Oral Carcinoma in the Chinese Female

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Summary

ORAL CANCER appears to be the second commonest histologically confirmed malignant tumour in West Malaysia. The Chinese female has the lowest incidence of oral carcinoma (4.1%). The authors report on 36 Chinese female patients. The M:F ratio was 3.5:1. The peak incidence was between 50-69 years. The tongue (33.3%), buccal mucosa (22.9%), gingiva (14.6%) and palate (12.5%) were involved in descending order of frequency. In the tongue the anterior two-third was more commonly involved and the margins and dorsum were the commonest sites. Oral carcinoma presented clinically as: (1) an ulcer (2) an exophytic growth and (3) a swelling. It would appear desirable to consider carcinoma in the differential diagnosis of abscesses of the maxillary sulcus region in adults. Grade I carcinoma fromed 60.0%, Grade II 25.7% and Grade III 14.3%. A comparison is made with oral cancer studies in China, Finland, United States, South Africa and Australia.

Introduction

West Malaysia has a multiracial population of 9.4 million people. The Chinese female forms 17.7% and the Chinese male 18.5% of the total population (Chander, 1972).

Oral cancer appears to be the second commonest histologically confirmed malignant tumour in West Malaysia. The Chinese female has the lowest frequency of oral cancer as a per cent of all cancers (Fig. 1), (Ungku Omar-Ahmad and Ramanathan, 1968).

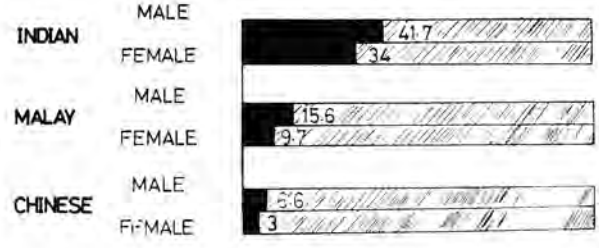

Fig. 1

Frequency of oral cancer as a per cent of all cancers by race and sex in West Malaysia, 1961-63 (after Ungku Omar-Ahmad and Ramanathan, 1968).

Between 1967-72, the Division of Oral Medicine and Oral Pathology, Institute for Medical Research, Kuala Lumpur reported in all 1031 histologically confirmed squamous cell carcinoma cases. Of these 31.3% occurred in the Indian male, 30.8% in the Indian female, 10.7% in the Malay female, 9.3% in the Malay male, 13.8% in the Chinese male and 4.1% in the Chinese female. The buccal mucosa (43.2%), tongue (15.1%), gingiva (14.2%), palate (13.1%), lips (6.4%) and floor of the mouth (3.8%) were involved in descending order of frequency.

Ramanathan and colleagues (In Press, a) have explained the lowest incidence of oral carcinoma in the Chinese female as being due to the least frequency of oral habits in them. Moreover even in those who have oral habits, generally the daily intensity and duration of habit is comparatively minimal.

There seems to be a void in the information on oral carcinoma in the Chinese in the English language medical literature. Studies of oral cancer in the Chinese and comparative studies with the other racial groups in Malaysia as well as with oral cancer groups in other parts of the world would be valuable.

Material and Methods

This study was based on the records of the Division of Oral Medicine and Oral Pathology, Institute for Medical Research, Kuala Lumpur and for the years 1967-72. Only histologically confirmed squamous cell carcinoma cases and patients reported for the first time were included in this study. In all 36 Chinese female patients were reported. For the anatomical charting of oral carcinoma the topographical classification of Roed-Petersen and Renstrup (1969) dividing the oral mucosa into 41 well-defined regions was used (Fig. 2). For purposes of histological grading, the WHO Histological Typing of Oral and Oropharyngeal Tumours was used (Wahi *et al*, 1971).

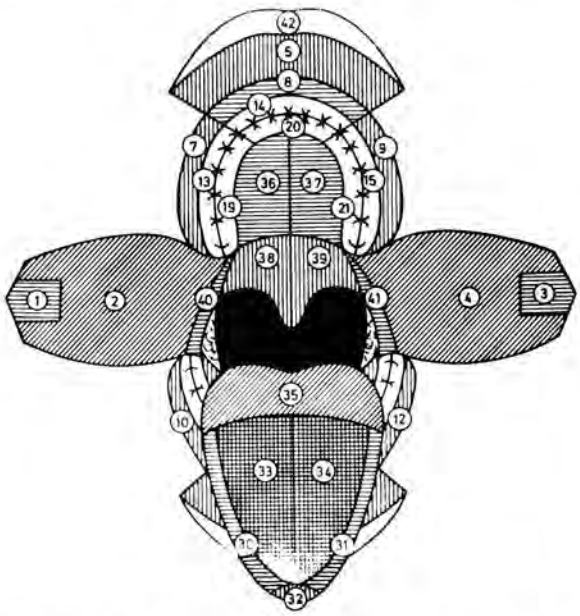

Fig. 2
Topography of the oral mucosa dividing it into 41 well defined regions (after Roed-Petersen and Renstrup, 1969).

