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Five Year Review of Oropharyngeal Cancer Patients At University of Ilorin Teaching Hospital, North Central Nigeria

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Abstract

Oropharyngeal tumours constitutes 10 to 12% of all head and neck malignancies, and Squamous cell carcinoma (SCC) is the most common histological variant seen in 90% of cases. Studies have confirmed the high prevalence of the disease among males, and the roles of alcohol intake and cigarette smoking as risk factors are well documented. This is a retrospective review of socio-demographic and risk factors of oropharyngeal cancers in our practice. All cases of oropharyngeal cancer seen at Ear, Nose and Throat Department of University of Ilorin Teaching Hospital (U.I.T.H) between July 2008 and June 2013 were reviewed. UITH has over 600 beds and is a tertiary institution for the University Medical School.

There were 27 cases, 15 (54.6%) were within 40-60 years, 7 (27.3%) were below 40 years, and 5 (18.2%) above 60 years. Seventeen (63.6%) were females and 10 (36.4%) males with male to female ratio of 1:1.7. Twenty (72.7%) were non-smokers while 7 (27.3%) were smokers. Ten cases (36.4%) had history of alcohol intake while 17 (63.4%) did not take alcohol. Lateral wall and tonsil tumours constituted 55.6% (15) of the total, closely followed by base of the tongue tumours 7 (27.3%), then soft palatal tumours 5 (18.2%). There was none in the posterior pharyngeal wall. Seven patients (26.0%) had surgery followed by chemoradiation, 3 (11.1%) had chemoradiation only, while 17 (63.4%) either declined surgery or defaulted clinic follow-up. Two of the patients (7.4%) had associated HIV infection.

This study showed relative high incidence of oropharyngeal tumours in young and middle aged females; who are non-alcohol drinking and non-smokers. Incidental finding of HIV infection in some of the patients is a pointer to the possible role of sexually transmitted viral infections in the epidemiology of oropharyngeal cancers and a focus for preventive measures.

Key words: Oropharyngeal cancer, risk factor, sexually transmitted viral infection.

Introduction

Head and Neck Cancers are relatively rare type of tumours in comparison with other malignant tumours.¹ The oropharynx is the posterior relation of the oral cavity and it is anatomically divided into base of tongue, palatine tonsil, soft palate and posterior pharyngeal wall. Mitotic lesions in any of these sub-sites may initially be silent and become advanced by the time of presentation. Oral and pharyngeal cancers are the sixth most common cancers in the world.^{2,3} And pharyngeal cancers localized to the oropharynx constitute about 10-20% of all malignancy of the upper aerodigestive tract and approximately 130,000 new cases are recorded per year in the United State and Europe.⁴ Infection-attributable cancer constituted 17.8% of the global cancer burden and human immunodeficiency virus (HIV) and human papilloma virus were known principal agents.⁵ In Africa oral and pharyngeal cancers are the commonest Head and Neck cancers with overall high mortality rate of up to 20% in some series.⁶ Generally, late presentation is largely responsible for high mortality in Nigeria with poverty as the root cause.

The male gender is affected 3-5 times more than the female,^{4,7,8} and the most significant etiological factor is related to tobacco either in isolation or in synergy with alcohol use.⁹ Aside from tobacco smoking, other life style risk factors are tobacco chewing, chewing of betel quid and areca nut, diets low in fruits and vegetables and certain strains of virus, such as the sexually transmitted human papilloma virus.^{9,10} Occupational and environmental pollutants and endogenous risks have also been identified.^{4,11}

Exclusive tobacco consumption is more likely to contribute to epithelial dysplasia than exclusive alcohol use suggesting that tobacco has an independent role in the aetiology of mucosa epithelial dysplasia, which is the hallmark for cancer development.¹² A meta-analysis showed three-fold increase risk of oral cavity cancer and seven fold risk of pharyngeal cancer in current smokers compared with people who have never smoked.¹³ However, recent trend have shown that pattern of oropharyngeal tumour are changing with more cases seen among non-smoker, non-alcohol drinker.¹⁴ Andrew et al., demonstrated that 25% of oropharyngeal SCC are unlinked to typical

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risks.¹⁵ Available evidence, now considered HPV infection as a validated risk factor for oropharyngeal SCC in both men and women, even in the absence of smoking and alcohol consumption.¹⁴⁻¹⁷ Given this emerging evidence, it has been suggested that use of prophylactic HPV vaccines directed against HPV-16 and HPV-18 infection may reduce Oropharyngeal SCC incidence.¹⁸

Oropharyngeal cancer has a poor prognosis in the low resource countries due to late presentation.¹⁹ Hence, the need for health education towards preventive measures, early detection and treatment in our environment. This study is a review of socio-demographic variables in the epidemiology of oropharyngeal tumour in a tertiary health institution in Nigeria.

