

Clinical Presentation of Patients with Nasopharyngeal Carcinoma

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Summary

The poor prognosis for patients with nasopharyngeal carcinoma is principally due to its advanced stage at the time of diagnosis. The symptoms and clinical findings at presentation of 56 patients with confirmed nasopharyngeal carcinoma is described and analysed. Recognising the common modes of presentation is essential to diagnose the disease at an early stage.

Key Words: Nasopharyngeal carcinoma, Clinical presentation

Introduction

Nasopharyngeal carcinoma (NPC) is the most common tumour in certain parts of the world and has a well-defined geographic distribution, primarily affecting people from southern China and Southeast Asia. NPC is one of the commonest malignancies seen in Malaysia. In Singapore it is the second most common tumour: the incidence of nasopharyngeal cancer is 87% Chinese, 10% Malay, 3% European and nil in the Indian¹. In Hong Kong NPC forms the third commonest malignant tumour to present in males and sixth commonest tumour in females². NPC is a relatively unusual tumour in North America but it is one of the most common malignant diseases affecting the Cantonese people³. This finding suggests that genetic and environmental factors contribute to the cause of the disease.

The presentation of NPC may be asymptomatic or with subtle signs and symptoms. Patients with NPC commonly present at an advanced stage of the disease thus their prognosis is poor. The main reasons for the late presentation are delay in seeking medical advice⁴ and the unusual and confusing nature of the presenting symptoms misleading the clinician.

Analyzing the clinical trends of presentation of patients with NPC would be very useful for early diagnosis and would be the most hopeful means of reducing the high morbidity and mortality of NPC.

The aim of the study was to describe the presentation of NPC as found between December 1986 and February 1998 at Hospital Universiti Sains Malaysia.

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Materials and Methods

This is a retrospective study. The case records of 56 patients presenting with nasopharyngeal carcinoma to Universiti Sains Malaysia from December 1986 to February 1998 were reviewed. All patients had histologically proven squamous cell carcinoma according to the World Health Organisation (WHO) classification.

The patients studied in this series include those who had been investigated, histologically diagnosed and treated at several different hospitals. Details concerning the patients' age, sex, race, duration of presenting complaint, nature of presenting complaint, nature of all other associated complaints and family history were collected.

The presenting complaints were symptoms that represented the main reason for seeking medical advice and the associated complaints were symptoms present at the first visit but not the main reason for attendance⁴. The symptoms were divided into four basic groups: neck mass, aural, nasal, miscellaneous and symptoms from distant metastases. In this study, the presenting complaint and other associated symptoms are described for analytical purposes as "all complaints" (after Skinner et al.)².

Details on cervical lymphadenopathy, site of primary lesion in the nasopharynx, type of lesion, histopathological types of NPC, cranial nerves involvement and presence of metastasis were noted.

Results

Race, sex and age

A total of 56 patients diagnosed as having NPC were included in this study. Out of 56 patients, there were 41 (73.2%) Malays, 14 (25.0%) Chinese and 1 (1.8%) Siamese. Forty-two patients were males and 14 were females, with a male to female ratio of 3 to 1. The patients age ranged from 19 to 82 years. The mean age was 48 years. Figure 1

shows the age distribution of patients with NPC.

Presenting complaint

Table I summarizes the frequency of occurrence of each presenting complaint. The commonest presenting complaint was neck swelling (50.0%), followed by miscellaneous complaints (21.5%) and nasal complaints (19.5%). One patient was asymptomatic. The mean duration of the presenting complaint at the time of presentation was six months.

All complaints

Table II lists all the complaints in patients with NPC. Neck mass (57.2%) was the commonest complaint, followed by bleeding from the nose (44.6%) and headache (41.1%).

Family history

Three (5.4%) patients had first degree relative with NPC and all of them were Chinese.

The primary lesion in the nasopharynx

It was found that 29 (51.8%) patients had involvement of more than one wall. Seventeen (30.4%) had involvement of the lateral wall only and 7 (12.5%) had involvement of superior wall and 1 (1.8%) posterior wall. In one of the cases there was an extension of the tumour to the soft palate. Forty-two (75.0%) had proliferative growth whereas 12 (21.4%) had an ulcerative or infiltrative type of lesion in the nasopharynx.

