Oral Carcinoma in the Malay Male

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Summary

ABOUT 9% of biopsied oral carcinoma cases occurred in the Malay male. The authors report on 95 Malay male patients. The M : F ratio was 1 : 1.1. The peak incidence was between 60-69 years (37.3%). The tongue (27.3%), gingiva (20.4%), palate (12.5%), buccal mucosa (12.5%), floor of mouth (6.8%) and lips (6.3%) were involved in descending order of frequency. Carcinoma presented clinically as: (1) an ulcer (59.2%), (2) an exophytic growth (34.6%), and (3) a swelling (6.2%). Grade I carcinoma formed 66.0%), Grade II 28.7% and Grade III 5.3%. A comparison is made with the Malay female, the Malaysian Chinese male and female and with oral cancer studies in Australia, China, Finland, Indonesia, South Africa and United States.

Introduction

Of Peninsular Malaysia's multiracial population of 9.4 million, the Malay male forms 25.3%, the Malay female 25.4%, the Chinese male 18.5%, the Chinese female 17.7%, the Indian male 5.9% and the Indian female 5.1% (Chander, 1972).

Oral cancer appears to be the second commonest histologically confirmed malignant tumour in Peninsular Malaysia. The relative frequency of oral cancer as a per cent of all cancers for the Malay male was 15.6% and for the Malay female it was 9.7% (Fig. 1) (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 1,031 histologically confirmed squamous cell carcinoma biopsy 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 and alveolus (14.2%), palate (13.1%), lips (6.4%) and floor of the mouth (3.8%) were involved in descending order of frequency.

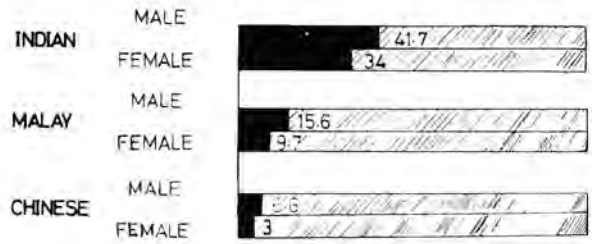

Fig. 1

Frequency of oral cancer as a per cent of all cancers by race and sex in Peninsular Malaysia, 1961-1963 (after Ungku Omar-Ahmad and Ramanathan, 1968).

The Malay male most commonly indulges in the single habit of smoking. Cigarette smoking is most popular. Less commonly, and especially the elderly male, also tends to smoke "rokok daun", cheroots and the pipe. "Rokok daun" is a local form of bidi. It is composed of a thin central core of Siamese tobacco around which is wrapped the leaf of the Nipah Palm *(Nipah fruticans)*.

Multiple habits are the second commonest habit and consists of smoking, alcohol consumption and/or betelquid chewing with gambir. Gambir

the "getah gambir" of the Malays and the "Katta Kambu" of the Tamils is extracted from the shrub *Uncaria gambir*. The delicacy of flavour of this product depends upon its catechin content. The leaves are bound, steamed, and then small amounts of boiling water are allowed to trickle through. On cooling catechin crystallises out, leaving the more soluble and bitter catechu tannic acid in solution. Usually a little bran is added and the bran-catechin mixture made into cakes. Unlike the Indians, the Malays who indulge in betel-quid chewing do not add tobacco to their quids.

It is indeed interesting to note the Malay male has virtually discarded the habit of chewing betel-quid in favour of smoking. The changing trend in oral habits would certainly result in a change in the relative frequency by race and sex and anatomical sites of involvement of oral precancerous conditions and carcinoma over the years (Ramanathan et al. 1973; Ramanathan et al. In Press, a).

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

Material and Methods

This has been described in detail in an earlier paper (Ramanathan and Lakshimi, In Press, b). In all 95 Malay male patients were reported.

Findings

Sex Ratio

Between 1967-72 oral carcinoma was reported in 100 Malay females (Ramanathan and Lakshimi, In Press, c) thus giving a male : female ratio of 1 : 1.1.

Age Distribution

The youngest patients (2) were 26 years old and the oldest patient was 96 years. The average age for the group was 55.8 years and the median age was 57.7 years. The peak incidence was between 60-69 years (37.3%) (Table 1).

Anatomical Site

The tongue (27.3%), gingiva and alveolar process (20.4%), palate (12.5%), buccal mucosa (12.5%), floor of the mouth (6.8%) and lips (6.3%) were involved in descending order of frequency (Table 2).

