

Microscopically diagnosed head and neck cancers in the University Hospital, Kuala Lumpur

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Summary

A retrospective study of 1000 cases of microscopically diagnosed head and neck cancers in the University Hospital, Kuala Lumpur was done. Head and neck neoplasms comprise 7.1% of all tumours diagnosed in this Hospital and the commonest sites of involvement are the nasopharynx (29.1%), cervical lymph nodes (22.6%), oral cavity (10.2%), thyroid (8.2%) and skin (6.5%). Histologically, 87% of tumours are epithelial in nature. The results of this study show that nasopharyngeal carcinoma is commonest in Chinese males, while oral and laryngeal malignancies occur more frequently in Indians.

Key words: Head and neck cancers, nasopharyngeal carcinoma, neoplasms.

Introduction

There has been a rising incidence of cancers as a major cause of mortality in the Malaysian population over the past two decades.^{1,2,3} There is a dearth of reliable reports of cancer incidence in Malaysia. The unavailability of a national cancer registry for accurate documentation of cancer morbidity in this country has meant that all data is at best an underestimate; hospital records often form the only available database, and therefore may be used to glean a general impression of cancer epidemiology in the country. Indeed, such reports have not been wanting in the local literature.^{4,5,6} Sporadic reports on the local incidence of gynecological malignancies,^{7,8} on the higher incidence of nasopharyngeal⁹ and hepatocellular carcinoma in the local Chinese,¹⁰ and an increased incidence of oral cancers among Indians^{11,12} are available. The present paper is based on analysis of records from the Department of Pathology, University Hospital, Kuala Lumpur on the incidence of head and neck cancers over a six and half year period.

Materials and methods

One thousand consecutive cases of head and neck cancers diagnosed in the Department of Pathology, Faculty of Medicine, University of Malaya, between January 1979 and June 1985 were studied. Repeat biopsies from the same patient were excluded from this series. Data pertaining to hospital admissions and relevant information such as age, sex and ethnic distribution for

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the various types of cancers was obtained from the Central Medical Records, University Hospital and this was subsequently analyzed. Data pertaining to hospital admissions (all diagnoses, including cancers, but excluding obstetric cases admitted for delivery) was analyzed to establish baseline information on the pattern of hospital admissions. Chi-square tests were used to test for significance.

Results

During the period of study, a total of 139,375 patients were admitted to the University Hospital, and a total of 14,074 cases cancers were diagnosed histologically. The distribution of hospital admissions and cases of head and neck cancers by race is shown in Table I. The distribution of cases by site is shown in Table II. The five commonest cancers were that of nasopharynx (29.1%), cervical lymph nodes (22.6%), oral cavity (10.2%), thyroid (8.2%) and skin of head and neck region (6.5%). The primary pathology of the lymph nodes was lymphoma in 72 (31.9%) of cases. In 154 (68.1%) cases, nodes were enlarged as a result of metastatic carcinoma, commonly from the nasopharynx and lung.

The majority of the tumours were epithelial in origin (87%). Of the 130 cases (13% of the tumours) which were nonepithelial, 94 (72.3%) were lymphomas. Tumours showing statistically significant association for race and site are shown in Table III. Nasopharyngeal carcinoma is more prevalent among Chinese and oral and laryngeal cancers occur more frequently in Indians.

Discussion

Although the data in this study is based on histopathological diagnoses, it may not be representative of the true incidence of the neoplasms diagnosed in this hospital. Since the University Hospital is a referral center, there is already an inherent selection bias. Tumours of the head and neck region occasionally are diagnosed as a result of investigative techniques such as radiological procedures (computerized tomography is being increasingly utilized) or cytological techniques; rarely bone marrow aspirates or trephine biopsies may be used to diagnose diffuse lymphomatous disease presenting clinically with swelling in the head and neck region. However, these instances are admittedly few. However, the general desirability to procure a tissue diagnosis coupled with the easy accessibility of head and neck region structures to biopsy has meant that

Table I
Distribution of admissions and cases of head and neck cancers
by ethnic group (1979–1985)

Race	Total no. of admissions		Cases of head and neck cancers	
	No.	%	No.	%
Malay	37,073	26.6	179	17.9
Chinese	62,830	45.1	616	61.6
Indian	37,653	27.0	188	18.8
Others	1,819	1.3	17	1.7
Total	139,375	100.0	1000	100.0

