PATTERN OF CARCINOMA OF ORAL CAVITY REPORTING AT DENTAL DEPARTMENT OF AYUB MEDICAL COLLEGE

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Background: Carcinoma of oral cavity is amongst the first ten commonest malignancies in Pakistan. Districts of Hazara (NWFP) and Northern Areas of Pakistan are among the high risk areas. Here we present a report of oral cancers received in this center over a period of 10 years. **Methods:** This clinicopathological study consists of cases of carcinoma of oral cavity presenting to dentistry department of Ayub Medical College Abbottabad during 1993-2003. All cases were clinically examined and provisionally diagnosed. Biopsy was taken from all the lesions and the tissues submitted to histopathology department of Ayub Medical College. **Results:** There were 50 carcinoma cases in the study, including 30 (60%) males and 20 (40%) females. Among these, 47 (94 %) were diagnosed as squamous cell carcinomas, that consisted 30 (63.82 %) males and 17 (36.17%) females. The other 6 % lesions were histologically diagnosed as malignant melanoma, adenocarcinoma and acinar cell carcinoma. The age of squamous cell carcinoma cases was 41-71 years. The maximum number of squamous cell carcinomas (34%) effected buccal mucosa. The other common sites were lip (26%), tongue (21%) and gums (19%). **Conclusion:** The results of this study are comparable with other such studies done in Pakistan and else where in the world showing commonality of factors associated with the development of the disease in this region of the country, which necessitates a detailed prospective study.

Keywords: Oral carcinoma, Squamous cell carcinoma, smokeless tobacco

INTRODUCTION

Carcinoma of oral cavity is amongst the first ten commonest malignancies in Pakistan and many other countries of the world.[1,2] Incidence varies from country to country and from region to region within the countries. The highest rates of occurrence of the tumour are found in countries of South and South-East Asia.[2-4]

A number of aetiologic factors are involved in the causation of oral carcinoma. The most important among these are tobacco use, alcohol consumption, syphilis, nutritional deficiency, immune deficiency disorders, chronic trauma, radiations and viruses.[5-11]

The strongest association of carcinoma of the oral cavity has been found with chewing of various forms of smokeless tobacco which include snuff, naswar, betal guid with tobacco.[2-5,10,11] Studies in Pakistan have also shown that the use of tobacco is the most important factor in causation of carcinoma of the oral cavity.[5] The risk in 'naswar' chewers is ten times in males and fourteen times in females.[5]

Histologicaly majority of oral cavity carcinomas are squamous cell type, particularly when caused by tobacco use.[12] However, less common varieties like adenocarcinoma, malignant melanoma and acinar cell carcinoma also develop in the oral cavity.[12]

Clinically the carcinoma lesions present in a variable manner. They may present in the forms of white plaques, ulcers, fungating mass or invasive lesions. Common sites are buccal mucosa, gums, tongue and Palate.[12]

The aim of the present study is to evaluate the pattern of oral carcinoma in the population of districts of Hazara and Nothern Areas of Pakistan, which have not been surveyed selectively in the past, despite the commonality of factors associated with the development of oral carcinoma.

MATERIAL AND METHODS

This study consists of 50 cases of carcinoma of oral cavity that reported to dentistry department of Ayub Medical College Abbottabad during 1993-2003. All cases were clinically examined and provisionally diagnosed. Biopsy was taken from the lesions and the tissues were fixed in 10% buffered formalin and submitted to histopathology department of Ayub Medical College for histological confirmation. The clinical data provided with each biopsy sample included age and sex of the patient, type of the lesion and site of the lesion. All the biopsy samples were processed for routine H/E staining. The stained slides were thoroughly examined by expert pathologist for histological diagnosis, typing and grading of the tumour.

RESULTS

There were 50 carcinoma cases in the study, including 30 (60%) males and 20 (40%) females. Among these, 47 (94%) were diagnosed as squamous cell carcinomas, including 30 (64%) males and 17 (36%) females. The other 03 (6%) lesions were histologically diagnosed as malignant melanoma, adenocarcinoma and acinar cell carcinoma, all females (Table-1).

The age distribution of squamous cell carcinoma cases is shown in Table-2. Eighteen out of 47 (38%) cases were in the age group of 41 to 50 years (19% males and 19% females). The next higher number (34%) of cases was in the age group of 51 to 60 years (19% males and 15% females). The ages of 22% cases (all males) were between 51 and 60 years. There were only 6% cases having more than 71 years of age.