In the tongue the anterior two-third (71.1%) was more commonly involved than the posterior one-third (28.9%). The margin (31.1%) posterior one-third of tongue (28.9%) and dorsum (26.7%) were about equally involved.

Table 1
Distribution by Age Groups of 91 Malay Male Cancer Patients

Age in years	No. of patients	%
0 – 19	0	0
20 – 29	3	3.3
30 – 39	7	7.7
40 – 49	15	16.5
50 – 59	25	27.5
60 – 69	34	37.3
70 – 70	6	6.6
80 – 89	0	0.0
90 – 99	1	1.1
Total	91*	100.0%

*In 4 patients the age was not recorded.

The upper and lower gingiva and alveolus were equally affected. The left (40.6%) and right quadrants (40.6%) were more commonly involved than the anterior quadrant (18.8%). The hard palate (59.1%) was more commonly involved than the soft palate (40.9%).

Clinical Features

Carcinoma presented most commonly as: (1) an ulcer with raised indurated margins in 48 patients (59.2%); (2) an exophytic growth in 28 patients (34.6%) and (3) a swelling in 5 patients (6.2%).

Carcinoma presented as an ulcer most frequently on the buccal mucosa (34.0%), tongue (27.7%) and gingiva (25.0%). Carcinoma presented as an exophytic growth most commonly on the tongue (29.0%), buccal mucosa (19.4%), gingiva (19.4%), palate (16.1%) and lips (16.1%).

Symptoms

The commonest symptoms were complaints of an (1) ulcer (35.7%), (2) growth (24.4%), (3) swelling (9.6%), (4) pain (8.9%) and (5) neck swelling (6.7%). Table 3.

Duration

Table 4 shows the duration of signs and symptoms at the time of diagnosis.

Histological Grading of Carcinoma

The histological grading of carcinoma is shown in Table 5.

Table 2
Distribution of Oral Carcinoma by Anatomical Site in 95 Malay Males

Anatomical Site		Total	%
Tongue			
Margin – left	– 6		
right	– 8		
Dorsum – left	– 6		
right	– 6		
Inferior surface			
left	– 4	48	27.3
right	– 2		
Base –	13		
NOS –	3		
Alveolar process			
Upper – left	– 6		
anterior	– 2		
right	– 7		
Lower – left	– 7	36	20.4
anterior	– 6		
right	– 6		
NOS –	2		
Hard palate			
left	– 7		
right	– 5		
NOS –	1		
Soft palate			
left	– 4	22	12.5
right	– 4		
NOS –	1		
Buccal mucosa			
left	– 11		
right	– 10	22	12.5
NOS –	1		
Buccal groove			
Upper – left	– 2		
right	– 3	12	6.8
Lower – left	– 4		
right	– 3		
Floor of mouth			
left	– 5		
anterior	– 5	12	6.8
right	– 2		
Buccal mucosa, commissure			
left	– 3		
right	– 2	5	2.8
Pterygomandibular plica and glosso-palatal arch			
left	– 3		
right	– 2	5	2.8
Labial groove			
lower	– 1	1	0.7
Mouth – NOS	–	2	1.1
Total:		176*	100.0%

*Oral cancer extended to more than one site in some patients.
NOS – Not otherwise specified.

Table 3

Symptoms

No.	Symptoms	Total	%
1.	Ulcer	48	35.7
2.	Growth	33	24.4
3.	Swelling	13	9.6
4.	Pain	12	8.9
5.	Neck swelling	9	6.7
6.	Restricted tongue movement	3	2.2
7.	Ear-ache	3	2.2
8.	Difficulty in chewing and swallowing	2	1.5
9.	Bleeding	2	1.5
10.	Headache	2	1.5
11.	Trismus	2	1.5
12.	Dental socket failing to heal after extraction	2	1.5
13.	Anaesthesia	1	0.7
14.	Loss of weight	1	0.7
15.	Hoarse voice	1	0.7
16.	Excessive salivation	1	0.7
	Total	135	100.0%

Table 4

Duration of Signs and Symptoms in 61* Malay Male Cancer Patients

Duration	No. of patients	%
< 3/12	21	34.4
3/12 – 6/12	23	37.7
6/12 – 1 yr.	6	9.9
1 – 2 yrs.	10	16.4
> 2 yrs.	1	1.6
Total	61*	100.0%

*For 34 patients this information was inadequate.

