

# Laryngeal tumours: clinical features and management challenges as seen in two centres in Port Harcourt, Nigeria

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## Abstract

**Background:** Laryngeal tumours especially the malignant varieties are not uncommon with a number of factors affecting their management in most resource poor countries. Late clinical presentation and diagnosis is commonplace in the sub-Saharan region of Africa.

**Aim:** To determine the prevalence of laryngeal tumours as seen in two centres in Port Harcourt, Nigeria and highlights the challenges encountered in the management of these patients.

**Methods:** A retrospective study carried out using records of patients who presented with features of laryngeal tumours to both the University of Port Harcourt Teaching Hospital (UPTH) and Kinx Medical Consultants Hospital in Port Harcourt, Nigeria. The period of the study was from January 2003 to December 2014. Data extracted included age, gender, clinical features, radiological investigations, histopathologic diagnosis and treatment modalities. Data were analyzed using simple descriptive statistical methods.

**Results:** A total of thirty five cases were seen with laryngeal diseases during the 12-year period out of 2,300 patients who presented with laryngeal

symptoms giving a prevalence of 1.52%. There were 30 males and 5 females giving a male to female ratio of 6: 1. The age range was 40 years to 70 years. The mean age was  $58.5 \pm 4.55$  years. The age range 50-59 years was mostly affected. The commonest mode of presentation was hoarseness (100%). Twenty five cases (71.43%) were found to be malignant diseases while 10 (28.57%) cases were benign diseases. Twenty (57.14%) of the patients had emergency tracheostomy. The predominant histological type was well differentiated squamous cell carcinoma [15(42.86%)]. Only three (8.57 %) patients had total laryngectomy.

**Conclusion:** The prevalence of laryngeal tumours in our environment was found to be 1.52% and patients within the middle age group were mostly affected. Well differentiated squamous cell carcinoma was the commonest histopathological type.

**Keywords:** Challenges, Management, Laryngeal tumours, Squamous cell carcinoma, Papillomas, Total laryngectomy, Port Harcourt

## Introduction

Laryngeal tumours can be benign or malignant. The malignant variety is the commonest head and neck cancer worldwide and comprises 25% of all head and neck malignancies<sup>1</sup>. About 95% of the cases are squamous cell carcinoma<sup>2</sup>. Laryngeal cancers comprise about 2-5% of all malignancies diagnosed annually worldwide<sup>2</sup>. It is mainly a disease of middle age men with peak incidence in

the seventh decade<sup>3</sup>. Women affected tend to be younger with a peak incidence before the age of 60 years<sup>3</sup>. The male to female ratio varies from 5 to 20: 1<sup>2</sup>. However, in the last decades there has been a decrease in this ratio because of an increase in cigarette smoking and increase exposure to toxic work environment in women<sup>2</sup>.

Tobacco has been identified as the main

causative agent in laryngeal cancer with up to 98% of patients being smokers<sup>4</sup>. The interaction between tobacco smoking and alcohol consumption increases the incidence of the disease in a synergistic manner<sup>4</sup>. Poor diet and oral hygiene, vitamin deficiency, cirrhosis and depressed immune system often found in alcoholics may also contribute to the cancerous process<sup>2</sup>. Other risk factors identified include human papilloma virus infection (HPV) subtype 16 and 18, poor nutrition, gastroesophageal reflux disease, exposure to asbestos, wood dust, cement dust, gas compounds and polluted environment<sup>5-7</sup>.

The benign lesions account for about 40% of all laryngeal tumours, with the true benign neoplastic lesions being uncommon and occur in a ratio of 1:6 to the non-neoplastic lesions<sup>8</sup>. Laryngeal papilloma is the commonest benign laryngeal neoplasm and account for over 85% of cases<sup>9</sup>. Other rare benign neoplasia affecting the larynx includes chondroma, paraganglioma, benign schwannoma, neurofibroma, oncocytoma, leiomyoma, rhabdomyoma, lipoma, salivary gland neoplasia, giant cell tumours, and haemangiomas<sup>10</sup>. The clinical presentation of laryngeal tumours depends on the site of origin of the tumour<sup>2</sup>. Progressive hoarseness is the cardinal symptom of laryngeal carcinoma especially the glottis type. Dyspnoea and stridor, dysphagia, cough, haemoptysis, referred otalgia, neck swelling and weight loss can also occur<sup>2</sup>.

Several factors appear to affect the management of this disease in developing country like ours<sup>11</sup>. Such factors include late clinical presentation, unavailability of finance, inadequate skilled personnel, decline consent for surgery, unavailability and inaccessibility to treatment facilities and problems of follow up<sup>12</sup>. Thus, the management poses a lot of challenges to both the patient and care giver.

In our environment there is paucity of information on laryngeal tumours; hence, this study determines the prevalence of laryngeal tumours as seen in two centres in Port Harcourt, Nigeria and highlights the challenges encountered in the management of these patients.

