

## NASOPHARYNGEAL CANCER IN NORTH - EASTERN NIGERIA: CLINICAL TRENDS

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### ABSTRACT

**Background:** Nasopharyngeal cancer is the malignancy of the posterior aspect of the nose called Nasopharynx. It is one of the most difficult diseases to diagnose at an early stage.

**Aim:** To determine prevalence, clinical trends and histopathological types of Nasopharyngeal cancer in Maiduguri, North Eastern Nigeria.

**Patients and Method:** Fifteen year retrospective evaluation of patient's case notes and cancer registry records of 40 patients with histologically confirmed nasopharyngeal cancer between 1991-2005

**Results:** Nasopharyngeal cancers constituted 35.1% of all malignancies of ear, nose, throat during the study period. The M:F was 2.1-1, the mean age was 39( $\pm$ 16.5) years and a peak age group and its occurrence of 40-49 years. The commonest symptom at presentation were cervical lymphadenopathy (72.5%), rhinorrhoea (55%), epistaxis(45%). The commonest histological type was squamous cell carcinoma(92.5%). Patients who received chemotherapy in addition to radiotherapy and higher symptom free period.

**Conclusion:** Cancer is a difficult disease to diagnose at an stage. A meticulous ear, nose and throat examination and thorough evaluation of nasal symptoms with associated cervical lymphadenopathy may lead to an early diagnosis of nasopharyngeal cancer's.

**Key Words:** Nasopharyngeal cancer, clinical trend, Maiduguri, Nigeria. (Accepted 29 October 2008)

### INTRODUCTION

Nasopharyngeal cancer (NPC) is malignancy originating in the pharynx posterior to the nose called the nasopharynx. Virtually all tissues in the Nasopharynx could give rise to cancer, from the epithelial lining to the bones. Commonest among the cancers are nasopharyngeal carcinoma, while others though rare include Non-Hodgkin's Lymphoma, Rhabdomyosarcoma, Osteosarcoma and Chondrosarcoma<sup>1</sup>. Genetic factor, Epstein - Barr Virus (EBV), and enviromental factors are said to be aetiological factors<sup>2</sup>. Consumption of significant of sea-salted fish<sup>3</sup> and smoked-meat are strongly linked with NPC<sup>4</sup>.

Nasopharyngeal cancer was considered to be rare in Nigeria until 1968 when Martison reported 56 cases seen between 1961 and 1966 at Ibadan. Okeowo<sup>5</sup> and Ajayi<sup>6</sup> reported 48 cases from Lagos. In a report on malignant tumours of Ear, Nose and Throat in North Eastern Nigeria, 36 cases of Nasopharyngeal cancer constituting 46.8% of malignancy in this region were identified<sup>7</sup>. Patients with nasopharyngeal cancer especially the carcinomas present commonly at an advanced stage. The reasons for late

Presentation include delay in seeking medical advice<sup>8</sup>, presenting symptoms are often bizarre and confusing<sup>9</sup>, clinical examination of the nasopharynx is difficult even for experienced clinicians, and there may be spread of a silent submucosal lesion with a normal appearance of the nasopharynx on examination<sup>10</sup> Various treatment modalities were earlier used but the current treatment of choice is Radiotherapy<sup>11</sup>.

The purpose of this study is to present the clinical profile and histopathological pattern of Nasopharyngeal cancers as to acquaint clinicians in our environment who are often the first contact with the patients with these features. The need for early detection and referral to ENT Surgeons is paramount.

### MATERIALS AND METHOD

Records of 40 patients diagnosed with Nasopharyngeal cancer in the University of Maiduguri Teaching Hospital, over a period of 15 years, from January 1991 - December 2005, were analyzed retrospectively. Data were extracted from ENT clinic records, patients' case notes and cancer registry records. Details regarding the age, sex, presenting complaints (the main complaints for which the patient sought medical advice), and associated complaints (complaints regarded as unimportant by the patient), duration of

presenting complaints, social habits, physical examination findings, X-ray of post nasal space findings of each patients were recorded. The site of the lesion in the nasopharynx, histopathological types, treatment offered and symptom free period after treatment (last entry in the case note) were analyzed. Data were analyzed using SPSS version 11.0, results are presented in tables and figures. P-Value < 0.05 was considered significant.

