

Clinical and Histological Patterns of Oropharyngeal Tumors in Selected Health Institutions in North Western Nigeria

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Abstract

Background: Tumors of the oropharynx affect a common pathway for deglutition, respiration and speech and therefore pose a challenge to both the patient and clinician. This paper attempts to present clinical and histologic patterns, and therapeutic challenges of oropharyngeal tumors from three selected health facilities in North Western Nigeria. **Materials and Methods:** The medical records of patients seen in the Usmanu Danfodiyo University Teaching Hospital, Sokoto, Federal Medical Centre Birnin Kebbi and Shepherd Specialist Hospital, Sokoto with oropharyngeal tumors over a fourteen-year period were reviewed (January 2000 to December 2013). **Results:** A total of 36 patients were seen. Twenty (56%) were males and 16 (44%) were females, making the male:female ratio, 1.3:1, (P value of 0.004 for the null hypothesis). The age range was 3 to 80 years, with a mean age of 45.5 years. Majority of patients were in their 5th decade of life (33%). Nineteen (53%) patients presented with dysphagia, 11 (28%) with mass in the mouth (soft palate), 7 (17%) with neck swelling, while 3 patients (7%) presented with upper airway obstruction. Twenty-six patients (72%) presented at an advanced stage. Squamous cell carcinoma accounted for 31% of the cases, followed by lymphoma 14%, adenoid cystic carcinoma 8%, pleomorphic adenoma 5%, mucoepidermoid carcinoma 5%, peripheral nerve sheath tumour 3%, alveolar rhabdomyosarcoma (3%), tuberculoma (3%) and inflammatory polyp (3%). Surgery was carried out in 31 cases (86.1%) for the purpose of obtaining biopsy and removal of tumour, followed by chemotherapy (5.5%) and radiotherapy (5.5%) where histologic diagnosis was malignant. Five (13.9%) did not consent for any intervention. **Conclusion:** Oropharyngeal tumours are varied in presentation. Squamous cell carcinoma (31%) was the commonest histologic type followed by lymphoma (14%) and adencystic carcinoma (8%). About 72% of the cases were in advanced stages (T4). More than half of the tumours (53%) were of soft palate origin.

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Keywords

Oropharyngeal Tumour, Squamous Cell Carcinoma, Lymphoma, North Western Nigeria

1. Introduction

Tumours of the oropharynx affect a common pathway for deglutition, respiration, and speech and therefore pose a challenge to both the patient and clinician when these functions are compromised [1]. Because the oropharynx is hidden, tumours growing in this region appear to have an insidious onset, with patients presenting at an advanced stage [2]-[4]. The oropharynx is a musculofascial tube which extends from the level of the hard palate above to the hyoid bone below. It is divided into the following sub-sites for therapeutic and diagnostic purposes; soft palate, tonsillar fossa (lateral wall), base of the tongue, and posterior pharyngeal wall [2] [5].

Histologically, the oropharynx contains squamous epithelium, lymphoid tissues and minor salivary glands. Tumours of the oropharynx could arise from any of these tissues, and could be either benign or malignant, but majority of epithelial tumours are squamous cell carcinomas [1] [2] [5]-[8]. The amount of lymphoid tissue in the oropharynx is high and this could explain the higher incidence of oropharyngeal lymphoma compared to other sites in the body [1] [2].

Benign lesions are usually slow growing until obstructive features manifest and are more commonly located on the soft palate; while for the malignant lesions, the lateral oropharyngeal wall is the sub site more commonly affected [1] [2] [5] [9]. Cancers of the base of the tongue are difficult to detect because of its location and relative absence of pain fibres, hence patients with base of the tongue tumours present at an advanced stage [1] [2] [5]. Common clinical features include the following: dysphagia, difficulty in breathing, throat pain, feeling of throat mass, voice changes, oral bleeding, ear pain, and neck mass [1] [3]. Therefore, the oropharynx should be evaluated in cases of respiratory distress, stridor, voice changes, or dysphagia.