## Patients and Methods

This was a retrospective study carried out using records of patients who presented with features of laryngeal tumours to the University of Port Harcourt Teaching Hospital, Port Harcourt and Kinx Medical Consultants clinic in Port Harcourt. The study period was from January 2003 to December 2014. Data extracted were age, gender, clinical features, radiological investigations, histopathologic diagnosis and treatment modalities. The data were entered into an SPSS version 14 computer software and analyzed descriptively. The data were expressed using a simple statistical table and percentages, while pie chart and figures were further used for more illustrations.

## Results

A total of thirty five cases were seen during the 12-year period out of 2,300 patients who presented with laryngeal symptoms giving a prevalence of 1.52%. There were 30 males and 5 females (M: F ratio of 6: 1). The age range was 40 years to 70 years. The mean age was  $58.5 \pm 4.55$  years. The age range 50-59 years were mostly affected (Table 1). The time from onset of symptoms to presentation at the hospitals ranged from 3 months to 5 years. The commonest mode of presentation was hoarseness (100%) (Table 2).

Twenty five cases (71.43%) were found to be malignant diseases while 10 (28.57%) were benign diseases. The predominant histopathological type was well differentiated squamous cell carcinoma (n=15, 42.86%), 5 (14.29%) cases were poorly differentiated squamous cell carcinoma and the remaining 5 (14.29%) cases were undifferentiated squamous cell carcinoma. All the malignant cases presented at an advanced stage. Among the benign lesions were squamous papillomas (n=5, 14.29%) and non-specific chronic inflammatory lesions (n=5, 14.29%) (Figure 1).

Three (8.57%) patients had emergency tracheostomy with direct laryngoscopy/biopsy/total laryngectomy, 5 (14.29%) patients had direct

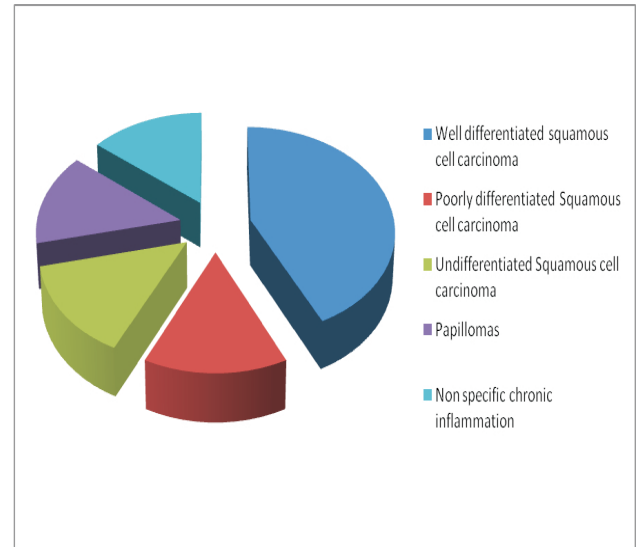
laryngoscopy/complete excision of mass, 17 (48.57%) patients had emergency tracheostomy with direct laryngoscopy and biopsy, 10 (28.57%) patients had direct laryngoscopy and biopsy (Figure 2). Two (5.71%) patients had tracheostomy prior to presentation. All patients with malignancies were referred to centres that have chemo-radiotherapy facilities for further expert management. The patients with papillomas had excision biopsy, while those with chronic non-specific inflammation were managed conservatively with antibiotics and anti-inflammatory drugs. Eighteen (51.43%) of our patients were lost to follow.

**Table 1. Age distribution of patients**

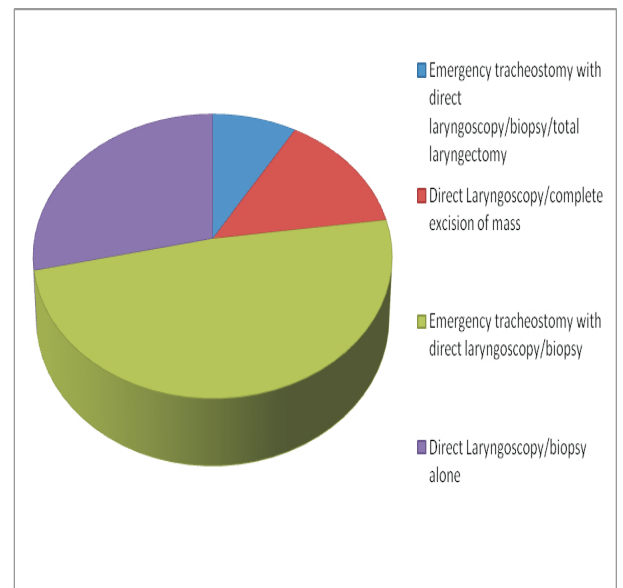
Age range (years)	Number of patients	Percentage (%)
40 -49	10	28.57
50 -59	16	45.71
60 -69	8	22.86
70 and above	1	2.86
<b>Total</b>	<b>35</b>	<b>100</b>