Table II
Distribution of cases according to site of occurrence

Site	No. of cases
Carotid body	2
Cervical lymph node	226
Ear	6
Eye	19
Lacrimal gland	1
Larynx	77
Lip	3
Mandible	3
Nasal cavity	15
Nasopharynx	291
Oral cavity	102
Orbit	2
Oropharynx	29
Salivary glands	20
Sinuses	23
Skin	65
Thyroid	82
Tonsil	33
Trachea	1
Total	1000

Table III
Distribution of head and neck neoplasms according to ethnicity and site

Race	Nasopharynx		Oral cavity		Larynx	
	No.	%	No.	%	No.	%
Malay	29	10.2	12	11.8	12	15.6
Chinese	244	85.3	29	28.4	34	44.1
Indians	6	2.1	61	59.8	31	40.3
Others	7	2.4	0	0	0	0
Total	286	100	102	100	77	100

Table IV
Histological types of neoplasms

I. Epithelial neoplasms:

Type	No.	%
Ameloblastoma	1	.1
Adenocarcinoma	34	3.9
Adenoid-cystic carcinoma	13	1.5
Basal cell carcinoma	38	4.4
Clear cell carcinoma	4	.5
Follicular carcinoma	19	2.2
Giant cell carcinoma	2	.2
Large cell carcinoma	15	1.7
Medullary carcinoma	1	.1
Mucoepidermoid carcinoma	6	.7
Papillary carcinoma	70	8.1
Sebaceous adenocarcinoma	1	.1
Small cell carcinoma	11	1.3
Transitional cell carcinoma	4	.5
Squamous cell carcinoma	291	33.4
Undifferentiated carcinoma	360	41.3
Total	870	100.0

II. Nonepithelial tumours:

Type	No.	%
Carotid body tumours	2	1.5
Dermatofibrosarcoma	2	1.5
Esthesioneuroblastoma	3	2.3
Lymphoma – Hodgkin	33	25.4
Lymphoma-non-Hodgkin	61	46.9
Fibrous histiocytoma, malignant	1	.8
Melanoma	4	3.1
Neuroblastoma	3	2.3
Osteosarcoma	1	.8
Retinoblastoma	15	11.6
Rhabdomyosarcoma	3	2.3
Sarcoma NOS	2	1.5
Total	130	100.0

the majority of tumours of the head and neck region are diagnosed in this manner. As noted earlier, the absence of a cancer registry in this country precludes the availability of comprehensive and accurate cancer statistics but hospital records and accurately diagnosed histopathological data are of value.

The present study shows that head and neck neoplasms account for approximately 7.1% of neoplasms seen in this hospital. An international comparison is difficult, due to the differences in reporting. In USA, cancers arising from head and neck area accounted for 4.6% of all cancer deaths.¹³ The frequency of head and neck cancers varies over different parts of India. In Manipur for example, it constituted 38.2% of total cancer cases.¹⁴

In our study, there appears to be a higher incidence of head and neck tumours among the Chinese and the significance of this is difficult to evaluate. A higher incidence of all cancers in Chinese has been reported by Lim⁵ from study of cancer statistics in the University Hospital. We noted that nasopharyngeal carcinoma was the commonest head and neck cancer (29.1%) in Chinese. Shanmugaratnam et al¹⁵ have noted a similar increased incidence of nasopharyngeal carcinomas among Singapore Chinese. The Epstein – Barr virus has important etiological association with nasopharyngeal carcinoma, and it may be that similar genetic factors may be at work in these two populations of Chinese, who historically have been shown to have emigrated from similar areas in South China and the Yunnan Plateau. Culturally preserved ethnic habits may be additional environmental factors which may act in concert with virus-induced cell cycle changes to promote tumorigenesis.

Although we observed a higher incidence of cancers arising in the oral cavity and larynx in Indians the etiological associations are not as strong. It was not possible to confirm the association of oral cancers with betel-nut chewing or tobacco quid use as reported in earlier studies.¹² It appears however, that the overall incidence of head and neck cancers in Malays seems to be on par with the Indians.

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