This paper attempts to present clinical and histologic patterns, and therapeutic challenges of oropharyngeal tumours from three selected health facilities in north western Nigeria.

2. Materials and Methods

This is a retrospective study of all patients that presented to ENT Departments of Usmanu Danfodio University Teaching Hospital Sokoto, Federal Medical Centre Birnin Kebbi, and Out-Patient Unit of Shepherd Specialist Hospital, Sokoto with oropharyngeal tumours, over a fourteen-year period (January 2000 to December 2013).

Patients who had oropharyngeal tumors were recruited for the study. Medical records of patients were reviewed, relevant data extracted (such as bio data, clinical presentation, treatment modalities) and analysed using Statistical Package for Social Sciences (SPSS) version 20. Patients with incomplete clinical information were excluded from the study.

3. Results

A total number of 36 patients were seen. Twenty (56%) were males and 16 (44%) were females, with a male to female ratio of 1.3:1, (P value of 0.004 for the null hypothesis). The age range was 3 to 80 years, with a mean age of 45.5 years. Majority of patients [12 (33%)] were in their 5th decade of life.

Nineteen (53%) patients presented with dysphagia, 11 (31%) with mass in the mouth, 7 (19%) with neck swelling, 3 patients (8%) presented with upper airway obstruction necessitating emergency tracheostomy while some presented with a combination of above symptoms. Twenty-six patients (72%) presented at an advanced stage. Five patients (13.9%) had a history of cigarette smoking but history of alcohol consumption was not identified among the patients.

Nineteen (53%) tumours involved the soft palate alone, 1 (3%) was limited to the tonsils. Sixteen (44%) of the tumours involved the entire oropharynx. Twenty-two (61%) were malignant tumors while 5 (14%) were benign. Histology results for 4 cases could not be traced (**Figure 1**).

Squamous cell carcinoma accounted for 11 (31%) of cases, lymphoma 5 (14%), adenoid cystic carcinoma 3 (8%), pleomorphic adenoma 2 (5%), mucoepidermoid carcinoma 2 (5%), alveolar rhabdomyosarcoma 1 (3%),

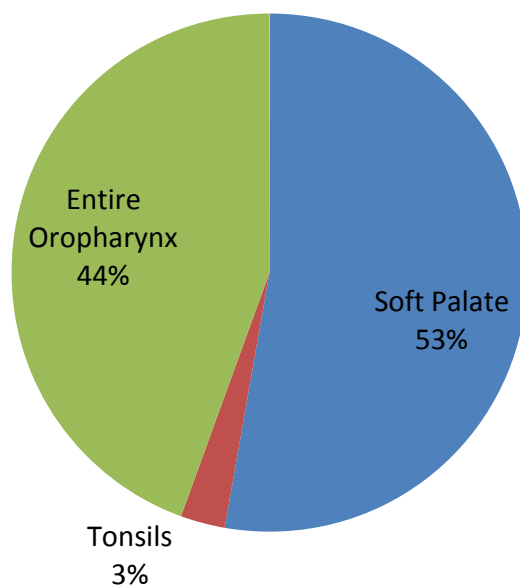


Figure 1. Site of oropharynx affected by the tumor.

tuberculoma 1 (3%), benign peripheral nerve sheath tumour 1 (3%), and inflammatory polyp 1 (3%).

Surgery was carried out on 31 (86.1%) cases for the purpose of obtaining biopsy and debulking of tumour, followed by chemotherapy (5.5%) and radiotherapy (5.5%) where histologic diagnosis was malignant. Five (13.9%) did not consent to any form of intervention.

4. Discussion

Oropharyngeal tumours account for 10% - 12% of all malignancies of the upper aerodigestive tract worldwide [1]. It accounted for 3.8% of all head and neck cancers seen in Sokoto, Nigeria [10], and 0.4% of all neoplasms seen in Ibadan, Nigeria [11].

