THE PATTERN OF HEAD AND NECK MALIGNANT TUMOURS IN JOS.

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Abstract

Background: Head and neck tumours are not uncommon in our environment with only a few publications focusing on primary head and neck malignancies.

Aim: This study evaluated the histopathological types and anatomic sites of primary head and neck malignancies that were managed and the challenges encountered in our department.

Method: This is a 30-month (October 2005 – March 2008) retrospective review of head and neck histopathologically confirmed cancer specimens.

Results: Thirty-two (41 %) cases were confirmed histologically as malignant head and neck tumours out of a total of seventy-eight histologic specimens. There were twenty-three males and nine females (M:F= 2.6:1). The peak age of incidence was in the 4th and 7th decades with a range of eleven months to seventy years. Nasopharyngeal carcinoma (31.3%) constituted the commonest primary head and neck malignancy followed by laryngeal carcinoma (28.1%), while sinonasal carcinoma and oral cavity malignancy each contributed 9.4%. The commonest anatomical site was the nasopharynx followed closely by the larynx. The commonest histological type was squamus cell carcinoma (62.5%), followed by the undifferentiated carcinoma (9.4%) while Mucoepidermoid carcinoma and Rabdomyosarcoma occurred in equal proportions (6.3%). Non Hodgkin lymphoma which constituted 3.1% was in a retroviral positive patient. Varying gender ratios were noted amongst the various cancers: all the nine laryngeal carcinomas were males while nasopharyngeal carcinoma had a M: F of 3:2.

Conclusion: The relative common sites of head and neck cancers in our environment have been highlighted by this study. The anatomic sites of these cancers, poor diagnostic facilities and treatment modalities in our centre; often present

management challenges to both the patients and the managing team. The finding of nasopharyngeal carcinoma as the commonest head and neck cancer in this study is in contrast to an earlier work from this same region.
Key words: Head and neck, Malignancies, Pattern, histology, oncology unit.

Introduction

Malignant tumours are very common in both the developed and developing world.[1] Head and neck malignant tumours are relatively rare constituting 0.2-0.8% of all carcinomas and 3% of those in upper respiratory tract.[2] Head and neck tumours are however, not uncommon in our environment though there are only a few publications focusing on primary head and neck malignancies from this region. After diagnosis of a malignancy, assimilation of the effects of the disease and treatment options threaten the psychological and physical wellbeing of these patients.[3] Our centre has been without the services of otolaryngologist until 2005. Some special diagnostic and treatment modalities are yet to be present in our centre. It is thus the purpose of this communication to present the pattern of malignant head and neck tumours, highlighting the various anatomic sites, histologic types and the challenges posed as seen at the Otorhinolaryngology Clinic of the Jos University Teaching Hospital Nigeria.

Materials and method:

This is a retrospective study involving in-patients and out-patients of the ear, nose and throat unit of the Department of Surgery, Jos University Teaching Hospital from October 2005 to May 2008.

The case records of the registry in the Department of Pathology of the Jos University Hospital; Jos, Nigeria was searched for head and neck tumours entries. Thirty-three (41 %) cases were confirmed histologically malignant head and neck tumours out of a total of seventy-eight histologic specimens during the study period. All the histological specimens were obtained either during examination under general anesthesia by excision, incision, curettage or under local anesthesia by punch biopsy and sent to the pathology department for histopathological diagnosis. GOE, a pathologist reviewed and histologically verified the diagnoses. Other relevant data available in the pathology registry extracted included the age, gender and anatomic sites of the tumours in the patients. All benign head and neck tumours were excluded. Malignancy was classified using ICDO 9. All the patients as a matter of policy had retroviral screening in addition to the routine investigations prior to biopsy.

The data collected were analyzed using simple descriptive method and the results presented in tabular forms.

RESULTS

A total number of 32 malignant tumours were seen between October 2005 and April 2008. There were 23 males and 9 females giving a male to female ratio of 2.6:1. The age of the patients ranged from 11 months to 70 years with a mean of 46.3±1.74 years. The peak age of incidence was in the 4^{th} to 7^{th} decades of life (Table III).