Otitis media with effusion (OME)

Twenty-four (42.9%) patients had unilateral OME and 7 (12.5%) had bilateral OME.

Cervical lymphadenopathy

Although only 32 (57.1%) patients had complained of neck swelling, 45 (80.4%) patients were found to have palpable lymph nodes in the neck. Among these patients 21 (37.5%) had unilateral and 24 (42.8%) had bilateral cervical lymphadenopathy. No palpable cervical lymph nodes were found in 11 (19.6%) patients.

Cranial nerve involvement

Figure 2 illustrates the distribution of cranial nerve involvement. Nineteen (33.9%) patients had cranial nerve palsy at presentation, of whom 5 (8.9%) had palsy affecting only one cranial nerve, while 14 (25.0%) had multiple cranial palsies. The cranial nerve most commonly affected was VI nerve (26.8%) followed by III nerve (14.3%) and XII nerve (12.5%).

Distant metastasis

Six (10.7%) had evidence of distant metastasis, of whom three showed a spread to multiple sites. The commonest site of metastasis was liver (three patients), followed by bone (two patients) and lung (two patients).

Histopathology

The majority of the patients with NPC belonged to WHO Type I (41.1%) followed by Type III (25.0%) and Type II (21.4%).

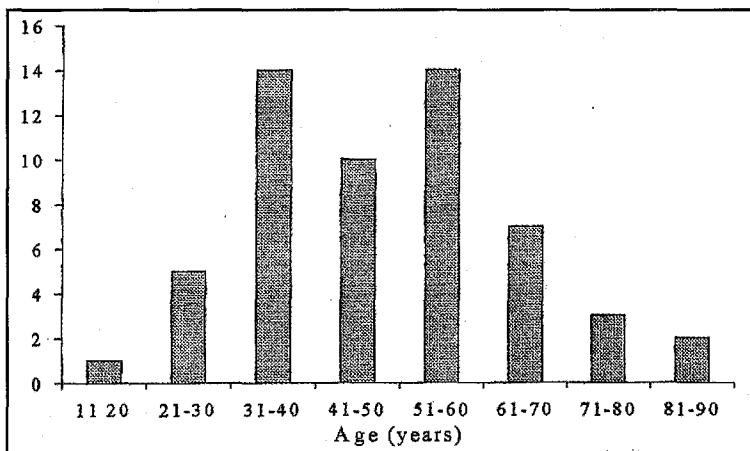


Fig 1: Age distribution of patients with NPC

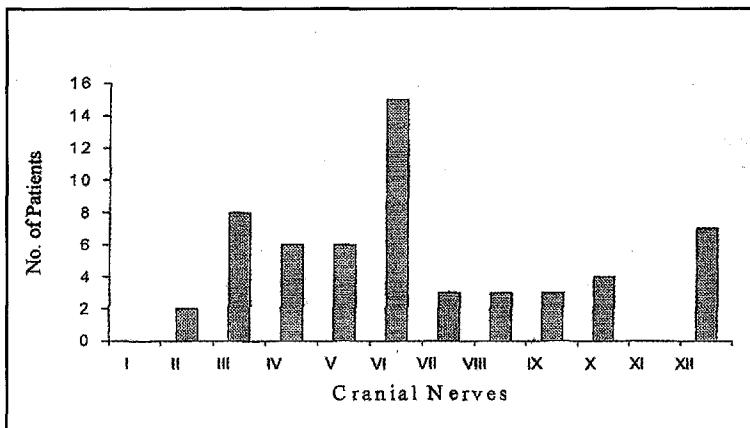


Fig 2: Distribution of cranial nerve involvement

Table I: The frequency of occurrence of presenting complaints.