Table 5
Histological Grading of Squamous Cell Carcinoma in 94 Malay Male Cancer Patients

Histological grading	Total No. of patients	%
Grade I	62	66.0
Grade II	27	28.7
Grade III	5	5.3
Total	94*	100.0%

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

Discussion

Table 6 shows the distribution of oral cancer patients by race and male : female ratio. In the Malays and Javanese there were more female cancer patients (M : F : 1 : 1.1). This could be attributed to the betel-quid chewing habit being more popular with the females.

Table 6
Distribution of Cancer Patients by Race and Male: Female Ratio

No.	Race	Year	M : F ratio
1.	Malays8 (Malaysia)	1973	1 : 1.1
2.	Chinese 7, 9 (Malaysia)	1973	3.5 : 1
3.	Americans3 (U.S.A.)	1968	4 : 1 (1941-64) 3 : 1 (1955-64)
4.	Australians13	1969	3.7 : 1
5.	Bataks4 (Indonesia)	1951	1.7 : 1
6.	Chinese1 (Shanghai)	1959	1.9 : 1
7.	Finns11	1967	2.7 : 1
8.	Javanese4	1951	1 : 1.1
9.	South Africans12	1970	White 3.7 : 1 Negroes 6.4 : 1

In contrast Chierici and colleagues (1968) reported a recent increase in the incidence of oral carcinoma in the females in the United States for a different reason. These authors recorded the M : F incidence 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 had increased from 54% to 75% thus accounting for the increase ratio of F : M oral cancer patients.

Table 7 shows the average age and median age of oral cancer patients by race and sex. The average age of the females was higher than the corresponding males. The median age of the Malay male and female was the lowest.

Table 7
Average Age and Median Age of Cancer Patients by Race and Sex

Race & Sex	Year	Average age in years	Median age in years
Malay Male Malay Female8	1973	55.8 57.1	57.7 56.8
Chinese Male9 Chinese Female7	1973	60.9 61.9	62.5 61.0
Americans3 (U.S.A.)	1968	61.0	—
Australian Male13 Australian Female13	1969	59.1 62.6	60.6 64.8
Finish Male11	1967	57.7 (1953) 57.5 (1961)	— —
Finish Female11		58.7 (1953) 63.6 (1961)	— —

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The peak incidence for the Malay male was between 60-69 years (37.3%), for the Malay female between 50-59 years (39.4%), for the Chinese male between 60-69 years (37.0%), for the Chinese female between 50-69 years (62.8%), for the South African white males and females and for the Negro males between 50-59 years, for the Australian male between 60-69 years (25.5%), for the Australian female between 60-69 years (24.2%) and 70-79 years (24.8%). Thus the peak incidence was of the same age group in the Malay male, Chinese male and the Australian male.

Oral cancer in patients below the age of 40 years formed 11% in the Malay male, 7% in the Malay female, 6% in the Chinese male, 3% in the Chinese female, 6% in the South African white males and females and Negro males and 11.8% in the Australians. The Australians and the Malay male had the highest frequency of oral cancer patients below 40 years.

Patients between 40-79 years formed 87.9% in the Malay male, 85.9% in the Malay female 90.6% in the Chinese male, 88.5% in the Chinese female, 88% in the South Africans and 80% in the Australians. For this age group the Chinese male had the highest frequency and the Australians the lowest frequency.

Patients over 80 years formed 1.1% in the Malay male, 7.1% in the Malay female, 3% in the Chinese male, 8% in the Chinese female, 5% in the South Africans and 8.4% in the Australians. Over 80 years there were more females than the corresponding group of males. The Australians and the Chinese female had the highest frequency and the Malay male the lowest frequency for patients over 80 years.

The tongue was the commonest site of involvement in the Malay male (27.3%), the Chinese male (26.2%), the Chinese female (33.3%), Javanese male, Indonesian Chinese male, South African white female and Negro female, South African Negro male and the American white female. The tongue was the second commonest site in Australians (12.3%), in the American white male (27.0%) and in the Finns and third commonest site in the Malay female (18.0%) and in the South African white male.

Of the tongue carcinoma, the anterior two-third formed 71.1% and the posterior one-third 28.9% in the Malay male, 88.0% and 12.0% respectively in the Malay female, 72.0% and 28.0% respectively in the Chinese male and 93.3% and 6.7% respectively in the Chinese female. Carcinoma of the posterior one-third of tongue was more common in the males than in the corresponding female groups probably because smoking and alcohol consumption are more popular habits with the males.

