

**LARYNGEAL TUMOURS IN UNIVERSITY OF PORT HARCOURT TEACHING HOSPITAL: A 9 YEARS REVIEW.**

**ABSTRACT**

**Background**

Tumors of the larynx can be benign or malignant and affect both males and female. The presence of a lesion in the larynx can be detected early. However, most patients present late with the hope the symptoms are as a result of an upper respiratory tract infection which will clear in due time. The late presentation of patients results in more challenges in their management.

**Aim**

The aim of this study is to review the pattern of laryngeal tumors seen in the University of Port Harcourt Teaching Hospital

**Method**

This is a 9 years retrospective review of medical records from July 2009 to August 2018 who were managed for laryngeal tumors in the Ear, Nose and Throat Department of University of Port-Harcourt Teaching Hospital. Information retrieved includes biodata, occupation, exposure to tobacco and alcohol, presenting complaints, management and histological findings. Data was analyzed using statistical products and service solutions (SPSS) version 20.

**Results**

There were 25 patients reviewed during this time accounting for 18 males (72%) and 7 females (28%). The age ranged between 29 to 52 years. The most common presenting symptom was hoarseness, followed by difficulty in breathing then dysphagia. All the patients under review had tracheostomy done for relieve of upper airway obstruction. A direct laryngoscopy and biopsy was done. Histologic variants derived include; 16 cases of squamous cell carcinoma (64%), 6 cases of adenocystic carcinoma (24%) and 3 cases of papilloma (12%) . Two cases of laryngeal papilloma were weaned off tracheostomy following excisional biopsy of the lesion and confirmatory histology report. A total of 5 laryngectomies were done, patients with advanced cases were referred to other centers for radiotherapy and chemotherapy, a few declined medical advice and others were lost to follow up.

**Conclusion**

There are more males than females with laryngeal tumors in this study. Majority of these tumors are malignant. Early presentation will result in better management options and thus there is need for health education.

**Key words** : laryngeal tumor, squamous cell carcinoma, University of Port Harcourt Teaching Hospital

## INTRODUCTION

The larynx is the voice box responsible for voice production and passage of air during respiration<sup>1</sup>. It is located in the neck between the third to sixth cervical vertebrae. The intrinsic muscles of the larynx cause abduction and adduction of the vocal cords leading to passage of air during respiration and phonation<sup>1</sup>.

Tumors of the larynx can be benign or malignant. It can affect any of the anatomical regions namely supraglottic, glottic and subglottic. Laryngeal carcinoma is one of the debilitating tumors in the head and neck regions which is seen more in males than females<sup>2</sup>. Globally, the male to female ratio for laryngeal cancer is accepted to be 10:1 despite regional variations<sup>3</sup>. In Spain, where carcinoma of the larynx is common, it accounts for 5.6% of all malignancies<sup>4</sup> and 3.4 % of head and neck Cancers in Ile Ife<sup>5</sup>.

The presence of a lesion in the larynx can be detected early. However, most of these patients present late based on the assumption the change in voice is due to an upper respiratory tract infection which will clear with time. Also, many of the patients are first seen by family physicians and medical practitioners which may lead to misdiagnosis. They present for review by the Ear, Nose and Throat (ENT) surgeons after taking a lot of different medications with no avail, or when symptoms have gotten worse with associated respiratory distress. This late presentation results in more challenges in management of the patient which may lead to worsening morbidity and mortality<sup>6</sup>.

Early diagnosis and management gives a better outcome<sup>7</sup>. There is currently no appropriate marker for early detection<sup>8</sup>. The pattern of laryngeal cancers depends on the anatomical region affected<sup>9</sup>. Therefore, the knowledge of the pattern of laryngeal tumors will be necessary for the

adequate education of general medical practitioners who are the first point care and referral of these patients.

There is paucity of information on laryngeal tumor in our environment. Thus, the aim of this study is to review the pattern of laryngeal tumors seen in the University of Port Harcourt Teaching Hospital.