The most common malignancy was nasopharyngeal carcinoma (31.3%) followed by laryngeal (28.1%), sinonasal (9.4%) and oral cavity (9.4%) carcinomas respectively. The most common anatomical site of occurrence was thus the nasopharynx followed by the larynx .The sinonasal and oral cavity had equal proportions of occurrence. The most common histological type of carcinoma was the squamous cell carcinoma followed closely by the undifferentiated carcinoma, Mucoepidermoid carcinoma and rabdomyosarcomas and adenocarcinoma, respectively. The Non-Hodgkin's lymphoma patient was retroviral positive. Tables I and II show anatomical distribution of Primary Head and neck malignancies and distribution by histological types of Head and Neck malignancies respectively.

Table I: Anatomical distribution of Primary Head and neck malignancies

Anatomical sites	No of patients with Head and Neck Malignancies	Total No	Percentage
Pharynx			
Nasopharynx	10		
Oropharynx	2		
Hypopharynx	1		
Parapharynx	1	14	44.8
Larynx			
Glotic/transglotic	8		
Subglotic	1	9	28.1
Oral cavity			
Right lat. surface tongue	2		
Palatal	1	3	9.4
Nose/Sinuses			
Left maxillary	1	3	9.4
Left sinonasal	2		
Face			
Cheek tumour	2	2	6.3
Salivary gland			
Parotid	1	1	3.1
Total	**32**	**32**	**100**

Table II: Distribution of Histological types of head and neck tumours

Histological types	**Total**	**Percentage**
Squamus cell carcinoma	20	**62.5**
Undifferentiated carcinoma	3	**9.4**
Mucoepidermoid carcinoma	2	**6.3**
Embryonal rabdomyosarcoma	2	**6.3**
Adenocarcinoma	1	**3.1**
Adenoid cystic carcinoma	1	**3.1**
Non Hodgkin's lymphoma	1	**3.1**
Kaposi's sarcoma	1	**3.1**
Acinic cell carcinoma	1	**3.1**
Total	**32**	**100**

TABLE III AGE GROUP VERSUS DIAGNOSIS

AGE GROUP	DIAGNOSIS									TOTAL
	NPC	OPC	HPC	PPC	LC	OCC	SNC	CC	PC	
0 – 10	1						**1**			**2**
11 – 20	**1**									**1**
21 – 30	**1**									
31 - 40	**3**			**1**				**2**	**1**	**7**
41 – 50	**1**				**2**					**3**
51 - 60	**1**	**2**	**1**		**1**	**1**	**1**			**7**
> - 60	**2**				**6**	**1**	**1**			**10**
UNSPECIFIED						**1**				**1**
TOTAL	**10**	**2**	**1**	**1**	**9**	**3**	**3**	**2**	**1**	**32**

NPC-nasopharyngeal carcinoma OPC-oropharyngeal carcinoma
HPC-hypopharyngeal carcinoma PPC-Parapharyngeal Carcinoma
LC-laryngeal carcinoma OCC-oral cavity carcinoma
SNC-sinonasal carcinoma CC-cheek carcinoma
PC-parotid carcinoma

DISCUSSION:

As noted in this study, most of the head and neck cancers are of epithelial origin while in studies elsewhere variations on the proportions of sarcomas and lymphomas have been documented.[5, 6] The male preponderance in this study (2.6:1) is similar to that of a previous study by Bhatia[7] from the same environment.

Nasopharyngeal carcinoma was the commonest head and neck malignancy (31.3%) in this present study. This contrasts with a previous study by Bhatia in the same environment where the neck was the commonest site.[7] This present study is similar to the work by Nwawolo and Iseh et al[6, 8] where nasopharyngeal carcinoma was the commonest malignancy. Laryngeal carcinoma ranked second in this study therefore differing from other similar studies by Ologe and Amusa[9, 10] in Ilorin and Ife respectively where the commonest malignancies were in the nose/paranasal sinuses and oral cavity respectively. Sinonasal and oral cavity malignancies constituted 9.4% each while the rest histopathologic variants such as adenocarcinoma, adenocystic carcinoma,

Kaposi`s sarcoma, non Hodgkin lymphoma and acinic cell carcinoma constituted 3.1% each. The non Hodgkin lymphoma patient was retroviral positive. This may become significant with the rising incidence of the association between HIV/AIDS and head and neck malignancies in the world and Sub Saharan Africa.[11, 12] Most of these patients were in the fourth to seventh decades of life. Though all age groups were affected, this was mainly an adult disease from this study. This finding is in contrast to the report of Nwawolo et al[6] where the peak age was between third and fourth decades of life, but similar to the higher age of incidence found in the Asian literature.[13] Note that thyroid malignancies were not included in this study as these are usually handled by the general surgeons in our center.

