

Clinical evaluation of nasopharyngeal carcinoma in Jordan

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Abstract

Thirty-three cases of nasopharyngeal carcinoma are reported. This is the first report of this condition from Jordan. Age, sex, early presentation and metastases are discussed. Bimodal distribution of age showed two peaks between 16-20 and 41-45 years. The disease was more common in males. Lymph node enlargement was the most common presentation, and bone metastases were the most frequent.

Introduction

Nasopharyngeal carcinoma shows some racial and geographical distribution. Most reported cases were from China where the condition prevails in the Kwangtung province. It is rarely seen in western countries. A reasonable number of cases have occurred in the Middle East. In a small country such as Jordan, with a population of about three million, the finding of 65 cases over a period of five years, between 1975-1979, is comparatively high (Kamal, unpublished data).

In this report, 33 cases of nasopharyngeal carcinoma were seen by the author during the 10 year period 1981-1990. Epidemiological factors, early presentation, findings on examination of the nasopharynx under general anaesthesia and the presence of late metastases are discussed and analyzed.

Material and methods

A study of 33 cases, was carried out. A complete ENT history focusing on the area where patients lived, history of cancer in the family, smoking or any other habits was recorded.

An ENT examination together with the examination of the cranial nerves, an ophthalmic evaluation where eye symptoms were present, and a systemic assessment were carried out.

A routine blood picture, radiological examination of the nasopharynx by lateral and submento-vertical views, chest X-rays and CT with contrast for the brain and nasopharynx were requested. Isotope scans were used to check for bone and liver metastases. Biopsies from a nasopharyngeal mass, or blind biopsies if no mass was found, were taken for histological examination. A pure tone audiogram and tympanometry were also ordered. Follow-up examination was carried out by repeated check biopsies two months after completion of the course of radiotherapy and by imaging of the nasopharynx, liver and bones.

Results

Epidemiological factors

No particular epidemiological factor was noticed. Diet was more or less the same as a European diet. The patients were all Muslims or Christians who were not in the habit of using incense in their worship. Female patients were either housewives or students; the males were students, farmers or businessmen. Six male patients (18.2 per cent) were smokers. There was no family history of malignancy. One patient had in addition an abdominal neuroblastoma. There was no special area in Jordan where the incidence was high. The only common epidemiological factor observed, was the use of portable paraffin oil heaters during winter. Some patients described having episodes of common cold before the appearance of the condition.

Age and sex

The youngest and the eldest were six and 60 years old respectively. Male to female ratio was 7:4 (Fig. 1).

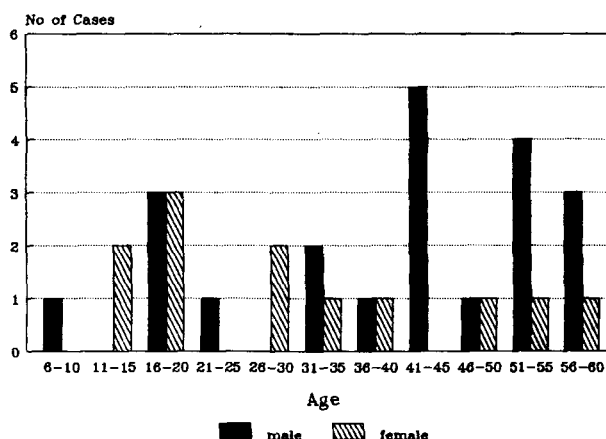


FIG. 1
Age and sex distribution.

TABLE I
EARLY PRESENTATION OF NASOPHARYNGEAL CARCINOMA

Single symptom		Multiple symptoms	
Cervical Lymphadenopathy	11	Ear blockage and nasal bleeding	1
Ear symptoms			
a) tinnitus	3	Ear blockage and earache	1
b) blockage	1	Earache and nasal discharge	1
c) earache	1		
Nasal symptoms			
a) blockage	1	Nasal blockage and headache	1
b) discharge	1	Blurring of vision and numbness of the face	1
Headache	5		
Squint	1	Nasal discharge and dental pain	1
Pain	1	Dysphagia and neck pain	1
Neck pain	1		
Total	26	Total	7

Early presenting symptoms

Twenty six patients (78.8 per cent) presented with a single, and seven (21.2 per cent) presented with multiple symptoms. The commonest single presentation was lymph node enlargement in the neck (Table I).

Examination of the nasopharynx under general anaesthesia

A mass was present in 20 cases (60.3 per cent), an ulcer in one (3.3 per cent), and no lesion was found in 12 (36.4 per cent).

Distant metastases

Eighteen patients (54.6 per cent) had distant metastases mostly to bone (Table II).

Discussion

Nasopharyngeal carcinoma is not a rare disease in the Arab world; reports have appeared from the Sudan (Hidayatalla *et al.*, 1983), and from Algeria (Lemaigre *et al.*, 1977). This is the first report of this condition from Jordan. It is prevalent in this country in a substantial number and its incidence is approaching half that of laryngeal cancer. No epidemiological factor has been found, but portable paraffin oil heaters were commonly used. Whether the inhalation of such fumes had any effect on the formation of the disease is unknown. Another factor which was described by the patients was the presence of common cold-like symptoms prior to the appearance of the disease. Infection with Epstein Barr virus (EBV) could not be ruled out. High titres of this virus have been reported to be present in patients with nasopharyngeal carcinoma and the serological antibody titre of IgA/VCA to EBV has been used for early diagnosis in high risk areas in China (Chang, 1986).