## **PATIENTS AND METHODS**

This is a 9 years retrospective review of medical records of patients between the ages of 29-52years who were managed for laryngeal tumors in Ear, Nose and Throat (ENT) Surgery Department of the University of Port Harcourt Teaching Hospital from July 2009 to August 2018. Ethical approval was sought and obtained for the study. Information retrieved includes biodata, presenting complaints, occupation, exposure to tobacco and consumption of alcohol, the management and histological findings. Data was analyzed using statistical products and service solutions (SPSS) version 20.

## **RESULTS**

There were 25 patients reviewed within the study period accounting for 18 males (72%) and 7 females (28%) as seen in fig1. The age ranged between 29 to 52years.

### **Presentation**

The most common symptom presented among the cases reviewed showed hoarseness(100%) in all the patients, this was followed by dyspnea accounting for 80% with a clinical finding of stridor. Some patients had difficulty in swallowing (24%), cough (20%) and 4 noticed anterior neck swelling (16%) as in fig.2.

## **Social history**

24% of the patients took alcohol regularly, 60 % occasionally and 16% never took alcohol. Regarding tobacco use, 16 % of patients were regularly exposed to tobacco, both passively and actively, 52% were casual smokers and 32% never used tobacco products. In terms of occupation, six patients were farmers, five were farmers and five were also teachers. Three patients each were civil servants, traders and industry workers.

## **Treatment**

All the patients under review had tracheostomy done for relieve of upper airway obstruction. A direct laryngoscopy and biopsy was done. Two cases of laryngeal papilloma were weaned off tracheostomy following excisional biopsy of the lesion and confirmatory histology report.

A total of 5 laryngectomies were done, patients with advanced cases were referred to other centers for radiotherapy and chemotherapy, a few declined medical advice and others were lost to follow up.

## **Histology**

Histologic variants derived include; 16 cases of squamous cell carcinoma (64%), 6 cases of adenocystic carcinoma (24%) and 3 cases of papilloma (12%) as shown in fig 3.