Carcinoma of the gingiva and alveolar process was the second commonest site in the Malay male (20.4%), Malay female (23.0%), Indonesian Chinese male, Batak male and female. It was the third commonest site in the Chinese male (21.5%), Chinese female (14.6%) and South African Negro male (14.7%). It was the fourth commonest site in the Australians (3.7%) and South Africans (10.7%). Carcinoma of the gingiva was the fifth commonest site in the American white male (5%) and sixth commonest site in the American white female (7%).

In the Malay male the palate (12.5%) and the buccal mucosa (12.5%) were the third commonest sites for carcinoma. The palate was the second commonest site in the Chinese male (23.1%), fourth commonest site in the Chinese female (12.5%), fifth commonest site in the Malay female (5.6%), in South Africans (7.1%), in Australians (3.1%), in the American white male (5%) and in the American white female (8%).

Carcinoma of the buccal mucosa was commonest in the Malay female (24.9%), second commonest site in the Chinese female (22.9%) and fifth commonest site in the Chinese male (8.7%). The buccal mucosa was the least common site in the Australians (2.7%), South Africans (5.7%) and in Americans (U.S.A. 4%).

Carcinoma of the floor of the mouth was the sixth commonest site in the Malay male (6.8%), fifth commonest site in the Malay female (5.6%), fourth commonest site in the Chinese male (9.2%) and least common site in the Chinese female (2.1%). The floor of the mouth was the second commonest site in the South African white male (19.7%), South African Negro male (17.1%) and in the American white female (20.0%). In the American white male (13.0%) and in the Australians (5.7%) carcinoma of the floor of the mouth was the third commonest site. In contrast to Europeans, carcinoma of the floor of mouth is relatively uncommon in Malaysians.

Carcinoma of the lips was relatively uncommon in the Malay male (6.3%), Chinese male (2.1%), and in the Chinese female (6.3%). In the Malay female (5.6%), Javanese female, Batak male and female, carcinoma of the lips was much more frequent because of the habit of keeping the betel-quid and especially the separate tobacco-quid ("sentil") between the lower lip and teeth. The lip was the commonest site of involvement in the American white male (33%), the South African white male (31.9%), in Australians (62.1%) and in the Finnish male (58.5% – 64.9%). The high incidence of lower lip cancer in the white male has been attributed to prolonged exposure to actinic rays of the sun. Such exposure is an occupational hazard of farmers.

In the Malay male and female the upper and lower halves of the mouth were equally affected whereas in the Chinese male and female the upper half of the mouth was more commonly involved than the lower half. In the Malay male and female the left side of the mouth was more commonly involved, in the Chinese female the left and right sides were about equally involved and in the Chinese male the right side was more commonly involved.

In the Malay male, Chinese male and Chinese female, carcinoma presented most commonly as an ulcer, secondly as an exophytic growth and thirdly as a swelling. In the Malay female however, carcinoma presented most commonly as an exophytic growth, secondly as an ulcer and thirdly as a swelling.

About 34.4% of the Malay males, 46.7% of the Malay females, 34.1% of the Chinese males and 43.8% of the Chinese females had signs and symptoms for less than three months. About 18% of the Malay males, 18.6% of the Malay females, 12.1% of the Chinese males and 25% of the Chinese

females had signs and symptoms for over a year. Among the group that sought prompt treatment there were more females than the corresponding males. More Chinese females than the other groups sought treatment after a duration of one year.

The histological grading of carcinoma showed Grade I formed 71.4% in the Malay female, 66% in the Malay male, 60% in the Chinese female and 55.7% in the Chinese male. Grade III carcinoma formed 5.3% in the Malay male, 8.2% in the Malay female, 13.1% in the Chinese male and 14.3% in the Chinese female. It would appear that Grade I carcinoma occurred more commonly in the females than in the corresponding male groups and Grade III carcinoma was more common in the Chinese than in the Malays. Grade III carcinoma was least common in the Malay male and most frequent in the Chinese female. Eighty per cent of the Malay males with Grade III carcinoma were between 60-69 years. All the Malay females with Grade III carcinoma were between 40-99 years whereas in the Chinese male 88.2% were between 40-69 years. In both the Malay and Chinese males the palate and tongue were the commonest sites for Grade III carcinoma. In the Malay female however the buccal mucosa and gingiva were the commonest sites for Grade III carcinoma.

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