**Table 2. Clinical features of the patients**

Clinical features	Number of patients	Percentage (%)
Hoarseness	35	100.00
Difficulty in breathing	20	57.14
Dysphagia	15	42.86
Odynophagia	10	28.57
Feeling of lump in the throat	15	42.86
Weight loss	8	22.86
Chronic cough	25	71.43



**Figure 1. Histopathologic type of tumours**



**Figure 2. Surgical treatment modalities**

**Discussion**

Laryngeal cancers amongst which the squamous cell carcinoma is the most common in the developed world are not uncommon in our environment. In this study the prevalence of laryngeal tumours in our environment was found

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to be 1.52% which agrees with the findings of other researchers within our sub-region<sup>12-15</sup>. Laryngeal tumours in this series have an age range of 40-70 years with a mean age of  $56.5 \pm 4.45$  years. This was similar to the findings reported by Adoga et al<sup>12</sup> and Adeyemo et al<sup>13</sup> with a mean age of 56.14 years and 57.5 years respectively. This was in contrast to a previous study done in the North-West geopolitical zone with a mean age of 47.9 years<sup>14</sup>. Laryngeal tumours occur predominantly in males in this study with a male to female ratio of 6:1. Iseh et al<sup>14</sup> has also found male preponderance in their study. The predominance has led to the speculation that the tumour cells are being differently susceptible to steroid hormones and also that chronic smoking is still being uncommon in women in our environment.

Late presentation has been a challenge in our environment with the duration of symptoms before presentation ranging from 3 months to 5 years in this study, as all the malignant cases presented at an advanced stage. This was similar to the report done in Jos with symptoms before presentation ranges from 3 months to 2 years<sup>12</sup>. The reason for the late presentation was probably due to inadequate finance, poor health seeking ability and social belief as most people in our environment still visit traditional healers and churches for their health needs.

Most (71.43%) of the cases in this study were malignant tumours (squamous cell carcinoma) with various degrees of differentiation. A similar finding was reported by Iseh et al with 66.7% malignant cases and all being squamous cell carcinoma<sup>14</sup>. This study reported 14.29 % cases of adult papillomas. This was similar to Iseh et al with incidence of 5.4% of adult papillomas in a 7 years retrospective study<sup>14</sup>.

The predominant symptoms in this study was hoarseness (100%) followed by chronic cough (71.43%) and difficulty with breathing (57.14%). This was similar to the findings reported from Calabar where all the patients presented with hoarseness (100%) and 80% presented with difficulty with breathing<sup>15</sup>.

All our patients had direct laryngoscopy and biopsy of laryngeal tumours with most (57.14%) of

them having tracheostomy done to secure their airway. The high rate of tracheostomy reported in this study calls for concern as most of the patients presented late, thus necessitating the need to relieve their upper airway obstruction.

Only three (8.57%) of the patients had total laryngectomy as part of their treatment. This low percentage was attributed to the difficulty in getting informed consent for surgery because of the fear for permanent tracheostomy associated with the procedure and inability to fund the cost of the surgery. These challenges were also reported by Adoga *et al*<sup>12</sup>. All the cases with confirmed malignant diseases were referred to centres with chemo-radiation facilities. Radiotherapy centres in Nigeria are few and overstretched with patients. This creates an increased financial burden on our patients in addition to the cost of the treatment as patients travel long distances of over 8 to 12 hours to continue further expert management.

Another challenge we encountered was lack of inadequately trained speech therapist and voice rehabilitation facilities. Patients who had total laryngectomy need to be rehabilitated by speech therapists. Cancer management needs a multidisciplinary approach and it involves several specialists and allied health workers. In our series, 18 (51.43%) of our patients were lost to follow up probably due to poor finance, ignorance or death.

As part of our limitations in this study some of the information of patients was missing from the records. However, this was not unexpected in retrospective studies. The number of patients lost to follow-up appears to be on the high side and this definitely affected the outcome of their treatment.

## Conclusion

The prevalence of laryngeal tumours in our environment was found to be 1.52% and patients within the middle aged group were mostly affected. Well differentiated squamous cell carcinoma was the commonest histopathological type seen in our series. Late presentation to the

hospital with advance disease was a common finding among the patients with malignancies.

To help obtain better outcome in the management of laryngeal tumours in our environment we advocate early presentation and prompt diagnosis of laryngeal tumours. Furthermore, the provision of standard oncologic treatment centres with trained personnel in all tertiary health facilities in our environment will help to alleviate the plight of both patients and healthcare providers when rendering expert management. Lastly, there should be increase health enlightenment campaigns by relevant bodies to increase awareness and health seeking ability of the general population.

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