The maximum number of squamous cell carcinomas (34%) effected buccal mucosa. The other common sites were lip (26%), tongue (21%) and gum (19%) cases, respectively (Table-3).

Table-1: Histological types of oral carcinoma

	Male	Female	Total
Squamous cell Carcinoma	30(60%)	17(34%)	47(94%)
Malignant Melanoma	Nil	1(2%)	1(2%)
Adenocarcinoma	Nil	1(2%)	1(2%)
Aciner cell Carcinoma	Nil	1(2%)	1(2%)
Total	30(60%)	20(40%)	50(100%)

Table-2: Age and sex distribution of Squamous cell carcinoma

Age group	Male	Female	No.of cases
41-50	9 (19%)	9 (19%)	18 (38%)
51-60	9 (19%)	7 (15%)	16 (34%)
61-70	10(22%)	Nil	10 (22%)
71+	2 (4%)	1 (2%)	3 (6%)
Total	30 (64%)	17(36%)	47 (100%)

Table-3: Sites of squamous cell carcinoma.

Site of tumor	No of cases
Buccal cavity	16(34.00%)
Lip	12(26.00%)
Tongue	10(21.00%)
Gum	9(19.00%)
Total	47 (100%)

DISCUSSION

Oral cancer is a common problem of Pakistan and other South and South East Asian countries.[1-4] It is among the ten commonest cancers of the world.[2] This is most probably due to tobacco chewing habits of a vast cross section of population of these countries.[3,5-8]

A variety of histologic pattern of oral carcinoma with variable site distribution have been reported. The most common of these is squamous cell carcinoma.[12] This tumour has got a very strong association with tobacco chewing.[12]

The present study also carries the similar results. Forty seven out of fifty (94 %) cases were squamous cell carcinomas. Among the other three (6%) reported malignancies, one each belonged to malingnant melanoma, adenocarcinoma and aciner cell carcinoma groups (Table-1).

A significant number (38%) of squamous cell carcinoma cases were in below 50 years age group. The next common age groups were, 51-60 years (34% cases) and 61-70 years (21% cases) (Table-2). This early occurrence of carcinoma is slightly different than other studies.[12] The most probable reason may be start of tobacco chewing at an early age in this region. There is also a male preponderance (64% cases) over females (36% cases) in the study (Table-2). This is again probably due to tobacco chewing more commonly by males than females in this region. In this group buccal cavity was the first common site (34% cases). The ranking order of other involved sites was lip (26% cases), tongue(21% cases) and gum (19% cases) Table-3. The results of this study are comparable with other such studies done elsewhere in the world[1-3,12] suggesting commonality of associated causative factors.

REFERENCES

1. Pakistan Medical Research Council cancer study group. Multicentre study of Malignant tumours. PMRC Monograph No.6, Karachi;1982.

2. WHO study group report on control of oral cancer in developing countries. Bull. WHO 1982;6:817-30.

3. WHO study Group Report on smokeless Tobacco control. WHO, Geneva;1987

4. Mehta FS, Aghi MB, Gupta PC, Pindborg JJ. An intervention study of oral cancer and pre-cancer in rural Indian population. Bull.WHO 1982;60:441-6

5. Jafarey NA, Zaidi SHM. Cancer in Pakistan. J Pak Med Assoc 1987;37:178-83.

6. Hirsch JM, Johansson SL, Vahl NE. Inhibition of Herpes simplex virus replication by tobacco extracts. Cancer Res 1984;44:1991-7.

7. ScullyC, Maitland NJ, Cox MF. Human papillomavirus DNA and oral mucas. Lancet 1987;21:336.

8. IARC. Tobacco habits other than smoking: IARC Monographs on evaluation of the carcinogenic risk of chemical to human 37 Layon. IARC;1985.

9. Flaitz CM, Nichols CM, Alder-storthz K, Hicks MJ.Intra oral squamous cell carcinoma in human immunodeficiency virus infection. Oral Surg Oral Med Oral Pathol;1996;80:55-62.

10. Walsh PM, Epstein JB. The oral effects of smokeless tobacco. J Can Dent Assoc 2000;66:22-5.

11. Lewin F, Norell SE, Johansson H. Oral snuff, smoking habits and alcohol consumption in relation to oral cancer in a Swedish case –control study. Int J Cancer 1998;77:341-6.

12. Krolls SO, Hoffman S. Squamous cell carcinoma of the oral soft tissues: a statistical analysis of 14,253 cases by age, sex and race of patients. J Am Dent Assoc 1976;92:571-5.

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