LARYNGEAL CANCER AT THE KORLE BU TEACHING HOSPITAL ACCRA GHANA

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SUMMARY

Introduction: Laryngeal cancer is the commonest Head and Neck cancer seen at the Ear Nose and Throat (ENT) Unit Korle-Bu Teaching Hospital. The aim of this study was to determine the number of cases of laryngeal cancer seen at the Korle Bu Teaching Hospital, establish epidemiological parameters of the disease and to outline preventive measures.

Method: One hundred and fifteen (115) patients who were managed for laryngeal cancer from 1st January 1998 to 31st December 2003 were studied retrospectively with respect to age, sex, duration of symptoms at presentation, risk factors, symptoms complex, histopathology, stage of tumor, details of treatment offered and follow up.

Results: The age range was 17-85 years with a mean of 55.5 years (SD10.7). Majority of the patients (90.4%) were above 40 years. The commonest symptom at presentation was dysphonia. A significant proportion of cases (37.3%) presented with locally advanced disease. The commonest histological type of laryngeal tumour seen was squamous cell carcinoma. The treatment offered consisted of radiotherapy for 83 (79.8%) patients and total laryngectomy with neck dissection when necessary for 17 (16.3%) patients who also had postoperative radiotherapy. Only 58 (69.9%) patients completed radiotherapy treatment and in all 32 (24.3 %) patients did not report for any treatment. Majority of patients failed to report for post treatment follow up.

Conclusions: We conclude that significant number of patients with laryngeal cancer presented with locally advanced disease and dysphonia was the commonest symptom.

Keywords: Laryngeal cancer, squamous cell carcinoma

INTRODUCTION

Laryngeal cancer is not uncommon worldwide. However in relation to cancers of the breast, lung, prostate and colon, it is uncommon. The loss of voice that results from the disease has tremendous impact on the quality of life. There are areas of high incidence especially in Brazil, Hong Kong, Italy and among the Black populations in parts of U.S.A[1]. There are also areas of low incidence in Japan, Norway, Sweden and Senegal[1]. This reflects the smoking and drinking habits in the countries mentioned[1,2]. Within each country there are differences in incidence in urban and rural areas, the former having higher incidence. In the Ear Nose and Throat (E.N.T.) Unit at the Korle- Bu Teaching Hospital Accra, laryngeal cancer has been reported as being the commonest head and neck cancer[3]. Laryngeal cancer has very good prognosis if detected early. This cancer interferes very early in its occurrence with function of the larynx with resultant dysphonia. Unfortunately this early warning sign of change in voice does not result in early reporting in Ghana. Tobacco exposure is an important risk factor in the aetiology of laryngeal cancer and other aero-digestive squamous cell carcinomas and excessive alcohol has a synergistic effect with tobacco use[4,5].

Treatment modalties of laryngeal cancer have improved worldwide with advent of CT scan, MRI scan, fibreoptic endoscope; as was improvement in radiation therapy, surgical techniques along with improved speech and language therapy.

Currently radiotherapy alone with its promise of voice preservation or conservative surgery alone are options for T1-2, N0 cancers and combined surgery and radiotherapy is used for advance (high volume T3 and T4) and node positive disease.[5] Early glottic cancer is potentially curable with either surgery or radiotherapy.[6] A randomized trial of concurrent chemo-radiotherapy compared with radiotherapy alone in patients with advanced inoperable head and neck tumors (including laryngeal) reported higher disease- free and overall survival in combined treatment group.[7]

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Due to limited and overstretched facilities at the ENT Unit Korle-Bu Teaching Hospital, it is necessary to assess the size of the problem of laryngeal cancer and outline preventive measures.

The aim of this retrospective study was to determine the number of cases of laryngeal cancer seen at the Korle Bu Teaching Hospital, establish epidemiological parameters of the disease and to outline preventive measures.

MATERIALS AND METHOD

This is a retrospective study of patients treated for cancer of the larynx over a five year period from 1st January 1998 to 31st December 2003 at the Korle Bu Teaching Hospital, Accra. The treatment options offered to these patients were either radiotherapy only or total laryngectomy or a combination of both. Neck dissection was carried out if there was associated nodal disease in a suitable fit patient. All patients who had total laryngectomy also had post operative radiotherapy. Case notes of these patients were studied noting the age, sex, symptoms, and duration of first symptom prior to consultation, risk factors, stage of tumour by clinical assessment and CT scan, histopathology of biopsy of tumour, details of treatment offered and follow up review. The data was converted into excel tabular form and analysed by Epi info 2000 soft ware.

