

NASOPHARYNGEAL CARCINOMA IN BASRAH, AN EVALUATION OF 22 PATIENTS

Isam M. Al-Shuraidah

M.B.Ch.B., F.I.C.M.S. Lecturer, Department of Surgery, University of Basrah College of Medicine and Specialist OtoRhinoLaryngologist, Basrah General Hospital, Basrah; IRAQ.

Summary A prospective study of 22 patients with nasopharyngeal carcinoma admitted to the Ear, Nose, Throat Department at Basrah General Hospital between September 1993 and September 1998. It comprises 14 males and 8 females with a ratio of 1.75: 1. A cervical mass was the most common presenting feature. The lateral wall was the site of highest frequency. All patients were treated primarily by radiotherapy. The average survival for 17 patients followed up for more than one year was 47.2%. No significant relationship was found between T-classification and the response to treatment. The presence of regional metastases, however, did influence the outcome of therapy and the average survival rate. Stages III and IV had shown the more risky patients as far as the recurrence rate, distant metastases. The skeletal system was the most common site of distant metastases. Finally the nasopharyngeal carcinoma is radiocurable but late diagnosis makes this possibility much less likely.

Introduction

Nasopharyngeal carcinoma (NPC) constitutes more than 90% of all nasopharyngeal malignancies in most countries¹. It has a well-defined geographic distribution, primarily affecting persons from Southern China and Southeast Asia². Environmental factors are numerous and appear to have a secondary role mainly in the promotion of the neoplastic process². Relationship with Epstein-Barr virus is indicated by the identification of viral genome copies within the cells and by a persistent host antibody response². Situated at the skull base with close proximity to the surrounding head and neck spaces, clinically the nasopharynx is a blind spot in many aspects. Tumours arising here may masquerade their symptoms to

regions other than the primary site. This has often led to delayed diagnosis and treatment³. Radiation is the treatment of choice for NPC. The neck should be included in the field, whether or not neck nodes are palpable. Surgery in the form of a radical neck dissection is reserved for cases where lymph nodes are not controlled by radiotherapy or where enlarged nodes appear after the primary has been controlled⁴. Chemotherapy has no role in the primary treatment of NPC, it is preserved for recurrences or as a palliative treatment. The aim of the study is to review our experience in management of NPC, its clinical profile and the outcome of treatment in Basrah during the last 5 years.

Patients and Methods

This is a prospective study, which sets out to analyze 22 patients with NPC admitted to the Ear, Nose,

Correspondence to:

Dr. Isam M. Al-Shuraidah
Department of Surgery, University of Basrah College
of Medicine, Basrah; IRAQ.

Throat Department at Basrah General Hospital between September 1993 and September 1998. It comprises 14 males and 8 females with a ratio of 1.75:1. Their ages ranged from 10 to 68 years (mean age 52). The forms of presentation of NPC as related to the signs and symptoms of the disease were reviewed. At the time of analysis, the mean follow up time was 12 months. Five patients were lost to follow up. Investigative radiology was performed to most of the patients at the time of admission including chest x-ray, x-ray base of skull (to exclude bony metastasis) and x-ray for the postnasal space. CT scan was restricted to two patients only. Epstein-Barr virus studies were not performed because of lack of facilities. There is no agreement on the single best staging system for patients with NPC. All our patients were staged by the UICC staging system of 1962. This system employs the TNM classification. All patients were examined under general anaesthesia and nasopharyngeal biopsy was performed via the nose or mouth with the help of the mirror view or Yankauer speculum transorally. It was the only method of establishing the diagnosis. Five patients had a neck node biopsy performed before the nasopharyngeal one. All patients were treated primarily by radiotherapy for both the primary nasopharyngeal site and the neck whether or not neck lymph nodes are palpable. Cytotoxic therapy was advised for 4 patients with recurrences at the primary and/or distant metastasis. A further course of radiotherapy was given to one patient with recurrence at the primary site.

Radical neck dissection was done for two patients with postradiation non-controlled lymph nodes.

Results

A total of 22 patients with NPC are included in the present study. All of those proved to be squamous cell carcinoma of different degrees of differentiation, which found to have no effect either on the response to radiotherapy or on the incidence of recurrence of the primary disease. Table I shows the age and sex distribution, the youngest patient was a boy of 10 years, who later developed distant metastasis to the spine, while the oldest one was a 68 year old man who is still in remission up to the time of analysis of this study. The male: female ratio was 1.75:1.

Sex Age (years)	Male		Female		Total
	No.	%	No.	%	
1-10	1	7.1	0	0	1
11-20	1	7.1	0	0	1
21-30	1	7.1	1	12.5	2
31-40	2	14.3	2	25.0	4
41-50	2	14.3	1	12.5	3
51-60	4	28.6	2	25.0	6
61-70	3	21.5	2	25.0	5
Total	14		8		22

Table I. Age and Sex Distribution

The age-incidence rate curve of NPC is illustrated in Figure 1. The highest incidence was found in the age-group (50-60 years).