Patient and Methods

This is a descriptive retrospective study of all clinical records of patients who presented to the Ear, Nose, and Throat Department of The University of Ilorin Teaching Hospital with a diagnosis of oropharyngeal cancer from July 2009 to June 2013. Data extracted included Age, sex, occupation, duration of symptoms, predisposing factors, smoking habit and other social history. The site of tumour and clinical features of disease were noted in addition to management modalities of these patients. Data was complemented with information from pathology unit where necessary. Data was analysed using a 2011 IBM SPSS (Statistical Package for social sciences) for windows, version 2.0; Armonk, NY. Results were presented in simple charts and tables utilising descriptive statistics of frequency and percentages and Microsoft excelTM software for graphical presentations.

Table 1: Age Distribution of Patients

AGE GROUP OF PATIENTS	n(%)
20-40	7(27)
40-60	15(55)
61-80	5(18)

Table 3: Histological diagnosis of oropharyngeal tumour

Histology types	Frequency	Percent
Invasive Squamous Cell Carcinoma	22	81.5
Carcinoma expleumophic	2	7.4
Adenoidcystic carcinoma	1	3.7
Anaplastic carcinoma	1	3.7
Burkitts Lymphoma-	1	3.7

Incomplete documentation and loss to follow up were limitations in this study.

Results

There were a total of 27 cases of oropharyngeal tumours, 17 (63.6%) were females and 10 (36.4%) males with male to female ratio 1:1.7. (Fig. 1). Peak age group was 40-60 years with 15 (54.6%) patients in this category, 7 (27.3%) were below 40 years and 5 (18.2%) above 60 years. (Table 1). Twenty (72.7%) were non-smokers while 7 (27.3%) were smokers. Ten (36.4%) had history of alcohol intake while 17 (63.4%) did not take alcohol. (Fig. 2). Anatomical discription of tumour location revealed that lateral wall and tonsil tumours constituted 15 (55.6%) of the total; followed by base of the tongue tumours 7 (27.3%), and soft palatal tumours 5 (18.2%). None in the posterior pharyngeal wall.(Table2). Invasive SCC was the most common histology type; 22 (81.5%) followed by salivary malignancies; carcinoma ex-pleumophic 2 (7.4%) and adenoid cystic carcinoma 1 (3.7%) (Table: 3, Fig. 3 and 4). Seven patients (26.0%) had surgery followed by chemo-radiation, 3(11.1%) had chemo-radiation only, while 17 (63.4%) either declined surgery or defaulted from clinic follow-up. (Table 4).Two of the patients (7.4%) had associated HIV infection.

Discussion

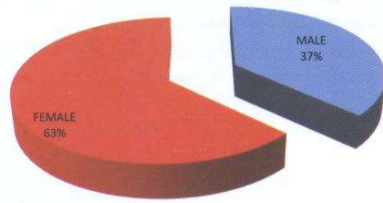
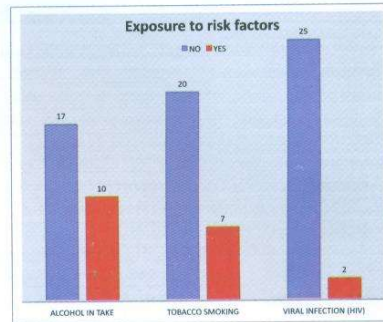
This study found a female preponderance in the occurrence of oropharyngeal tumour with a male to female ratio of 1:1.7 which contradict the common pattern of higher incidence in males in the literature and previous studies in this country.^{4,7,8,20-24} This finding suggest a probable changing trend in the epidemiology of oropharyngeal cancers as the female gender is no

Table 2: Distribution of Tumour by Subsite

Subsite	n(%)
Tonsil/ Lateral Pharyngeal Wall	15(55)
Base Of Tongue	7(27)
Soft Palate	5(18)
Posterior Pharyngeal Wall	0(0)

Table 4: Treatment offered to patients

Treatment	n(%)
Surgery only	Nil (0%)
Surgery followed by chemoradiation	7 (26.0%)
Chemoradiotherapy only	3 (11.1%)
Declined treatment	17(63.0%)

Gender Distribution**Fig. 1: Gender distribution of patients****Fig. 2: Bar chart showing frequency of exposure to risk factors**

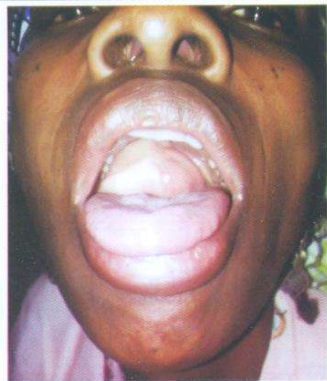
less exposed to known predisposing factors than the male counterpart. (Fig. 1). Alcohol use and tobacco smoking is rampant among the females than documented but most women do not often divulge information about their habits for socio-cultural reasons. Besides, the female gender bears high risk of orogenital infections predisposing to cancers.