Presenting complaint	No. of Patients	%
Unilateral neck mass	21	37.5
Headache	8	14.3
Bilateral neck mass	7	12.5
Epistaxis	7	12.5
Unilateral nasal obstruction	4	7.0
Tinnitus	2	3.6
Diplopia	2	3.6
Otalgia	1	1.8
Bilateral deafness	1	1.8
Blindness	1	1.8
Dysphagia	1	1.8
Asymptomatic	1	1.8

Table II: Distribution of all complaints

Complaint	No. of Patients	%
Neck Mass		
Unilateral	22	39.3
Bilateral	10	17.9
Aural		
Unilateral deafness	14	25.0
Bilateral deafness	4	7.1
Otalgia	1	1.8
Otorrhea	2	3.6
Tinnitus	13	23.2
Nasal		
Bleeding from the nose	25	44.6
Nasal discomfort	1	1.8
Unilateral obstruction	6	10.7
Bilateral obstruction	6	10.7
Postnasal drip	1	1.8
Miscellaneous Symptoms		
Facial paresthesias	10	17.9
Facial palsy	1	1.8
Throat pain	2	3.6
Hoarseness	5	8.9
Dysphagia	12	21.4
Shoulder weakness	0	0
Tongue changes	0	0
Blindness	3	5.4
Headache	23	41.1
Trismus	1	1.8
Vertigo	4	7.1
Diplopia	9	16.1
Symptoms From Distant Metastases	3	5.4

Discussion

NPC continues to be of great concern to clinical oncologists because the non-specificity of presenting symptoms often delays the diagnosis and thereby decreases opportunities for curative treatment.

This study is an institutional review of NPC patients seen in Hospital Universiti Sains Malaysia. We found that our patients with NPC have a male to female ratio of 3 to 1. This is similar to that reported by others^{2,5,6}. In our study, 73.2% of patients with NPC were Malays and only 25.0% were Chinese. This finding is similar to that reported in another bigger study⁵ done in Kota Bharu. This result reflects the proportion of the ethnic groups in the state of Kelantan.

In the United States, NPC is more frequently observed in Whites (male-to-female ratio: 4.8) than in Blacks (male-to-female ratio: 3.6), and the age of presentation for white men is biphasic, with prominent peaks in the age groups 10 to 19 years and 60 to 69 years. In contrast, among the Chinese, the disease is observed more frequently between 40 to 54 years of age³. The age distribution of our patients shows that NPC affects younger age groups, with 53.6% were under the age of 50 years, similar to other studies^{2,4,5}.

The presenting symptoms of patients with NPC reveal several features worthy of note. The commonest presenting complaint was neck swelling. However, out of 56 patients, 80.4% had neck swelling found on clinical examination although only 57.1% complained of having neck swelling. This shows that the patients failed to notice neck swelling or were not immediately concerned and did not relate it to a serious disease. The correlation between the clinical finding of cervical lymphadenopathy and the patient's awareness of neck swelling concurs with other reports^{2,4,5}.

In our group of patients, miscellaneous complaints were more common than nasal symptoms, in

contradistinction to other studies^{2,4,5}. The reasons for this presentation could be due to symptoms that caused most discomfort, for example, headache, diplopia, blindness and dysphagia, could not be ignored by the patients that they seek medical advice.

Bleeding from the nose was the second common complaint which could not be disregarded by the patients in the early stages of the disease. Hopping et al.⁷ found that a history of epistaxis or bloody discharge was indicative of malignancy since it was not seen in patients with benign lesions. Headache was the third common complaint in patients with NPC in this study. Headache may be regarded as those of benign disease by both the patient and clinician. This might be the cause for delay in the diagnosis of NPC.

Deafness, a common symptom in this study, showed that decreased hearing has an association with NPC. This symptom might be due to otitis media with effusion and/or presbycusis-related hearing loss. Although only 32.1% of patients complaint of deafness 55.4% had OME. This finding confirms the fact that patient with middle ear effusion must undergo a thorough nasopharyngeal examination to exclude NPC and adequate examination of tympanic membranes and tympanometry should be conducted in every patient with NPC to assess eustachian tube involvement. The tumour induces malfunction of the eustachian tube, a sensation of ear blockage, unilateral serous otitis media and conductive hearing loss⁸.

The duration of the presenting complaint at the time of presentation was 6 months. This result is compatible with other studies^{2,4}.