Studies on the head and neck cancers showed that the median age of diagnosis is in a patient's early 60s, with a male predominance [12]. However, for oropharyngeal malignancies especially for squamous cell carcinoma, it is diagnosed predominantly in patients over the age of 45 years. Over the past two decades, diagnosis had been made in patient less than 45 years especially with implication of HPV type 16 [13] [14]. In our study, majority of the patients were between the ages of 40 - 49 years which agrees with the similar study done in Maiduguri, North eastern part of Nigeria [6] (Figure 2). Precise reasons for Involvement of younger age group with Oropharyngeal cancer are not well defined as in studies from the western countries [15] [16]. Proposed mechanism may be related to poor nutritional status involving the deficiency of vitamin A, chronic irritant and poor dental hygiene may be more relevant in our environment coupled with low socioeconomic status, ignorance and bad culture like chewing herbal medicine, kola nuts, tobacco and drinking highly concentrated gin. In a recent study by Iseh *et al.* in the same region the analysis of frequency of food intake amongst head and neck cancer patients demonstrated low consumption of vegetables, selenium, lycopene and pytochemicals rich food which are consistent with increased risk of cancer [17]. In that study low income, large family size, ignorance and low literacy rate were identified as poor prognostic factors affecting their financial capabilities in accessing a balanced diet thereby predisposing to poor health status and head and neck cancer [17]. Males were more commonly affected with a male:female ratio of 1.3:1, this agrees with other studies [6] [18] [19] this difference between males and females was however not statistically significant (P value of 0.004 for the null hypothesis) in this study.

There are well documented etiologies of the oropharyngeal cancers in literatures [6] [20]-[22]. However, smoking could only be implicated in only 5 (13.9%) in our study. This finding may be due to the limitations of a retrospective study where the surgeon(s) who first came in contact with the patient(s) may not have taken the appropriate histories such as the predisposing factors and others. Therefore, a prospective study which may involve the role of human papillomavirus in the pathogenesis of head and neck cancer in our local environment is much desired as this may help in the prevention protocols of oropharyngeal squamous cell carcinoma.

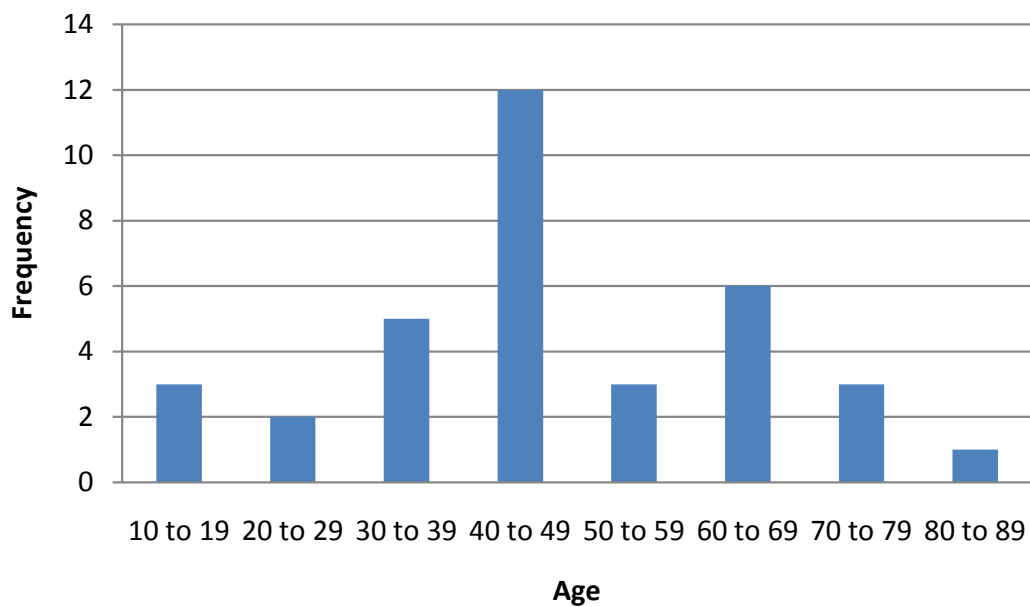


Figure 2. Age distribution.