Peak incident was in the 40-60 age group (Table 1), this is similar to the pattern in earlier studies in Ilorin^{22,23} and consistent with findings in other part of the country.²⁰

Majority 72.7% (20/27) of the patient in this study were non-smokers while 27.3% (7/27) of patients indulged in cigarette smoking. Similarly, many of the patients 63.0% (17/27) had never consumed alcohol, while 37.0% (10/27) disclosed history of alcohol consumption. (Fig. 2). This finding suggests possibilities of other risk factors at play. Other forms of tobacco use other than active smoking were not inquired from the patient. Moreover, use of traditional

concoctions, locally brewed spirit (Berukutu and Ogogoro) were missed out in the documentation and some of these may have carcinogenic potentials.²⁵

Another important factor is viral infection; history of oro-genital sexual practices and exposure to HPV infection which most patient will not readily admit because of cultural and religious reasons. Besides, serological test for HPV is not routinely done for Head and Neck cancer patients in this environment. A retrospective study of 45 cases of oropharyngeal cancers in North Eastern Nigeria reported SCC as the most common histological type 73.4% (33/45) and found 2 of the patients (4.4%) with Kaposi's Sarcoma; these findings tallies with that documented in previous studies.^{4,20,21} Similarly, our study found invasive SCC as the most common histology type; 22 (81.5%) followed by salivary malignancy (carcinoma ex-pleumophic and adenoid cystic carcinoma) 3(11.1%). (Table: 3). However, the two cases of HIV positive patient in this study had no documented evidence of kaposi sarcoma.

**Fig. 3: Adenocystic carcinoma of the soft palate, Excision and reconstruction done followed with radiotherapy****Fig. 4a and b: Advanced cancer of left tonsil with invasion of adjacent structures; mandible, hard palate and pterigoid muscles.**

Lateral pharyngeal wall (tonsils) tumours constituted the most common site in this study, followed by base of the tongue and soft palatal tumours; but none of the patient in this series had posterior pharyngeal wall tumour. (Table 2). This is at variance with the findings of Garandawa et al in Maiduguri, Nigeria²⁰ which reported lateral pharyngeal wall as the commonest site 71.1% (32/45), followed by posterior pharyngeal wall 11.1% (5/45), soft palate and tongue base 8.9% (4/45) each. In the same study, 37/45 (82.2%) patients took treatment for oropharyngeal cancers, and 8/45 (17.8%) had no treatment.²⁰ Our study recorded poor treatment uptake by patients; 17/27 with (63.4%) patients either declined surgery or defaulted clinic follow-up, while 10/27 (36.4%) had surgery and/or chemo-radiation (table 3). This may be due to financial constraints, as most of the patients are indigents who could not afford hospital bills. Moreover, existing socio-cultural believes in this part of the country still favours traditional and spiritual healing for cancers over orthodox medicines. Further awareness about the efficacy of orthodox medicine in cancer management will improve early hospital presentation and acceptance of treatment by patients in this part of the world.

Conclusion

There is a relatively high incidence of oropharyngeal tumours in young and middle aged females; who are non-alcohol drinking and non-smokers. Incidental finding of HIV infection in some of the patients is a pointer to the possible role of sexually transmitted viral infections in the epidemiology of oropharyngeal cancers and a focus for preventive measures. There is need to create awareness on the value of early presentation and prompt consent for treatment.

Recommendations

Evaluation of oropharyngeal cancer patients should dwell extensively on environmental risk factors; including social habits, alcohol and sexual behaviours in addition to tobacco use. Screening for associated viral infections such as Human Immuno-deficiency Virus infection and Human Papiloma Virus should be routine for all cases of Head and Neck cancers.