RESULTS

A total of 115 patients made up of 106 males and 9 females were seen with laryngeal cancer. Male: Female was 12: 1. Their ages ranged from 17 years to 85 years with a mean of 55.5 years (SD 10.7).

Table 1 Age distribution

Age/Years	Frequency	Percent
0 - 9	0	0.0
11 - 19	1	0.9
20 - 29	2	1.7
30 - 39	8	7.0
40 - 49	24	20.9
50 - 59	39	33.9
60 - 69	27	23.5
70 - 79	13	11.3
80 - 89	1	0.9

Peak age incidence was 50 -59 year age group (Table 1).

The median duration of first symptoms at presentation was between 12-18 months. Only 13% of patients were seen within 6 months of onset of first symptoms (Table 2).

Table 2 Duration of first symptoms at presentation

Duration /months	Frequency	Percent
Up to 6	15	13
7-12	27	23.5
13-18	18	15.7
19-24	2	1.7
24+	24	20.9
Not stated	29	25.2
Total	**115**	**100**

The commonest presenting symptom was dysphonia and it occurred in 75.7% of patients, followed by cough, dysphagia, dyspnoea and pain. Stridor, haemoptysis and neck swelling were less common (Table 3).

Table 3 Symptom complex

Symptom	Frequency	Percent
Dysphonia	87	75.7
Cough	36	31.3
Dysphagia	34	29.6
Dyspnoea	24	20.9
Pain	22	19.1
Stridor	12	10.4
Haemoptysis	12	10.4
Neck swelling	9	7.8

Tobacco use was present in 42% of patients. Combined tobacco and alcohol use was seen in 27.8% of patients (Table 4).

Table 4 Exposure to Risk factors

Risk factors	Frequency	Percent
Alcohol intake	21	18.3
Tobacco use	17	14.8
Alcohol+ Tobacco use	32	27.8
Not stated	45	39.1
Total	**115**	**100**

The commonest site of occurrence of laryngeal cancer was glottic on the true vocal cord (27%), followed by supraglotic (5.2%) and subglottic sites (1.7%). The exact site of lesion was not stated in most cases (65.2%) (Table 5) and the size of the primary tumor was not stated in 45.2% of cases (Table 7).

Laryngeal cancer with N0 neck disease occurred in only 27.8% of patients (Table 6).

Table 5 Site of tumor involvement

Site	Frequency	Percent
Glottic (True vocal cord)	31	27
Supraglottic	6	5.2
Transglottic	1	0.9
Subglottic	2	1.7
Unspecified	75	65.2
Total	**115**	**100**

Table 6 Extent of spread to cervical lymph node

Lymph node status	Frequency	Percent
N0	32	27.8
N1	8	7.0
N2	10	8.7
N3	2	1.7
Recurrence	3	2.6
Unspecified or not stated likely N3)	60	52.2
Total	**115**	**100**

Table 7 Size of primary tumor

Tumor size	Frequency	Percent
T0	0	0
T1	2	1.7
T2	7	6.1
T3	16	13.9
T4	34	29.6
Tx	1	0.9
Recurrence	3	2.6
Not stated but advanced ca.	52	45.2
Total	**115**	**100**

The commonest laryngeal cancer was squamous cell carcinoma (see Figure 1) occurring in 88.7 % of patients followed by adenocarcinoma (1.7%) and spindle cell carcinomas (1.7%) (Table 8). Seven cases (6.1%) were unspecified.

One hundred and four (90.4%) patients registered for treatment after the diagnosis of laryngeal cancer. The treatment offered consisted of radiotherapy for 83 (79.8%) patients including 17 who also had total laryngectomy. The remaining 21 registered patients did not report for treatment. Ten patients had total laryngectomy only whilst seven fit patients had total laryngectomy with radical neck dissection. Sixty patients had radical radiotherapy with curative intent and twenty three patients had palliative radiotherapy.