Benign tumors occur more frequently in the oral cavity than the oropharynx [1]. This could explain our findings in the present study where only 14% are benign tumors. For malignant tumors of the oropharynx, our present study showed that squamous cell carcinoma was the commonest which agrees with studies in both local and the western countries [1] [2] [5] [7] [8] [18].

Generally in Sub-Saharan Africa, cancer presentation is usually in advanced stage [6]. Seventy-two percent of our patients had advanced tumor with various clinical presentations: dysphagia (53%), mass in the mouth (soft palate) (31%), cervical mass (19%) and difficulty in breathing (8%) which necessitated tracheostomy. The late presentation can be attributed to ignorance and the use of traditional medications taken before seeking medical help [23]. Our finding in this study is similar to the studies carried out in Jos and Maiduguri, both in Nigeria [23] (Figure 3 and Figure 4).

Surgery was carried out on 86.1% of patients, with only 5.5% of them having chemo radiation. With most of our patients presenting at an advanced stage, it is expected that most of them will have undergone post operative chemo radiation as is the practice worldwide [1], but it wasn't so in this study. This is due to poverty, ignorance and in those who presented before 2010, reluctance to travel over 400 km to get radiotherapy. Other factors that may be responsible for this poor health seeking behaviour in our environment may be; cultural beliefs, scepticism about orthodox medicine, exploitation by quacks, large family size and conflict of interest, so it's not surprising that 9 patients did not consent for any form of treatment but signed and left against medical advice. This may also be the reason for poor follow up among our patients as most of them did not come for follow up after surgery, resulting in low rate of post operative chemo-radiation.

Public enlightenment for the community and continuous medical education for Health workers is needed, to enable persons with features of early lesion to be referred to an otolaryngologist for further evaluation and care, and to discourage harmful traditional practices and beliefs. Appropriate legislation through advocacy should also be put in place to enable indigent patients access to medical care at affordable cost.

5. Conclusion

Oropharyngeal tumors in this study were malignant (61%) and benign (14%). Squamous cell carcinoma (31%), followed by lymphoma (14%) was the commonest histologic types seen, with majority of patients (72%) presenting at an advanced stage of the disease with multiple symptoms, some life threatening requiring urgent airway surgical intervention. However, some patients were not too keen on continuing with other modalities of treatment because of poverty and ignorance, accounting for a low number of patients having post operative radiotherapy and chemotherapy. More is needed on advocacy and public enlightenment in this regard.

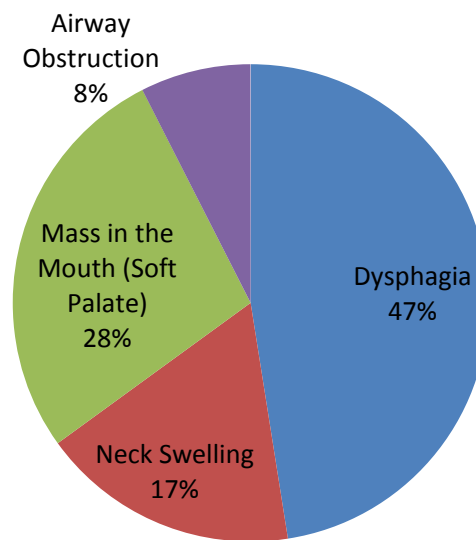


Figure 3. Clinical features.



Figure 4. Patient with soft palatal mass.

Competing Interest

The authors declare that they have no competing interest.

Author's Contribution

K. R. Iseh, conceived and designed the study and drafted the manuscript. M. Abdullahi, S B Amutta & D. J. Aliyu participated in coordinating the study and drafting the manuscript. S. S. Yikawe & J. H. Solomon drafted the manuscript and performed statistical analysis. All authors read and approved the final manuscript.

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