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CLINICAL PRESENTATION OF THE NASOPHARYNGEAL CARCINOMA AT CIVIL HOSPITAL KARACHI

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ABSTRACT

OBJECTIVES: *1. To determine the presenting complaints of nasopharyngeal carcinoma. 2. To evaluate the skull base & cranial involvement by CT scan at the time of presentation.*
STUDY DESIGN: *Descriptive study.*
SETTING: *E.N.T department, DUHS & Civil Hospital Karachi*
METHODS: *From March 2007 to February 2009 (02 years), 19 patients of histologically proven nasopharyngeal carcinoma were selected for study. Demographic data, clinical and CT scan findings of the patients were recorded on purposely designed proforma. Statistical analysis carried out using SPSS, version 10.*
RESULTS: *Out of 19 patients, 15 male and 04 female (Ratio 3.75:1), mean age was 42.05 years ± 16.63. The most common presenting complaint was Neck swelling 78.9%, followed by audiological complaints 57.9%, nasal complaints 68.4%, epistaxis 42.10%, and neurological symptoms 47.36%. On CT scan 31.5% patients had Skull base erosion, 21% had bilateral multiple lymphadenopathy and 15.8% had intracranial involvement.*
CONCLUSION: *Nasopharyngeal carcinoma is an infrequent tumor. Presentation of the nasopharyngeal carcinoma is variable. Majority of the cases presented with neck mass, nasal, otological, and neurological features. Usually NPC presents at advance stage, highlighting the need to create awareness in public and health professionals.*

KEY WORDS: Nasopharyngeal carcinoma, Skull Base Erosion, Cranial involvement.

INTRODUCTION:

Nasopharyngeal carcinoma (NPC) is more frequent in China and Southeast Asia but it is a rare malignancy in Western countries (< one per million persons-year). [1] Nasopharyngeal carcinoma (squamous cell carcinoma) constitutes 85 % of all malignant tumors of the nasopharynx.[2] The incidence rates are much higher in Asia, with 150 to 500 annual cases per 1 million in southern China, and 300 to 800 per 1 million in some Cantonese regions of southern China. [3-4] It is not surprising to see delay in diagnosis of nasopharyngeal carcinoma, as post nasal space is relatively inaccessible to examination and the presence of normal lymphoid epithelium makes an accurate diagnosis even more difficult.

The presenting complaints of patients with nasopharyngeal carcinoma are related to the location of the primary tumor and degree of spread. Generally the early clinical presentation is confusing until the disease has reached advance stage. Literature review indicates that in the past few years the majority of the NPC cases tend to present late and usually in the advanced stage [5, 6,] therefore the late diagnosis accounts for the poor out come in many cases.

The peak incidence of NPC in Asia is between 40 to 50 years of age. In North Africa, however, a bimodal prevalence exists, with a relatively small peak present in blacks between 10 to 25 years of age, the major prevalence peak in North Africa occurs in adults at around the age of 50 years, as in Asia. [7, 8.]

The nasopharynx is situated just below the base of the skull and because of this proximity to the base of the skull, the infiltrating ability of the tumor and due to non-specific nature of the symptoms, NPC may present with base of skull and cranium/ cranial nerve involvement. Cranial nerve involvement and base of skull erosion result from superior extension of the tumor. Involvement of cranial nerves and the skull base erosion regarded as poor prognostic factor for NPC. [9]

The rationale of the study is to evaluate patients by history, clinical examination and investigations (CT scan) having biopsy proven nasopharyngeal carcinoma reported to department of ENT, civil hospital Karachi. This study was conducted to determine the

commonest presenting features of nasopharyngeal carcinoma and to evaluate the skull base & cranial involvement by CT scan at the time of presentation. As sparse local literature available on the subject, this study will act as the milestone for further studies in future on NPC.

METHODS:

It was a descriptive study conducted at the Department of ENT-Head & Neck Surgery, DUHS and Civil Hospital Karachi from March 2007 to February 2009. In this study 19 cases of biopsy proven nasopharyngeal carcinoma were included, irrespective of age, sex and socioeconomic status. Patients presented with Neck swelling or Aural Fullness or nasal obstruction, and/or epistaxis were assessed according to a set protocol which include detailed history, clinical examination, routine /special investigations such as CT scans with contrast from base of skull to the superior mediasternum for the extension of the tumor. Demographic data, clinical features, pertinent investigations were recorded on a purposely-design proforma.

Statistical software SPSS-10.0, ratio (M: F) for sex distribution and mean ± SD for age distribution was used for data analysis. Frequencies and percentages were computed to present all categorical variables like, CT scan findings, clinical features, and stage of the presentation.

RESULTS:

A total of 19 patients with nasopharyngeal carcinoma admitted to our department were studied over a period of two year. Fifteen (78.95%) were male and four (21.05%) female, with male and female ratio of 3.75:1 (Table 1).

The age of male patients were between fifteen and seventy eight years with an average of 43.2%. The age of female patients were between thirty and fifty years with an average of 37.75%. The mean age of patients was 42.05 years ± 16.63 (Table 1).

Most of the patients presented with neck mass 78.9% (this was due to lymph node metastases), 57.9% of patients had complained of audiological complaints i-e aural fullness, deafness and tinnitis, 68.4% patients had nasal complaints i-e nasal obstruction & post-nasal drip, 42.10% of patients had complain of epistaxis and 47.36% patients had neurological symptoms like headache, change of voice, diplopia. Most of the patients had multiple symptoms at the time of presentation (Table 2).