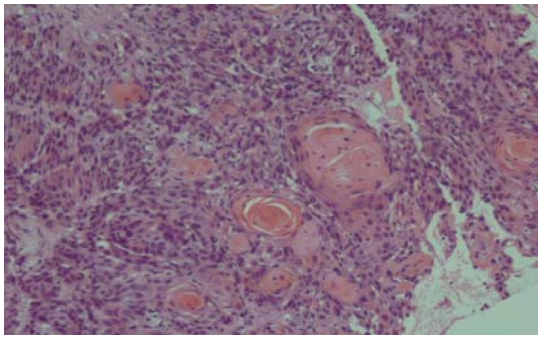

Figure 1 Squamous cell carcinoma of Larynx – well differentiated showing many keratin pearls

Table 8 Histopathology of tumor

Histological type	Frequency	Percent
Squamous cell carcinoma	102	88.7
Adenocarcinoma	2	1.7
Spindle cell carcinoma	2	1.7
Malignant chondroid tumour	1	0.9
Carcinoid tumour	1	0.9
Unspecified/anaplastic tumors	7	6.1
Total	**115**	**100**

Table 9 Post treatment follow up

Months post treatment for laryngeal cancer	Number of patients seen at review clinic
0-6	56
>6-12	18
>12-18	15
>18-24	6
>24-30	1
>30-36	2
>36-42	1
>42-48	0
>48-54	0
>54-60	1

In addition to the 21 patients, who did not report for treatment after registration another 11 did not register, giving a total figure of 32 (27.8%) patients who did not receive treatment. A total of 58 (69.9%) patients amongst those who commenced radiotherapy completed treatment. A large majority of patients treated for laryngeal cancer failed to report for review after 6 months post treatment (Table 9). Only 5 patients continued post treatment review attendance for 2 years or more (Table 9).

DISCUSSION

Our study showed a male preponderance with a male to female ratio of 12:1. The male to female ratio of 12:1 in this study compares well with ratios seen earlier in studies in the USA[8] of 15:1 in 1956 and is higher than other reported series[4]; 6:1 noted in Canada; and the more recent studies in the USA that quote 4.5:1 probably reflecting the changing smoking patterns among the sexes in the USA[8]. The male to female ratio is however lower than 32:1 seen in Italy[4].

The peak age incidence of 50-59 year age group is similar to reports in other parts of the world[2,4,5,8]. Even though 76% of the patients studied presented with hoarseness of voice only 13% of these patients were seen within 6 months of onset of first symptoms. The delayed reporting may probably be due to lack of awareness by patients and sometimes primary care physicians that hoarseness of voice which does not resolve after a couple of weeks of treatment may connote a possible neoplasm of the larynx. The late reporting may also be due to alternative local medical therapy for hoarseness which is well patronized by patients; these patients only report to the hospital when there is difficulty in breathing (a sign of advanced laryngeal cancer). This situation is unfortunate as most laryngeal cancers are curable when detected early.

Alcohol and or tobacco use was present in 60.9% (70/115) of cases and constitute a significant risk in the aetiology of laryngeal cancer in the patients studied. Tobacco use is clearly the most preventable cause of laryngeal cancer[9,10,11] and our efforts at prevention of laryngeal cancer should be directed to health education on harmful effects of tobacco smoking.

Prognosis of laryngeal cancer is associated with size and site of the lesion[6,10] and although 45.2% of patients did not have any documentation of size of laryngeal cancer, 43.5 % of patients had T3 or T4 (advanced) laryngeal disease. This constitutes advanced disease and is associated with poorer prognosis. Since early detection is the key to complete cure, health education focused on the early warning symptom i.e. hoarseness of voice, will go a long way in reducing the morbidity and mortality of laryngeal cancer. Our study revealed the fact that in keeping with other head and neck cancers[3], the commonest cancer seen was squamous cell carcinoma.

Even though 83 (79.8%) patients with laryngeal cancer were planned for radiotherapy, only 58 (69.9%) patients completed radiotherapy treatment probably due to financial constraints or deterioration in clinical condition of some patients leading to death. Majority of patients failed to report for post treatment follow up. This low follow up rate may be due to the fact that most patients may be residing very far from the center for treatment of laryngeal cancer. Lack of motivation together with financial constraints may also account for the low follow up rate. Documentation of details of treatment and follow up, exact anatomic site of laryngeal cancer was unsatisfactory. An effort at detailed documentation of site of laryngeal cancer, detailed documentation of treatment and follow up of patients should be encouraged among surgeons as this is essential for patients' management and clinical audit on outcome.

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