Reference

1. Blomberg, M, Nielsen A, Munk C, Kjaer SK. Trends in head and neck cancer incidence in Denmark, 1978–2007: Focus on human papillomavirus associated sites. *Int. J. Cancer*. 2011; 129: 733–741.
2. Warnakulasuriya S. Global epidemiology of oral and oropharyngeal cancer. *Oral oncology*. 2009; 45(4-5): 299–460.
3. Otoh EC, Johnson NW, Ajike SO, Mohammed AZ. Primary Head and Neck cancers in North Western Nigeria. *West Afr. J. Med*. 2009; 28: 227–233.
4. Parkin, DM. The global health burden of infection-associated cancers in the year. 2002; *Int. J. Cancer*. 2006; 118: 3030–3044.
5. Barne L, Eveson JW, Rerchart P et al.; eds. WHO classification of Tumours, pathology, and Genetics Head and Neck Tumours. Lyon, France: WHO Blue Book, 2005.
6. Schlecht NF, Franco EL, Pintob B, Kowalski LP. Effect of smoking cessation and tobacco type on the risk of cancer of the upper aerodigestive tract in Brazil. *Epidemiology*. 1999; 10(4): 412–8.
7. Nwaorgu OGB, Ogunbiyi JO. Nasopharyngeal cancer at the University College Hospital Ibadan cancer registry: An update. *West Afr. J. Med*. 2004; 135: 227–138.
8. Carniol PJ. Head and Neck carcinoma in patients under 40 years of age. *Anna otol* 1982; 91:152–155.
9. Boing F, Antunes JLF. Socioeconomic conditions and head and neck cancer: a systematic literature review. *CienSaude Colet*. 2011; 16:615–621.
10. Lambert R, Sauvaget, C, de Camargo CM; Sankaranarayanan R. Epidemiology of cancer from the oral cavity and oropharynx. *European Journal of Gastroenterology & Hepatology*. 2011; 23(8): 633–641.
11. Otoh EC. Report of the epidemiological survey of Head and Neck cancers in Nigeria. 1972–2002; RCOERH/FMOH Nigeria 2006.
12. Saman W, Thomas D, Michael MB, Elias C P, Philip MP, Clemens W et al. Oral health risks of tobacco use and effects of cessation. *Int.Dent J*. 2010; 60: 7–10.
13. Gandini S, Botteri E, Iodice S, et al. Tobacco smoking and cancer: a meta-analysis. *Int J Cancer* 2008; 122(1):155–64.
14. Watkinson JC, Gaze MN, Wilson JA. (eds.) *Stell and Maran's Head and Neck Surgery*. 9th edition. Hodder Arnold. 2007. London. 319–320.
15. Andrews E, Seaman WT, Webster-Cyriaque J. Oropharyngeal carcinoma in non-smokers and non-drinkers: a role for HPV. *Oral Oncol*. 2009; 45(6):486–91.
16. Chaturvedi AK, Engels EA, Pfeiffer RM, et al. Human papillomavirus and rising oropharyngeal cancer incidence in the United States. *J Clin Oncol* 2011; 29: 4294–4230.
17. Ryerson AB, Peters ES, Coughlin SS et al. Burden of potentially human papillomavirus-associated cancers of the oropharynx and oral cavity in the US, 1998–2003. *Cancer* 2008; 113(10): 2901–9.

18. American Dental Association. Statement on Human Papilloma Virus and Squamous Cell Carcinoma of the oropharynx. Chicago, 2013.
19. Adoga AA, Silas OA, Nimkur LT. Clinicopathological profile of malignant tumors of the oropharynx: a case series. East Afr J Public Health. 2010;7(3):206-9.
20. Garandawa HI, Isa A, Nggada HA, Sandabe MB, Samdi MT, Sambo UG, Ngamdu YB. Oropharyngeal cancers in Maiduguri, Nigeria: A ten-year review of clinical profile. Online Journal of Medicine and Medical Science Research. 2012; 1 (7):116-121.
21. Silas OA, Adoga AA, Echejoh GO, Manasseh AN, Dauda AM, Vandi BK. Histopathologic patterns of malignant tumours of the oropharynx of the Jos University Teaching Hospital. J Clin Pathol. Forensic Med. 2012; 3(1):9-11.
22. Ologe FE, Adeniji KA, Segun-Busari S. Clinicopathological study of Head and Neck Cancers in Ilorin, Nigeria. Trop Doc, 2005; 35: 2-4.
23. Alabi BS, Badmos KB, Afolabi O A Buhari MO, Segun-Busari S. Clinical pathological pattern of nosopharyngeal cancer in Ilorin, Nigeria. Niger. J. Clin. Pract. 2010; 13(4): 443-448.
24. Donal PJ, Marijuana smoking: possible cause of head and neck cancer in young patients. Otolaryngol Head neck Surg, 1986; 94: 517-521.