On CT scan out of 19, 09 patients (47.3%) have skull base erosion & intracranial extension. Out of 09, 06 (31.5%) patients had Skull base erosion, and 03 (15.8%) had intracranial involvement. Out of 19, 04 (21%) patients had bilateral multiple lymphadenopathy (Table 2). Most of our patients 14 presented at stage III (73.7%), 03 patients presented at stage IV (15.8%) and only 02 patients were presented at stage II (10.5%). In our study, none of the patient was presented at stage I. (Figure 1).

DISCUSSION:

Nasopharyngeal carcinoma occurs sporadically in the west but is endemic in southern china where it is the third most common form of malignancy amongest men.10 The most frequent site of origin of NPC is the fossa of Rosenmüller, which is over 10 mm deep with an opening of less than 5 mm. This fossa is an out pouching of nasopharyngeal mucosa, anterior and superior to the entrance of the eustachian tube and between the skull base and the muscular layers of the nasopharynx.11

In our case series the average age of the patient was 42.02 ±16.63 years in which male had 43.2 years while in female 37.75 years. Most of the patients belong to 20 – 60 years of age with minimum 15 year and maximum 78 years. Our study was comparable with Niamatullah et al, in which the average age of the patient was 45 year, [12] and in Lee KY et al study showed 49.2 years.[13] In Imad et al study, the average age of male patient was 42 year and average age of the female patient was 35 year which was also comparable to our study.[14] While in contrast to our study, the study of Lu et al the mean age of patient was 52.4 year.15 In our study non of the patient was presented under 15 year of age, while in the Shah et al study showed the 29% of patient under 15 year presented with NPC.[16]

In our study the male to female ratio was 3.75:1 which were comparable to the Bhattacharyya et al study, 3:1,17 Shah et al study, 2.4:116 and Imad et al study, 2.1:1.14 While in contrast in Nimaatullah et al study, there was the female preponderance seen that was 2.5:1.12

In our study the majority of the patient was presented as neck mass (78.9%), comparable to Imad et al study, 76% [14] and Lim LH et al study showed 70% of neck masses.[18] While in contrast Inderdharan et al study noted (54%),[19] Kamal et al study showed 45.5% of neck masses.[20] The neck masses in our case series were 57.9% unilateral and 21.1% bilateral , while in Imad et al study reveal 64 % unilateral and 12% bilateral neck masses.[14]

Small head and Neck cancer that are accompanied by large cervical lymph node may represent biologically aggressive subset of cancer characterized by early regional metastasis and there fore likely to require aggressive multimodality therapy.[21]

In our study the other clinical findings were audiological symptoms (57.9%0), nasal complaints (68.4%), epistaxis (42.1%), and neurological symptoms i.e. headache, change of voice & diplopia (47.36%) respectively. Because of the anatomical location of the nasopharynx with the nose, eustachian tube, parapharyngeal space, base of skull and cranial nerves, the presentation of nasopharyngeal tumour may vary. However, in literature review Adnan et. al study showed audiological symptoms 30%, epistaxis 14%, nasal symptoms 26% and neurological symptoms 20% 22 and in Imad study shows 56% patient audiological symptoms, 60% nasal symptoms and 44% neurological symptoms.[14]

In our case series (31.57%) patients showed skull base erosion, only (15.8%) patient showed intracranial extension and (21%) showed bilateral lymphadenopathy on CT scan findings. As we know that the nasopharynx is the midline structure and highly lymphatic channels are present in it, that's why lymphatic spread unilaterally or bilaterally is not uncommon. In Weber AL study lymph node metastases seen in 90% of cases and 50% were bilateral,[23] while in the Chong et al study 54% nasopharyngeal carcinoma patient had lymphadenopathy.[24] Although MR imaging is the preferred modality in imaging the extent of primary tumor, lymphnode assessment is better carried out with CT.[25]

In our study the majority of the patients presented at stage III (73.7%), 15.8% patients presented at stage IV and 10.5% patients were presented at stage II, while none of the patient was presented at stage I. In Skinner DW study showed 70% of pt presented in Stage III, [26] in Tiong T Sing study showed 85% of the patient presented in advanced stage (stage III & IV), [27] and in Downing NL study showed 92% presented in stage III.[28] While in Amaro et at study showed 54% patient in Stage IV disease.[29]

By knowing the various presenting modes of Nasopharyngeal carcinoma like neck mass, aural and nasal symptoms, we can make an early diagnosis and treat the patient with good results The main factors for late presentation are related to patients unawareness of NPC, the relative painless nature of NPC, and the inclination of the patients seeking traditional medicines first, thereby further delaying the presentation and lack of concentration by the physician

in early presentation by patient. To improve early diagnosis and patient survival, it is vital to provide awareness in public masses, including the traditional medicine men, medical and paramedical personals regarding the prevalence and seriousness of NPC.

CONCLUSION:

NPC presents usually at advanced stage with male preponderance and neck mass. Other important features of presentation are audiological, nasal, and neurological symptoms. Among CT scan findings skull base involvement, cranial nerve involvement and bilateral nodal metastasis are not uncommon. Public awareness program with collaboration of print and electronic media and involvement of notable persons of the society and health professionals to detect early cases of NPC is the need of time.

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