## RESULTS

A total of 114 patients were diagnosed with Ear, Nose and Throat malignancies within the study period, out of which 40 (35.1%) patients were diagnosed with Nasopharyngeal cancer. 29 (72.5%) were males and 11(27.5%) females. The patients ages ranged from 6 years to 70 years. The overall mean age of the patients was 39(±16.5) years, while the mean ages of male and females were 40.5(±17.6) years, 35.2 (± 13.4) years retrospectively, there was no sex difference. (P>0.05).

Figure 1. Shows the pattern of the age distribution of the

patients, the peak period of presentation was 40-49 age group. (30%) 12 of the patients smoked tobacco, snuffed and consumed alcohol of unknown quantity and for unspecified period.

Table 1 shows the relative prevalence of the clinical features of Nasopharyngeal cancer in patients. The commonest presenting complaint was enlarged cervical lymph node (72.5%) followed by rhinorrhoea (55%), epistaxis (45%) and nasal obstruction (35%). This was compared with previous studies by Okeowo et al and Ketiku et al. 20 (50%) of the patients had nasopharyngeal soft tissue shadow on lateral view of the X-ray soft tissue neck, 8 (20%) had bony erosion of the skull base while 12 (30%) was reported as normal. It was found that 9(22.5%) of the patients had involvement of more than one wall of nasopharynx, 19(47.5%) lateral wall, while in 12 patients (30%), the site was not specified. In 37 patients (92.5%) the histology was squamous cell carcinoma while 2(5%) had Non-Hodgkin's lymphoma and only 1(2.5%) had Rhabdomyosarcoma.

Figure 1: Age Distribution of the NPC Patients.

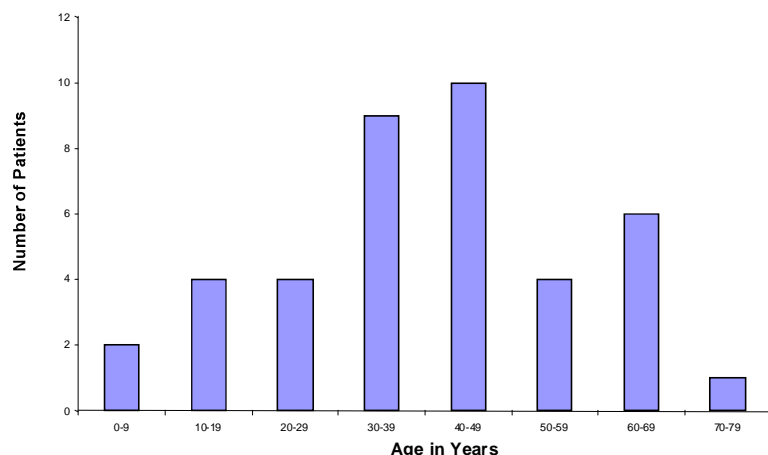


Table 1: Comparison of Symptomatology in NPC Cases.

Symptoms	Okeowo et. al (1979) (48 Cases)	Ketiku et. al (1998) (98 Cases)	Present Study (40 Cases)
	No. (%)	No. (%)	No. (%)
Enlarged Cervical Lymph Node	29 (60.4)	71 (72.5)	29 (72.5)
Epistaxis	16 (33.3)	45 (45.9)	18 (45.0)
Nasal Obstruction	9 (18.6)	34 (34.7)	14 (35.0)
Rhinorrhoea	0 (0.0)	10 (10.2)	22 (55.0)
Otalgia	12 (25.0)	0 (0.0)	14 (35.0)
Hearing Impairment	0 (0.0)	16 (16.3)	9 (22.2)
Tinnitus	0 (0.0)	7 (7.1)	14 (35.0)
Proptosis	5 (10.4)	7 (7.1)	3 (7.5)
Visual Impairment	6 (12.5)	8 (8.2)	3 (7.5)
Cranial Nerve paralysis	0 (0.0)	13 (13.4)	8 (20.0)
Dysphagia	0 (0.0)	9 (9.2)	4 (10.0)
Palatal Swelling	3 (6.2)	0 (0.0)	3 (7.5)
Trismus	5 (10.4)	9 (9.2)	3 (7.5)
Headache	0 (0.0)	15 (15.3)	7 (17.5)
Weight Loss	0 (0.0)	7 (7.1)	14 (35.5)

**Table 2: Histological Types in Nasopharyngeal Cancers.**

Histological Types	No. of Patients	Percentage
Squamous cell Carcinoma	37	92.5
Well differentiated	(6)	(15.0)
Moderately differentiated	(11)	(27.5)
Poorly Differentiated	(8)	(20.0)
Anaplastic	(12)	(30.0)
Non-Hodgkin's Lymphoma	2	5
Rhabdomyosarcoma	1	2.5
<b>Total</b>	<b>40</b>	<b>100</b>

Table 2. 18(45%) had Chemotherapy combined with radiotherapy , 4 (10%) had radiotherapy alone. 30% (12) of the patients were alive after one year, 17.5% (7) after two years, 10% (4) after 3 years, 5% (2) more than 3 years, while 37.5% were lost to follow up.