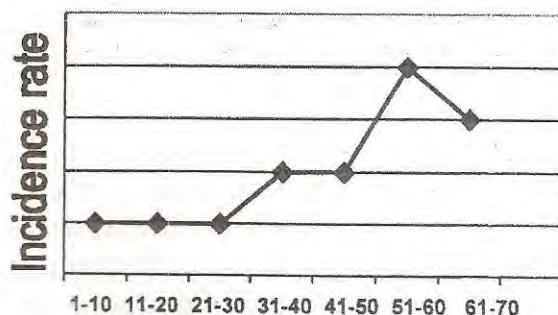


Figure 1. Age Incidence Rate Curve

Most patients had multiple symptoms, which were insidious in onset and might be disregarded by patients and doctors. As noted in Figure 2, a cervical mass was the most common initial sign noted by 12 of the 22 patients (54.5%). Enlarged lymph nodes were present in 14 (63.6%) of the patients prior to the initiation of therapy. Nasal symptoms (epistaxis, nasal obstruction, and blood-stained rhinorrhoea) were initial complaints in 8 (36.3%) and eventually noted in 10 (45.5%) of the patients. Aural symptoms (deafness, tinnitus, otalgia) were present initially in 7 (31.8%) of the patients and a 9 (40.9%) before treatment. Signs and symptoms of cranial nerve involvement were present in 4 (18.2%) of the patients. Cranial nerve dysfunction was multiple in 3 of the 4 cases. The most commonly affected nerves were V, VI, IX, X. Pain and headache were initially found in 6 patients (27.3%) which signify tumour erosion in the skull base and surrounding structures.

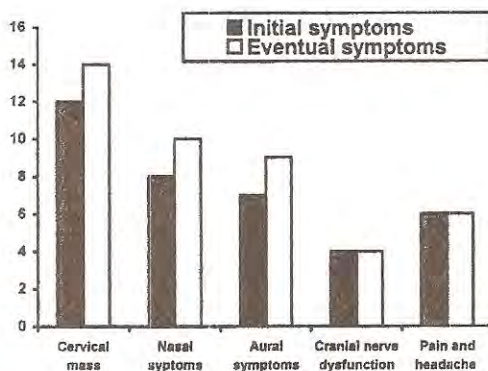


Figure 2. Initial Signs and Symptoms of Disease Compared with Findings Immediately Prior to the Initiation of Radiation Therapy for NPC.

The duration of symptoms prior to diagnosis ranged from three to twelve months. The mean interval from onset of symptoms until referral for therapy was seven months. The site of primary origin within the nasopharynx is outlined in Table II. As expected the lateral wall

(fossa of Rosenmuller) was the site of highest frequency.

Site	No.	%
Posterior superior wall	5	22.7
Lateral wall	10	45.4
Anterior wall	1	4.6
No tumour seen	2	9.2
Not well-described	4	18.1

Table II. Nasopharyngeal Site of Origin (%).

The results of staging are shown in Table III. Little correlation was found between T-stage and the extent of nodal metastasis.

T (tumour) N (node)	T1	T2	T3	T4	Total
N0	3	2	2	1	8
N1	4	2	1	1	8
N2	2	0	1	1	4
N3	0	1	0	1	2
Total	9	5	4	4	22

Table III. Distribution of Patients of NPC by UICC Staging System.

Depending on the UICC system of 1962, the staging of patients will be as follows:

Stage I	3 patients
Stage II	2 patients
Stage III	9 patients
Stage IV	8 patients

Out of 17 patients with NPC followed and treated primarily with radiotherapy, 8 patients (47.2%) have an average survival for more than one year. A group of 3 patients found to have recurrences in the nasopharynx (one of them had not completed the full course of radiotherapy). One of these 3 patients had received a second course of radiotherapy. Three patients developed recurrences in the cervical lymph nodes (two of them have been neck biopsied before). Another 3 patients suffered distant metastasis only to the spine. The distant skeletal metastasis was diagnosed

clinically and radiologically. Table IV shows the fate of 17 patients followed up a year after treatment.

<i>Fate</i>	<i>No.</i>	<i>%</i>
Survived for more than one year	8	47.2
Recurrence in the primary site	3	17.6
Recurrence in the cervical lymph nodes	3	17.6
Distant metastasis (spine)	3	17.6

Table IV. Fate of patients with NPC

Out of 17 patients with NPC treated and followed up, four were dead either because of distant metastasis, intracranial extension and / or recurrent lymphatic spread. No significant relationship was found between T classification and the response to treatment. The presence of regional metastasis, however, did influence the outcome of therapy and the average survival rate. All patients within stage I and II are still in remission up to the time of analysis of this study. Stages III and IV have shown the more risky patients as far as the recurrence rate, distant metastasis. Out of the 12 patients followed up within these 2 stages, only 3 patients are still alive.