In this series the age of the patients varied considerably. The presence of the tumour at a young age has

been reported previously (Pao *et al.*, 1989). Biomodal peaks of age between 16–20 and 41–45 years were noticed in our series (Table I). Such peaks have been reported (Singh, 1987), but the peak for the older age group in that series was higher than in ours. Male to female ratio was 7:4 in agreement with other reports (McCallum, 1974). However, some found the reverse of this ratio where females were more common (Choa, 1974).

In children it is difficult to differentiate the early symptoms of nasopharyngeal carcinoma from those of adenoid enlargement except when presentation is with cervical lymph node enlargement. We adapt a policy of routine histopathological examination of removed tonsils and adenoids in order to avoid the danger of missing malignancy.

Twenty-six patients (69.7 per cent) presented with a single symptom, whilst seven (31.3 per cent) showed multiple symptoms (Table I). The commonest single presenting symptom was enlargement of cervical lymph nodes (33 per cent). Headache, as an early symptom was present in five patients (15.1 per cent), and tinnitus alone in three (9.1 per cent). In those eight patients it was difficult to diagnose the condition at an early stage; in two of our patients the diagnosis became obvious after other symptoms appeared. Such presentation should be kept in mind where the disease is prevalent. Later on, during the course of the disease a combination of different symptoms of the neck, ear, nose, eye or multiple cranial nerve paralyses were noticed. Symptoms such as Horner's syndrome or blindness have been seen in two of our patients in addition to the more common presentation.

Although CT may be normal at an early stage of sub-mucosal spread, as was noticed in one of our cases, it proved to be very useful in the diagnosis of the tumour and its extension.

Examination of the nasopharynx under general anaesthesia showed no lesion in 12 patients (36.3 per cent), and the diagnosis was only made after taking blind biopsies. Multiple blind biopsies taken from the right and left parts of the fossae of Rosenmuller near the Eustachian tube openings and from the central part of the posterior nasopharyngeal wall were found to be positive even though the presentation of the tumour was on one side only. Others have used random multiple blind biopsies to diagnose the disease (Shame *et al.*, 1989).

Distant metastases were found in 18 patients (54.5 per

TABLE II
NASOPHARYNX FINDINGS UNDER GENERAL ANAESTHESIA

Mass	20
Ulcer	1
No lesion	12
Total	33

TABLE III
DISTANT METASTASES OF NASOPHARYNGEAL CARCINOMA (33 CASES)

Sequential No.	Sites			
	Bone	Lung and Mediastinum	Brain	Liver
3	Ribs, L4, Iliac bone Site of graft in the mandible	—	—	—
4	Bonemarrow	Lung	—	—
9	Hip bone, T7, T11, L4	Lung	—	—
40	T4, T8, Greater tuberosity of the femur	Lung	—	—
12	5th rib	—	—	—
13	Fronto parietal bone Iliac bone Sacro-iliac joint	—	—	—
15	Maxilla, Orbit	Lung and Mediastinum	—	—
16	L3, L5	—	—	—
17	Iliac fossa, Maxilla	—	—	—
18	Pelvis, Ribs, Dorsal and Lumbar spine	—	—	—
19	Acetabulum Iliac bone	—	—	—
21	Upper end of femur	—	—	Liver
24	Acute spinal compression at T6	—	—	—
25	—	—	Abnormal density	—
27	—	—	Left temporal lobe	—
28	—	Pleural effusion	—	—
30	Iliac bone and ribs	—	—	—
31	—	—	Brain	—

cent) (Table III). Metastasis to bone was the most common, in agreement with other reports (Shame, 1990), with a predilection for bones of the pelvis, ribs, dorsal and lumbar vertebra (Table IV). Lung and mediastinal lesions together with pleural effusions were seen in five patients (15.1 per cent) four of whom had also bone metastases.

Though the nasopharynx is in close vicinity to the cranium, brain metastases were seen only in three patients (9.1 per cent). It has been suggested that a brain scan is not necessary for staging because of the rarity of the spread to the brain (Annis *et al.*, 1989). Liver metastases were not common in our series and were seen only in one patient who also had bone metastases. Liver metastases have been reported to occur in the porta hepatis and present with obstructive jaundice (Elango and Jayakumar, 1990). In spite of negative biopsies from the nasopharynx two months after completing radiotherapy, distant metastases have been observed which shows that local radiotherapy alone is insufficient and underlines the need for the use of adjuvant chemotherapy.

TABLE IV

NUMBER OF CASES WITH BONE METASTASIS (13) (MULTIPLE PRESENTATIONS OCCUR TOGETHER)

Pelvis	6
Spine	6
Ribs	4
Skull	3
Limbs	2

Conclusion

Nasopharyngeal carcinoma in Jordan is seen in both the young and the old. Diagnosis may be difficult when unusual symptoms are present. Full investigations together with blind biopsies from the nasopharynx are needed to diagnose the disease and its distant spread as early as possible in order to avoid poor prognosis.

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