MULTIPLE PRIMARY TUMOURS IN LARYNGEAL CANCER

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SYNOPSIS

The incidence of a second primary malignancy with an index tumour in the larynx is not uncommon. A retrospective analysis of 180 patients with laryngeal cancer seen at the Ear, Nose and Throat Department and Therapeutic Radiology Department of the Singapore General Hospital, between January 1, 1978 and December 31, 1981 was undertaken. Fifteen (8.3%) of these 180 patients had multiple primary tumours, eight with synchronous, and seven with metachronous tumours.

The lung was the most common second primary tumour site for cancer of the larynx. Glottic tumours had the lowest association with second primary tumours.

It is recommended that a plain chest radiograph and bronchoscopy be performed as routine assessment for patients with laryngeal cancer at presentation and during post-treatment follow-up.

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INTRODUCTION

There are marked differences in the reported incidence of multiple primary tumours associated with laryngeal cancer. The incidence in large retrospective studies range from 3.8% to 20.5% (1,2). The presence of a second primary tumour does not only alter the management plan for a patient with laryngeal cancer but significantly changes the prognosis of these patients. Hence early detection is mandatory.

A retrospective clinical study on the occurrence of multiple primary tumours in patients with an index tumour in the larynx was carried out. The aim of this paper was to determine the incidence and distribution of these multiple primaries so as to make recommendations on the future management of our patients.

METHODS

The case records of all patients with histologically confirmed squamous cell laryngeal carcinoma seen at the ENT Department and the Department of Therapeutic Radiology, Singapore General Hospital from January 1, 1978 to December 31, 1981 were analysed. All patients had been assessed clinically and endoscopically. Following primary treatment, patients were followed up by both departments. A total of 216 records were traced.

The presence of a second primary tumour was documented according to the criteria proposed by Warren and Gates (3):

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i. the neoplasm must be clearly malignant on histological examination

ii. each neoplasm must be geographically separate and distinct and not connected by either submucosal or intra-epithelial neoplastic change, and

iii. the possibility that a second neoplasm represents a metastasis must be excluded.

Second primaries were classified as 'synchronous' if diagnosed within 6 months of the index tumour and 'metachronous' if diagnosed after 6 months.

RESULTS

Accurate documentation was obtained in 180 of the 216 patients (36 patients were either lost to follow-up or had poor records and were excluded from the study). Fifteen second primary tumours were documented giving an incidence of 8.3%. These were almost equally divided between synchronous and metachronous tumours.

Glottic primaries appeared to have the lowest incidence of multiple tumours (5%) when compared to supra- or sub-glottic primary sites (Table 1).

Carcinoma of the lung was the most common second primary tumour in laryngeal carcinoma (46.7%) followed by tumours of the oropharynx/oral cavity. There were three second primaries found at miscellaneous sites; ie colon, skin of the upper eye lid and the bone marrow (chronic myeloid leukaemia). One patient had an oesophageal carcinoma in addition to laryngeal carcinoma (Table 2).

DISCUSSION

The incidence of multiple tumours with an index tumour in the larynx in this series is 8.3%, which is within the range quoted in other reports (4% to 20%). This wide variation is probably the result of different follow-up periods and survival rates of the patients reported on.

The lung was the most common site of the second primary tumour in this series. This has also been reported in other series (2,4,6). Its presence was equally divided between synchronous and metachronous lesions. Hence, in evaluating a patient with a laryngeal carcinoma, a plain chest radiograph is

TABLE 1
MULTIPLE PRIMARY TUMOURS IN LARYNGEAL CANCER
INCIDENCE AND DISTRIBUTION BY PRIMARY LARYNGEAL SITE

	No. Patients	No. with synchronous Tumours (%)	No. with metachronous Tumours (%)	No. with multiple Tumours (%)
Primary Larynx Site				
Supraglottic	55	6 (10.9)	2 (3.6)	8 (14.5)
Glottic	119	2 (1.7)	4 (3.4)	6 (5.0)
Subglottic	6	—	1 (16.7)	1 (16.7)
All Sites	180	8 (4.4)	7 (3.9)	15 (8.3)

TABLE 2
MULTIPLE PRIMARY TUMOURS IN LARYNGEAL CANCER
DISTRIBUTION BY SITE OF OTHER PRIMARY VS LARYNGEAL PRIMARY SITE

Primary Larynx Site	Other Primary Site					
	Lung	Oropharynx	Oral Cavity	Oesophagus	Others	All Sites
Supraglottic	2	2	1	1	2	8
Glottic	4	1	—	—	1	6
Subglottic	1	—	—	—	—	1
All Sites	7	3	1	1	3	15

mandatory and should be carefully scrutinised for metastatic disease. Radiological screening with a plain chest radiograph has been found to be more sensitive than bronchoscopic examination. Maisel and Vermeerch (5) found that in all 17 patients with a second primary tumour in the lung, the plain chest radiograph was abnormal, whereas bronchoscopy gave a positive yield in only 5 patients. Further, a bronchoscopy may be hazardous in a bulky or obstructive laryngeal growth. However, bronchoscopy may provide histological confirmation of a second primary lung cancer. As a significant number of metachronous tumours occur in the lung, it would be advisable to include chest radiographs and sputum specimens for cytology as routine follow up procedures.

The oropharynx and oral cavity were the next most common sites for a second primary lesion. Hence, a complete head and neck examination is indicated at each follow-up visit.

In this series, a second primary in the oesophagus was noted in only one patient. We do not therefore recommend a barium swallow or flexible oesophagoscopy on initial evaluation or routine follow-up. This has also been the experience of De Vries and Snow (6). However, in other series where a high incidence of a second primary tumour in the oesophagus was reported (7,8), screening by either a barium swallow radiograph or endoscopy would be appropriate.

The higher incidence of second primary tumours associated with supraglottic carcinoma as compared to glottic carcinomas (14.5% vs 5% respectively in this series) has been well documented (1,4,9). This reflects differences in epidemiology, clinico-pathology and prognosis between these two anatomically close tumours.

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