Discussion

The diagnosis of NPC rests on perceptive symptom analysis, a careful clinical examination and the selection of appropriate clinical investigations. A high index of suspicion is still the key to early diagnosis. Loco-regional metastasis occurs early in NPC, it may occur even before the primary is discernible by routine clinical examination. Out of twenty-two patients reviewed in this study, 2 patients only were below the age of 20 years while Ellouz et al.⁵ reported 485 cases of NPC collected between March 1969 and December 1974 in Tunisia, 82(17%) of patients were children and adolescents (0-19 years old). In Chinese, NPC is rare

below the age of 15 years and the age-incidence rate curve begins to rise at the end of the second decade of life and reaches a peak in the fourth decade, and then stays at a plateau³. Jassim et al. (1994)⁶ in their retrospective study of 74 patients with NPC from North of Iraq during the period (1983-1992), patients below 20 years of age constitute about (6.7%), with a male: female ratio of 2.5:1. The shape of the age distribution curve suggests exposure to carcinogens early in life and/or an interaction of viral or environmental agents. Cervical mass is still the most common initial feature in almost all other studies. Hoppe et al. (1976)⁷ recorded that (71%) of the 82 patients with NPC treated in the Stanford University with radiation from January 1956 through August 1973 had had an enlarged cervical lymph nodes as the first presenting sign prior to the initiation of radiotherapy. The commonest site of primary origin within the nasopharynx is the lateral wall (fossa of Rosenmuller) and the otolaryngologist may sometimes need to take a biopsy from this highly suspicious region even when there is no clear evidence of tumour, particularly when an enlarged cervical lymph nodes, age of patient, other associated symptoms suggest a NPC. Dickson (1981)⁸ described that 75 (35.9%) of their patients have the lateral wall as the primary site of origin within the nasopharynx. Ninety-nine patients with NPC were reviewed by Baker (1980)⁹. A 5-year survival of (34.4%) was recorded for patients without nodal disease in contrast to (14%) for patients with lymph node metastasis. He described that the significance of regional metastasis is supported by the relationship between survival and disease stage. The 5-year survival for stage I was (67%) while the average survival for stage III and IV was (21%). Early lesions confined to the primary site have the greatest chance of cure, but even

advanced diseases with bone destruction or cranial nerve involvement may be controlled with radiotherapy in some cases. Dickson (1981)⁸ analysed 209 patients with NPC at North America and found that the survival and prognosis of NPC depends on tumour histology, initial stage of disease, dose of radiation and pre-irradiation node biopsy. The overall 5-year absolute survival for his series was (29%). When initial primary disease was localised to the nasopharynx (T0, T1, T2) with or without mobile nodes (N0, N1, N2) the survival rose to (4%) cases. Preirradiation node biopsy consistently resulted in poor survival. When nodes were mobile (N1, N2), the survival rate was (46.9%) in the non-biopsied group and (25%) when nodes were excised prior to primary irradiation therapy. Finally our work shows that the diagnosis of NPC needs a high index of suspicion, the neck mass is still the most common presenting feature and NPC is radiocurable, but late diagnosis makes this possibility much less likely. We recommend that no cervical excisional biopsy should be done unless NPC can be excluded in patients with upper neck nodes.

References

1. Shanmugaratnam K. Nasopharyngeal

Carcinoma: Epidemiology, Histopathology and Aetiology. *Ann Acad Med Singapore* 1980; **9**: 289-295.

2. Fedder M, Gonzalez MF. Cancers of the Nasopharynx. *Am J Med* 1985; **12**: 363-369.
3. Chew CT. Nasopharynx (the Postnasal Space). *Scott-Brown's Otolaryngology*, vol 4, Fifth Edition. Butterworth and Co. (publishers) Ltd, 1987.
4. Marañ AGD. Tumours of the nasopharynx. *Stell and Marañ's. Head and Neck Surgery*, Second Edition. Butterworth Heinemann Ltd, 1993.
5. Ellouz R, Cammoan M, Attia RB. Nasopharyngeal Carcinoma in Tunisia. *IARC Sci Publ* 1978; **20**: 115-129.
6. Jassim AA, Shehab NM. Retrograde study of NPC in North of Iraq (1983-1992). A Thesis Submitted to the Scientific Council of Otolaryngology in Partial Fulfillment for the Degree of Fellowship of the Iraqi Commission for Medical Specialization / Otolaryngology, 1994.
7. Hoppe RT, Goffinet DR, Basshaw MA. Carcinoma of the Nasopharynx. *Cancer* 1976; **37**: 2605-2612.
8. Dickson RI. Nasopharyngeal Carcinoma, an Evaluation of 209 Patients. *Laryngoscopy* 1981; **91**: 333-354.
9. Baker SR. NPC: Clinical Course and Results of Therapy. *Head Neck Surgery* 1980; **3**: 8-14.