Three of our patients had first degree relatives with NPC and all of them were Chinese. In fact one of them was asymptomatic and examination of the nasopharynx was done as he was considered to have a higher risk of having NPC. Unilateral

fulness of the fossa of Rosenmüller was noted and the presence of NPC was confirmed histologically.

This study found that the majority of tumours arise laterally, similar to other reports^{2,5}. Significant association of site and type of primary lesion with lymphadenopathy was not done in this study as the number of patients included was inadequate for statistical analysis.

The high percentage of patients (80.4%) presenting with cervical lymphadenopathy was alarming, as this finding is indicative of tumour spread. Health education to the public to examine their own necks regularly may help to reduce the N stage at presentation and thus improve the prognosis. Lee et al.⁹ found that both the level of extent and the bulk of nodal deposits are important prognostic factors though this is not shared by other authors¹⁰.

The incidence of cranial nerve palsy (33.9%) in this study was higher than that found by Neel⁸ (18%) and Skinner et al² (13.3%) but almost similar to Indudharan et al⁵ (30.3%). The cranial nerve most commonly affected was VI followed by III and XII nerve. Most of other reports found that the VI, V and XII were the three commonest cranial nerve affected in patients with NPC^{2,4,5}. The V and VI

cranial nerve were involved because of extension of the primary tumour through the foramen lacerum and invasion of the cavernous sinus. The XII nerve were affected when the tumour extended into poststyloid space.

Symptomatic distant metastases were found in three patients though six patients had evidence of distant metastases at the time of presentation. Bone was found to be the commonest site of metastases. It was suggested that bone scanning should be performed in advanced cases of NPC^{2,5}.

In this study we found that the majority (41.1%) of patients with NPC belonged to WHO Type I in contrast with another report⁶ in which they found Type I is the least common type although both studies represent the same community.

Conclusion

This study reflects the presentation of NPC in a predominantly Malay population. They present late and with distant metastasis. A high index of suspicion on the part of the clinician and increased awareness by the patient is essential for the successful recognition of an early lesion. This can be achieved by educating our community on the common clinical presentation of NPC.

References

1. Watkinson J.C., Gaze M.N. and Wilson J.A. Tumours of the nasopharynx. Stell and Maran's Head and Neck Surgery (4th ed). Butterworth Heineman, 2000: 397-408.
2. Skinner D.W., Van Hasselt C.A. and Tsao S.Y. Nasopharyngeal carcinoma: modes of presentation. *Ann Otol Rhinol Laryngol* 1991; 100: 544-11.
3. Levine P.H., Connelly R.R. and Easton J.M. Dermographic patterns for nasopharyngeal carcinoma in The United States. *Int J Cancer* 1980; 26: 741-48.
4. Skinner D.W., Van Hasselt C.A. Nasopharyngeal carcinoma: methods of presentation. *Ear Nose Throat Journal* 1990; 69: 237-40.
5. R. Indudharan, K.A. Valuyeetham, T. Kannan and D.S. Sidek. Nasopharyngeal carcinoma: clinical trends. *The Journal of Laryngology and Otology* 1997; 111: 724-29.
6. Sehgal M. and Neel H.B. III. Nasopharyngeal carcinoma. *Head and Neck Oncology* 1997; 5: 79-85.
7. Hopping S.B., Keller J.D., Goodman M.L. and Montgomery W.M. Nasopharyngeal masses in adults. *Ann Otol Rhinol Laryngol* 1983; 92: 137-40.
8. Neel H.B. A prospective evaluation of patients with nasopharyngeal carcinoma: an overview. *The Journal of Otolaryngology* 1986; 15: 137-44.
9. Lee A.W.M., Foo W., Law C.K. and et al. N-Staging of nasopharyngeal carcinoma: discrepancy between UICC/AJCC and Ho systems. *Clinical Oncology* 1996; 8: 155-59.
10. Baker S.R. and Wolfe R.A. Prognostic factors in nasopharyngeal malignancy. *Cancer* 1982; 49: 163-69.
11. Prasad U. Nasopharyngeal carcinoma. In Descriptive Epidemiology of Nasopharyngeal Carcinoma in Peninsular Malaysia. (Prasad U., Rampal L.) University of Malaya Press, Kuala Lumpur, Malaysia, 2000: 143-49.