Findings

Sex Ratio

Between 1967-72 oral carcinoma was reported in 127 Chinese males (Ramanathan and Lakshimi, In Press, b) thus giving a male: female ratio of 3.5:1.

Age Distribution

The youngest patient was 30 years old and the oldest patient was 88 years. For the group the average age was 61.9 years and the median age was 61.0 years. The peak incidence was between 50-69 years (Table 1).

Table 1

Distribution by Age Groups of 35 Chinese Female Cancer Patients

Age in years	No. of patients	%
0 – 29	0	0
30 – 39	1	2.9
40 – 49	3	8.6
50 – 59	12	34.3
60 – 69	10	28.5
70 – 79	6	17.1
80 – 89	3	8.6
TOTAL	35*	100.0%

*the age of one patient was unknown.

Anatomical Sites

The tongue (33.3%) was the commonest site of involvement (Table 2). The upper half of the mouth was more commonly involved than the lower half. The right and left halves of the mouth were about equally affected.

Clinical Features

In descending order of frequency the clinical presentations were (1) an ulcer with raised indurated margins (45.7%); (2) an exophytic growth (34.3%); (3) a swelling (17.1%) and (4) schirrous infiltration (2.9%). Carcinoma presented as an ulcer most commonly on the tongue followed on the buccal mucosa whereas it presented as an exophytic growth most commonly on the buccal mucosa followed on the tongue. Carcinoma presented as a swelling most commonly in the maxillary buccal sulcus. The only case of carcinoma which presented as a schirrous infiltration involved the tongue.

Symptoms

Sixteen patients complained of an ulcer, 12 of a growth, 8 of pain, 7 of a swelling, 4 of bleeding, 1 of difficulty of speech, 1 of a white patch and another patient of a red raw patch.

Table 2
Distribution of Oral Cancer by Anatomical Site in 36 Chinese Females

Anatomical site		Total	%
Tongue			
Margin —	left	4	
	right	2	
Dorsum —	left	4	33.3
	right	3	
	NOS	1	
Base		1	
NOS		1	
Buccal mucosa			
	left	6	
	right	5	22.9
Alveolar Process			
Upper —	left	4	
	anterior	0	
	right	2	
Lower —	left	0	14.6
	anterior	0	
	right	1	
Hard Palate			
	left	1	
	right	4	12.5
	Palate NOS	1	
Buccal groove			
Upper —	right	1	
Lower —	left	2	8.3
	right	1	
Lips			
Upper		2	
Lower		1	6.3
Floor of mouth			
	right	1	2.1
Total		48*	100.0

*Oral cancer extended to more than one site in some patients.

NOS = Not otherwise specified.

Duration

Table 3 shows the duration of signs and symptoms at the time of diagnosis. In 43.8% of patients the duration was less than three months, in 31.2% of patients the duration was between three months and one year and in 25.0% of patients the duration was over one year.

Table 3
Duration of Signs and Symptoms in 32* Chinese Female Cancer Patients

Duration	No. of patients	%
<3/12	14	43.8
3/12 — 6/12	6	18.7
6/12 — 1 yr.	4	12.5
1 yr. — 2 yrs.	5	15.6
>2 yrs.	3	9.4
TOTAL	32*	100.0%

*For 4 patients this information was inadequate.

Histological Grading of Carcinoma

The histological grading of carcinoma is shown in Table 4. Sixty percent of cases had Grade I, 25.7% had Grade II and 14.3% had Grade III carcinoma.

Table 4
Histological Grading of Squamous Cell Carcinoma in 35 Chinese Female Cancer Patients

Histological grading	Total No. of cases	%
Grade I	21	60.0
Grade II	9	25.7
Grade III	5	14.3
TOTAL	35*	100.0%

*In one patient the biopsied tissue was inadequate for histological grading.