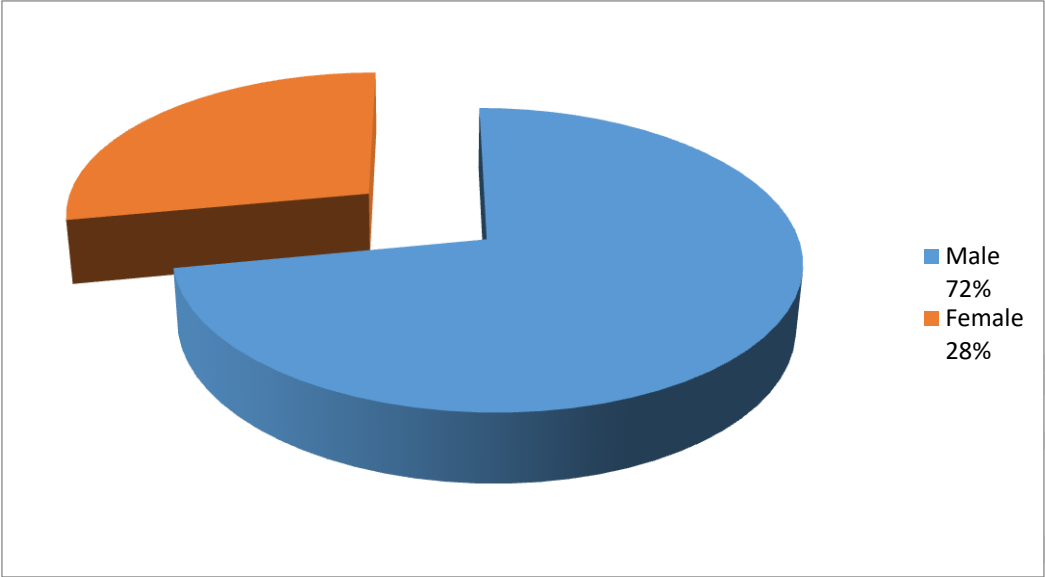


Fig 1 : Pie chart showing sex distribution

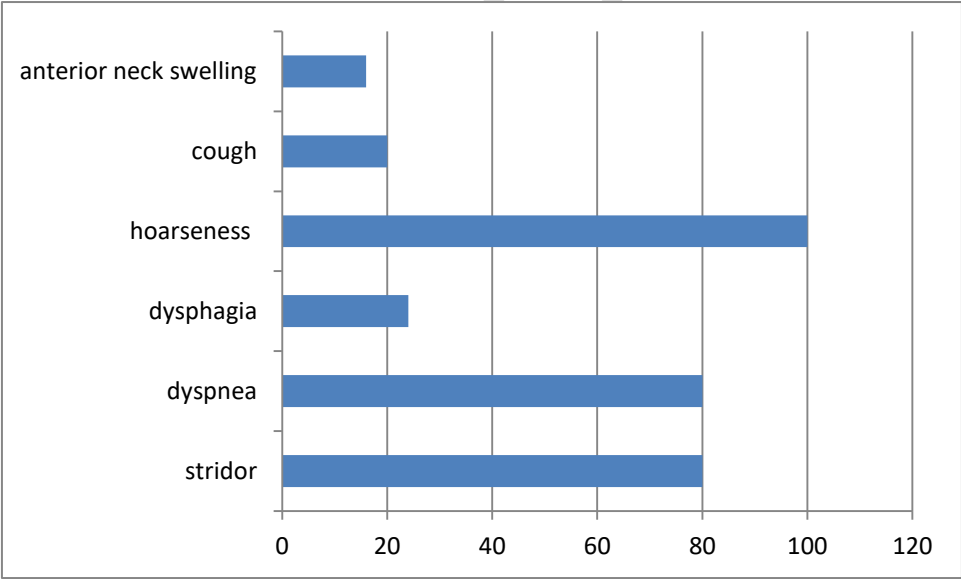


Fig 2 : Graph showing clinical presentation of the patients

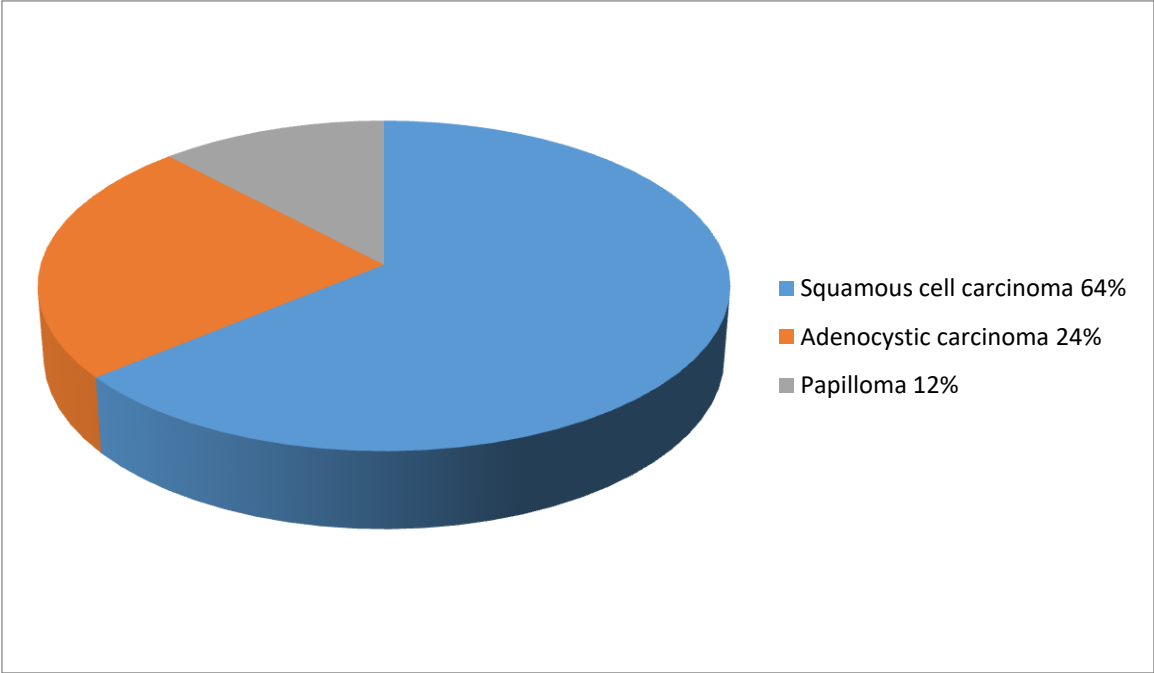


Fig 3 : Pie chart showing the distribution of histologic findings of the laryngeal tumor

UNDER PEER REVIEW

## DISCUSSION

Laryngeal tumor is one of head and neck diseases, which can result in further morbidity and mortality if not managed in time. Majority of laryngeal tumors are malignant as seen in this review and other studies<sup>10</sup>. It affects both male and female, however seen more among the male gender as recorded in this study accounting for 72% of males. This is similar to other studies<sup>5,10,11</sup>. However, increase in frequency of laryngeal cancer among women has been reported<sup>12</sup>.

The age span in this study is from 29 to 52 years of which majority of the cases were seen between the ages of 30 to 49 years. This reflects the age range seen in most cases with laryngeal tumor<sup>13</sup>. This is probably due to the active age for an adult with exposure to various factors such as alcohol and tobacco use as well as exposure to other factors associated with occupation ranging from farming, voice misuse from preaching or teaching, to exposure to chemicals by painting of buildings and chemicals used for hair treatments<sup>14</sup>. This emphasizes that the predisposing factors to laryngeal cancer go beyond exposure to alcohol and tobacco use. Laryngopharyngeal reflux, exposure to asbestos, polycyclic aromatic hydrocarbons, wood dust, coal dust and cement dust were also recognized as risk factors for laryngeal cancer especially in non-smokers<sup>15,16</sup>. Probably, non-smokers(32%) and non-alcoholics(16%) who had laryngeal tumor as seen in this study could have other risk factors.