The commonest histological type was squamous cell carcinoma (62.5%). Similar finding was reported by other workers such as Nwawolo, Bhatia, Ologe and Otoh[6,7,9,14] but in contrast to the findings of Amusa *et al*[10] where lymphoma was the commonest histological malignancy.

There were varying gender (male: female) ratios; all the nine Laryngeal carcinomas were males, while the Nasopharyngeal carcinoma had a M:F ratio of 3:2, sinonasal and oral cavity malignancy 2:1 each. The hypopharynx, Parapharynx, parotid and tongue carcinoma were all females while the oropharynx and cheek carcinoma were all males (2) each.[6, 8-14]

The modes of treatment were surgery with or without radiotherapy/chemotherapy or chemotherapy alone.[15] There is no radiotherapy facility in our center and these patients requiring radiotherapy were usually referred to centers with such facilities. This poses a lot of difficulties for them in terms of distance, accommodation and financial burden in the face of the stress of the disease itself.

Conclusion

The relative common sites of head and neck cancers in our environment have been highlighted by this study. The anatomic sites of these cancers, poor diagnostic facilities and treatment modalities in our centre often present management challenges to both the patients and the managing team. It should be of an immense help if a well equipped head and neck oncology unit is established in our centre with medical oncology and radiotherapy facilities.

References

1. Franceschi S, Bidoli E, Herrero R, Munoz N. Comparison of cancers of oral cavity and pharynx worldwide: etiological clues. Oral Oncol. 2000; 36:106-16.

2. Osguthorpe JD. Sinus neoplasia. Arch Otolaryngol Head Neck Surg.1994;120:19-25.
3. Mills ME, Sullivan K. The importance of information giving for patients newly diagnosed with cancer: a review of the literature. J Clin Nurs.1999; 8:631-642.
4. Williams JL. Malignancy: an evolving definition of a cancer cell. Clin Lab sci.2002; 15(1):37-43.
5. da Lilly-Tariah OB, Nwana EJ, Okeowo PA. Cancers of the ear nose and throat. Nig Surg Sci. 2000; 20:52–6.
6. Nwawolo CC, Ajekigbe AT, Oyeniyin JO, Nwankwo KC, Okeowo PA. Pattern of head and neck cancers among Nigerians in Lagos. West Afr J Med. 2001; 20(2):111 -6.
7. Bhatia PL. Head and neck cancer in Plateau state of Nigeria. West Afr J Med. 1990; 9(4):304-10.
8 Iseh KR, Malami SA. Pattern of Head and Neck Cancer in Sokoto. Nigerian Journal of Otorhinolaryngology. 2006; 3(2):77-83.
9. Ologe FE, Adeniji KA, Segun-Busari S. Clinicopathological study of head and neck cancers in Ilorin, Nigeria. Tropical Doct. 2005; 35(1):2-4.
10. Amusa YB, Olabanji JK, Akinpelu VO, Olateju SO, Agbakwuru EA, Ndukwe N, Fatusi OA, Ojo OS. Pattern of head and neck malignant tumours in a Nigerian teaching hospital-a ten year review. West Afr J Med. 2004; 23(4):280-5.
11. Quinn TC.The global HIV/AIDS pandemic. Program and abstracts of 5th International AIDS malignancy Conference; April 23-25, 2001; Bethesda, Maryland.Abstract S23.
12. Nwaorgu O, Kokong D, Onakoya P, Adoga S, Ibekwe T. Prevalence of human immunodeficiency virus seropositivity in head and neck malignancies in sub-Saharan Africa. Acta Oto-Laryngologica. 2007; 127(11): 1218-1221
13. Bhattacharjee A, Chakraborty A, Purkaystha P. Prevalence of head and neck cancer in the North East-An institutional study. Indian J of Otolaryngol Head Neck Surgery. 2006; 58 (1):15-19.
14. Otoh EC, Johnson NW, Mandong BM, Danfillo IS. Primary head and neck cancers in Jos, Nigeria: a re-visit. West Afr J Med. 2006; 25(2):92-100.
15. Correa AJ, Burkey BB.Current options in management of head and neck cancer patients. Med Clin North Am. 1999; 83(1):235-46.