## DISCUSSION

Nasopharyngeal cancers is more common in males with the age standardized male:female ratio M:F between 2-3:1<sup>1</sup>. In this study, the M:F was 2.6-1 which is consistent with studies by Indudharam et al<sup>12,13</sup> and Ketiku et al<sup>14</sup>. The peak age group of our Patients was 40-49years which was consistent with studies elsewhere in Nigeria.<sup>5,6,14,15</sup> The bimodal age distribution which was usually observed in low-risk population such as our society<sup>1,13,16</sup> could not be demonstrated in this study due to probably the small number of patients. The relative prevalence of cervical lymph node enlargement, epistaxis and rhinorrhoea in this present study is similar to the findings of Okeowo et al<sup>6</sup>, Ketiku et al<sup>14,17</sup>

These symptoms were often ignored by the patient attributing to a common cold or ordinary nasal disease. This demonstrates the need of public health educational programs if NPC is to be detected in its early stage<sup>18</sup>. Hearing impairment has an association with NPC as confirmed by the fact that 22.5% of our patients presented with deafness which was comparable to the study by Indudharam et al<sup>12</sup>. However, due to the retrospective nature of this present study, it was not possible to ascertain the severity and the type of hearing loss in these patients. An appreciable number of the patients (35%) had neuro-ophthalmic manifestation at presentation in the form of proptosis, visual impairment and cranial nerves paralysis which was similar to the study by Ogunleye et al<sup>19</sup> at Ibadan who found (25%)

of their patients with neuro-ophthalmic symptoms. Previous studies had shown no relationship between NPC and exposure to household smoke, cigarette smoking or alcohol consumption<sup>1</sup>. Though (30%) of patients in this study were involved in this social habits, no direct link as to the possible cause of thier cancer could be established. The increase thickness of the soft tissue of the nasopharynx found in most radiographs (50%) was consistent with the findings of Martison<sup>5</sup>. Computerized tomographic scan (CT Scan) or magnetic resonance imaging (MRI) the imaging of choice in NPC could have probably detected abnormality in some patients with normal findings on conventional radiograph. These imaging facilities were either not available at the time of the study or were not within the reach of the patients. Indudharam<sup>12</sup> found that patients with lesion involving the posteriosuperior wall of the nasopharynx had significantly greater incidence of bilateral cervical lymph nodes compared to those with lesion of the lateral wall where there was only unilateral cervical node metastasis. This could not be established in this study due to insufficient data regarding the site of the cervical lymph node this being a retrospective study. Most NPC originates from the lateral wall of the nasopharynx around the fossa of rosenmuller<sup>1,20</sup>. We found that (47.5%) of our patients had lesions in this site. The commonest NPC found in this study was squamous cell carcinoma (92.5%) with (30%) being WHO type III (anaplastic)<sup>21</sup>, this is consistent with studies by Indudharam<sup>12</sup>, Ketiku<sup>14</sup>.

Nasopharyngeal carcinoma is the common form irrespective of geography and race. It constitutes 75 - 90% of NPC in low-risk population and virtually all NPC in high-risk population<sup>1</sup> Rhabdomyosarcoma and Non-hodgkin's Lymphomas are rare, they tend to occur in the younger children<sup>1,22</sup> as was also found in this study. Patients who received chemotherapy had higher symptom free period than those who had radiotherapy alone or chemotherapy alone this is consistent with findings of Ketiku et al<sup>14</sup>. It was not possible to determine the reason for those lost to follow up. It may be possible that they could have resorted to traditional treatment or resign to their fate and wait for the worst or miracle to happen as is the usual practice in this part of the world especially if there was no immediate remedy in the orthodox medicine.

## CONCLUSION

Nasopharyngeal cancer is one of the most difficult diseases to be diagnosed at an early stage. It is desirable that the primary care physician be trained o perform a detailed nasopharyngeal examination in all patients in whom they have the slightest doubt of nasopharyngeal cancer and are encouraged in

referring such cases to appropriate specialist centers.

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