The most common presentation was hoarseness and dyspnea which was noticed in other studies<sup>17,18</sup> and in some cases upper airway obstruction<sup>10</sup>. The late presentation of these patients was mainly as a result of misdiagnosis prior to presentation at the Ear, Nose and Throat clinic and based on assumptions by the patients who believed their symptom was due to an upper respiratory tract infection which will clear with time. These patients had tracheostomy done with

subsequent examination under anesthesia and biopsy. The histologic findings and stage of the malignant cases gave a guide on the best line of management for the patients. Based on the results retrieved from histology, 2 cases with papilloma were weaned off tracheostomy after excision of all masses seen in the larynx.

Laryngeal Cancer is one of the most common malignancies in the head and neck region<sup>19,20</sup>. In this study, squamous cell carcinoma(64%) accounted for the commonest histologic type which agrees with other studies<sup>10,21,22</sup>. This reflects their origin from squamous cells that form the majority of the laryngeal epithelium. A total of five (5) laryngectomies were done in our patients with advanced cases of laryngeal cancer and were subsequently referred to other centers for radiotherapy and chemotherapy. A few declined medical advice and the others were lost to follow up. Total laryngectomy with post operative radio- therapy offers a good result in patients with advanced laryngeal Carcinoma<sup>23</sup>. Good prognosis has been reported despite late presentation<sup>5</sup>.

Tumors of the larynx can be benign or malignant and either of them may present in similar symptoms of hoarseness and or difficulty in breathing.

## **CONCLUSION**

There are more males than females with laryngeal tumors in this study. Majority of these tumors are malignant. Early presentation will result in better management options and thus there is need for health education.

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