Discussion

The relative frequency of oral cancer as a per cent of all cancers was 3% for the Chinese female and 6.6% for the Chinese male (Fig. 1). Reviewing the six most frequent carcinomas in different parts of China, Hu and Yang (1959) found that oral carcinoma ranked sixth in relative frequency for males (2.5%) and was unplaced for females in Peking; fourth for both males (6.4%) and females (4.4%) in the Second Medical College in Shanghai; fifth for males (8.3%) and unplaced for females in Fukien; and was unplaced for both males and females in Tientsin, Tsinan, Canton, Kwangsi and Sian.

The comparative figures from the Shanghai First Medical College were 5.3% for the male and 1.5% for the female (Anon, 1959). In Finland oral cancer in the female formed 2.3% of all cancers in 1953 and 2.2% in 1961. The relative figures for the Finnish male were 5.8% in 1953 and 5.3% in 1961 (Sainio and Calonius, 1967).

Oral cancer occurred 3.5 times more often in the Malaysian Chinese male than in the female. The Shanghai First Medical College data gave a male : female (M : F) ratio of 1.9 : 1. In Finland oral cancer occurred 2.7 times more often in the male than in the female. Chierici and colleagues (1968) recorded the M : F incidence for their oral cancer patients in the United States as 4 : 1 for the years 1941-64 and for the more recent period of 1955-64 the ratio was slightly less than 3 : 1. Comparing these two respective periods the percentage of women smokers increased from 54% to 75% thus accounting for the increasing ratio of F : M oral cancer patients.

The M : F ratio for the South African whites was 3.7 : 1 and for the South African negroes it was 6.4 : 1 (Shear, 1970). In Australia oral cancer occurred 3.7 times more often in the white male than in the female (Tan, 1969). The Chinese do not chew betel-quid. The predominance of male

oral cancer patients is similar to other non-betel-quid chewing population groups.

The peak incidence for the Chinese female was between 50-69 years (62.8%). The majority of patients (88.5%) were between 40-79 years. Three percent were younger than 40 years and 8% were older than 79 years. The peak incidence for the South African white males and females and for the negro males was in the sixth decade. The majority of patients (88%) were between 40-80 years. Six percent were younger than 40 years and 5% were older than 80 years.

In Australians the peak incidence of oral cancer was between 60-69 years for males (25.5%) and for females the peak incidence was in the seventh (24.2%) and eighth decades (24.8%) of life. About 80% of the patients were between the ages of 40-80 years. Only 11.8% of the patients were below 40 years and 8.4% above 80 years. In Finland the peak incidence was between 70-80 years for both sexes.

The tongue (33.3%) was the commonest site of involvement in the Chinese female. The buccal mucosa (22.9%), gingiva and alveolar process (14.6%) and palate (12.5%) were involved in descending order of frequency. In the tongue the anterior two-third was more commonly involved than the posterior one-third and the margins and dorsum of the tongue were the commonest sites of malignancy.

In both the South African white female and negro female the tongue was the commonest site of involvement. Whereas in the South African white male the lips, floor of the mouth and tongue were involved in descending order of frequency. The site most often involved in the South African negro male was the tongue followed by the floor of mouth and gingiva.

In Chierici and colleagues (1968) American study the tongue (42%) and floor of mouth (20%) were the commonest sites of involvement in the female. In the male however the lips (33%), tongue (27%) and floor of the mouth (13%) were involved in descending order of frequency.

In Australians the lips (62.1%), tongue (12.3%), floor of the mouth (5.7%), gingiva (3.7%) and palate (3.1%) were involved in descending order of frequency.

In Finland the lips and tongue were the commonest sites. The contribution of lip cancer to all male oral cancer cases in 1953 and 1961 was 58.5% and 64.9%. The female had much lower relative lip cancer frequencies namely 14.6% and 13.5% in 1953 and 1961. Both sexes presented higher lip cancer frequency among rural than urban population. The high incidence of lower lip cancer in the white male has been attributed to prolong exposure to actinic rays of the sun. Such exposure is an occupational hazard of farmers. In contrast lip cancer was the second lowest site (6.3%) in the Chinese female. Of all oral cancers, carcinoma of the tongue accounted for 7.3% and 5.1% in the Finnish male and 12.6% and 9.9% in the female in 1953 and 1961 respectively.

In two Chinese female patients where cancer presented as a swelling, a provisional clinical diagnosis of alveolar abscess of the maxillary molar sulcus region was made. It would therefore appear desirable to consider oral carcinoma in the differential diagnosis of maxillary molar sulcus swellings in adults. It is also probable for some of the carcinomas presenting as buccal sulcus and palatal swellings to have originated from the maxillary antrum.

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