The term differentiation refers to the extent of resemblance of tumor cells to their mother cells. In this study most of the cases 120 (83.3%) were well

differentiated squamous cell carcinoma. The present study regarding frequent histological type of lesion is consistent with other studies.[29,30] Small well differentiated, law grade oral squamous cell carcinoma generally metastasize to regional lymph nodes following invading connective tissue muscles or bone. alternatively poorly differentiated high grade oral squamous cell carcinoma are in nature more aggressive and tend to metastasize to regional lymph nodes untimely in the route of disease. The grade of histological differentiation of oral squamous cell carcinoma reflects the aggressive capacity of the tumour. apparently as an independent issue, it does not significantly manipulate the prognosis. The depth of the infiltration of the tamour as determined histo-pathologically correlates significantly with the prognosis. Oral squamous cell carcinoma that have infiltrated more than 5mm in to the underlying tissues, are more to be expected to metastasize to lymph nodes with reduced prognosis, size and depth of primary carcinoma is related to local recurrence.[31]

CONCLUSION

This study gives detailed account of oral squamous cell carcinoma regarding frequent age, Sex, Site and histological type of oral squamous cell carcinoma.

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Shah JP, Gil Z. Current Concepts in Management of Oral Cancer-Surgery. Oral Oncol 2009;45(4): 394-401.
2. Attar E, Dey S, Hablas A, Seifeldin IA, Ramadan M, Rozek LS, Soliman AS. Head and Neck Cancer in a Developing Country: A Population-Based Perspective Across 8 Years. Oral Oncol 2010; 46(8);591-596.
3. Bagan J, Sarrion G, Jimenez Y. Oral Cancer: Clinical Features. Oral Oncol 2010;46(6): 414-417.
4. Rajendran R, Shivapathasundharam B. Shafer's text book of Oral Pathology. UP: Elsevier Ind 2009;6:101.
5. Scully C, Bagan J. Oral squamous cell carcinoma overview. Oral Oncol 2009; 45(4-5):301-8
6. Scully C, Bedi R. Ethnicity and Oral Cancer. The Lancet Oncol 2000;1(1):37-42.
7. WHO International Agency for Research on Cancer. World Cancer Report. Lyon [Internet]. 2003 [cited 2013 November 10]. Available from: http://www.iarc.fr/en/publications/pdfs-online/wcr/2003/WorldCancerReport.pdf
8. Petersen PE. The World Oral Health Report 2003: Continuous improvement of oral health in the 21st century – the approach of the WHO Global Oral Health Programme. Community Dent Oral Epidemiol 2003; 31(1):3–24.
9. Bhurgi Y. Cancer of the oral cavity – trends in south Karachi (1995 – 2002). Asian Pac J Cancer Prev 2005;6(1):22-6.
10. Jalouli J, Ibrahim SO, Mehrotra R, et al. Prevalence of viral (HPV, EBV, HSV) infections in oral submucous fibrosis and oral cancer from India. Acta Otolaryngol 2010;130(11):1306-11.
11. Gonzalez-Molez MA, Gutierrez J, Rodriguez MJ, Ruiz-Avila I, Rodriguez-Archilla A. Epstein-Barr virus latent membrane protein 1 (LMP-1) expression in oral squamous cell carcinoma. Laryngoscope 2002;112:482-7.
12. Nagao Y, Sata M. High incidence of multiple primary carcinomas in HCV-infected patients with oral squamous cell carcinoma. Med SciMonit 2009;15:CR453-9.
13. Petti S. Lifestyle Risk Factors for Oral Cancer. Oral Oncol 2009; 45(4):340-350.
14. Neville BW, Day TA. Oral Cancer and Precancerous Lesions. CA: A Cancer J Clinicians 2002;52(4):195-215.
15. Rapidis D, Gullane P, Langdon JD, Lefebvre JL, Scully C, Shah JP. Major Advances in the Knowledge and Understanding of the Epidemiology, Aetiopathogenesis, Diagnosis, Management and Prognosis of Oral Cancer. Oral Oncol 2009;45(4):299-300.
16. Chole RH, Patil RN, Basak A, Palandurkar K, Bhowate R. Estimation of serum malondialdehyde in oral cancer and precancer and its association with healthy individuals, gender, alcohol, and tobacco abuse. J Cancer Res Ther 2010; 6: 487-91.
17. de Freitas Cordeiro-Silva M, Oliveira ZF, de Podestá JR, Gouvea SA, Von Zeidler SV, Louro ID. Methylation analysis of cancerrelated genes in non-neoplastic cells from patients with oral squamous cell carcinoma. MolBiol Rep 2011; 38(8): 5435-41.
18. Marichalar-Mendia X, Acha-Sagredo A, Rodriguez Tojo MJ, et al. Alcohol-dehydrogenase (ADH1B) Arg48His polymorphism in Basque country patients with oral and laryngeal cancer: preliminary study. Anticancer Res 2011; 31: 677-80.
19. Warnakulasuriya S, Sutherland G, Scully C. Tobacco, oral cancer and treatment of dependence. Oral Oncol 2005; 41: 244-60.
20. Zygogianni AG, Kyrgias G, Karakitsos P, et al. Oral squamous cell cancer: early detectionand the role of alcohol and smoking. Head Neck Oncol 2011; 3:2.
21. Gorsky M, Littner MM, Sukman Y, Begleiter A, The Prevalence of Oral Cancer in Relation to the Ethnic Origin of Israeli Jews. Oral Surgery, Oral Med Oral Pathol 1994;78(3):408-411.

22. Swerdlow J, Marmot MG, Grulich AE, Head J. Cancer Mortality in Indian and British Ethnic Immigrants from the Indian Subcontinent to England and Wales. Bri J Cancer 1995;72(5): 1312-1319.
23. Zulfiqar A, Nagi AH, Nasim N. A clinic pathological study oforofacial squamous cell carcinoma in local population. Biomedica 2013; 29:147-150.
24. Sharma P, Saxena S, Aggarwal P. Trends in the epidemiology of oral squamous cell carcinoma in Western UP. IJDR 2010;21(3):316-319.
25. Jamshed R, Hussain K, Rehman H, et al. Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore, Pakistan. J Clin Oncol 2009 (suppl; abstr e17002).
26. Chen J, Katz RV, Krutchko€ D. Intraoral squamous cell carcinoma: epidemiologic patterns in Connecticut from 1935 to 1985. Cancer 1990; 66:1288±96.
27. Islam SA, Awan KH, Mughal RA. Are dental access centres, the potential locations for primary prevention of oral cancers. Pak Oral Dent J 2015;35(1):104-7.
28. Wahid A, Ahmad S, Sajjad M. Pattern of carcinoma of oral cavity reporting at dental department of Ayub medical college. J Ayub Med Coll Abbottabad 2005; 17(1):65-6.
29. Shaikh AH, Muhammad T, Rasheed T, Evaluating the correlation between histopathological patterns of squamous cell carcinoma, age and site. Pak Oral Dental J 2015;35(1):30-32.
30. Chidzonga MM, Mahmova L. Squamous cell carcinoma of the oral cavity, maxillary antrum and lip in a Zimbabwean population: A descriptive epidemiological study. Oral Oncol 2006;42: 184-89.
31. Massano J, Regateiro FS, Januario G, Ferreira A. Oral Squamous Cell Carcinoma: Review of Prognostic and Predictive Factors. Oral Surgery Oral Medicine Oral Pathology Oral Radiology Endodontics 2006;102(1):67-76.