

# Clinical Presentation of Nasopharyngeal Carcinoma - An experience at ENT Department, Jinnah Hospital, Lahore

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## ABSTRACT

**Aim:** To describe the clinical presentation of patients with nasopharyngeal carcinoma (NPC)

**Methods:** This prospective descriptive study was conducted at ENT department of Jinnah Hospital, Lahore from January 2011 to December 2015. A total of 50 patients with nasopharyngeal carcinoma were included in the study and their clinical presentation noted.

**Results:** Nasopharyngeal carcinoma (NPC) affected both male and female patients with a ratio of 3.2:1. The mean age of the male patients was 48.8 years and females presented earlier, with a mean age of 46.7 years. The most common presenting symptom was neck swelling occurring in 72% of cases, followed by nasal obstruction (50%), headache (30%), epistaxis (18%), ear symptoms (18%) and eye symptoms (18%). The duration of symptoms before presentation ranged from 1 month to 35 months (mean =10.5 months).

**Conclusion:** Nasopharyngeal carcinomas account for approximately 70% of all primary malignant tumors of the nasopharynx and it is one of the most common malignancies in Asian populations. It has vast variety of symptoms of presentation; the most common being Neck Lump, Nasal Obstruction, Headache, Epistaxis, Ear and Eye symptoms. Therefore any patient presenting with these symptoms has to be scrutinized for nasopharyngeal carcinoma as early diagnosis has significantly better treatment results.

**Keywords:** Clinical presentation, Nasopharyngeal carcinoma

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## INTRODUCTION

Nasopharyngeal carcinoma (NPC) is a malignant tumor arising from the epithelial lining of the nasopharynx<sup>1</sup>. It was first described as a separate entity by Regaud and Schmincke in 1921<sup>2</sup>. NPC has been divided into three subtypes in the World Health Organization (WHO)

Classification: 1) squamous cell carcinoma typically occurs in older adults 2) non-keratinizing carcinoma; 3) undifferentiated carcinoma<sup>3,4</sup>.

Nasopharyngeal carcinomas account for approximately 70% of all primary malignant tumors of the nasopharynx, and although it is rare in western countries, it is one of the most common malignancies in Asian populations<sup>5,6,7,8</sup>. Common age of presentation is 40 to 60 years. However bimodal pattern of age distribution has been observed in some studies with peak incidence in late adolescence and another peak in the 5<sup>th</sup> or 6<sup>th</sup> decade of life<sup>9,10,11,12</sup>. Male to female ratio is 3:1. Pakistani population is at moderate to high risk for development of NPC, with an estimated 752 cases diagnosed annually<sup>13,14</sup>.

NPC usually originates in the fossa of Rosenmuller situated in the lateral wall of the nasopharynx. It can then extend to the other lateral wall of nasopharynx and/or posterosuperiorly to the base of the skull or the palate, nasal cavity or oropharynx. It can metastasize to the cervical lymph nodes. Distant metastases usually occurs in bone, lung, mediastinum and, more rarely, the liver<sup>2</sup>.

Early symptoms of NPC include nasal obstruction, epistaxis, or conductive hearing loss due to Eustachian tube obstruction and the development of secretory otitis

media. However NPC often presents late when the tumor has grown significantly in size and has already invaded adjacent structures. Hence the patient may present with more sinister signs including nodal masses in the neck (most common), cranial nerve palsies, tinnitus, headache or even diplopia and proptosis<sup>1,2</sup>.

Endoscopic guided biopsy is usually done for diagnosis<sup>5</sup>. However some patients have submucosal disease, with normal appearing overlying mucosa. MRI can be done in these patients for guiding biopsy<sup>5</sup>. Since cervical lymphadenopathy is an initial symptom in many patients, the diagnosis of NPC is often made by lymph node biopsy.

Nasopharyngeal carcinoma (NPC) can be quite difficult to diagnose because the post-nasal space (PNS) is inaccessible to examination and frequently patients have atypical presentation. Early diagnosis of NPC is of utmost importance as the treatment of early NPC carries an excellent prognosis<sup>15</sup>. However, nasopharyngeal carcinoma is commonly seen at an advanced stage by the time diagnosis is made<sup>16</sup>. Ignorance of the symptoms by the patient and delay by the referring physician both contribute to late diagnosis<sup>17</sup>.

This study was done with the purpose to describe the clinical presentation of nasopharyngeal carcinoma in our region as locally, not much work has been done on the subject. Analyzing the clinical presentation of patients with NPC would be very useful for early diagnosis and would hopefully help to reduce the high morbidity and mortality of NPC<sup>18</sup>.

## MATERIAL AND METHODS

This prospective descriptive study was conducted in ENT department of Jinnah Hospital, Lahore from January 2011 to December 2015. Jinnah hospital is a tertiary care teaching hospital affiliated with Allama Iqbal Medical College, Lahore.

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The study subjects included 50 patients who were admitted in ENT department during the period under study. Both male and female patients who were not already diagnosed cases of nasopharyngeal carcinoma and had not received any treatment previously were included in the study. We excluded those particular patients from the study who were already diagnosed cases of NPC and had received treatment and also those patients who did not give consent for biopsy and histopathology.

These patients were received through Emergency, Out-patient department (OPD) and as referrals from other departments. A detailed history was taken; thorough ENT examination was carried out by using well illuminated head light, nasal speculum, fiberoptic flexible or rigid endoscope for detailed inspection.

This was followed by detailed examination of neck and other systems including eye, nervous system, chest and abdomen. A Performa was developed to record the history and examination findings. Diagnostic methods used include:

1. Nasal endoscopy/ nasopharyngoscopy to assess the primary tumor.
2. Clinical evaluation of the size and location of cervicallymph nodes.
3. Neurological examination of cranial nerves.
4. Computed tomography (CT)/ magnetic resonance imaging (MRI) scan of the head and neck to assess primary tumor and neck nodes.
5. Chest radiography (anteroposterior and lateral) to see if NPC has spread to the lungs.
6. Full blood count.
7. Electrolytes, urea, creatinine, liver function tests, Ca, PO<sub>4</sub>, alkaline phosphatase.
8. Biopsy of either the lymph nodes or primary tumor for histological examination.

Diagnosis of nasopharyngeal carcinoma was made on the basis of histopathological reports.

## RESULTS

**Demographics:** A total of 50 patients diagnosed with nasopharyngeal carcinoma were included in the study. Of these, 38 were males and 12 were females, with a male/female ratio of 3.2:1 (Table 1). The mean age of the male patients was 48.8 years (range 18-70 years). Females presented earlier, with a mean age of 46.7 years (range 33-63 years).

Table 1

Male	Female	Total
38(76%)	12(24%)	50(100%)

**Clinical presentation:** The presenting complaints were symptoms which were the main reason for seeking medical advice. The most common presenting symptom was neck swelling occurring in 72% of cases, followed by nasal obstruction (50%), headache (30%), epistaxis (18%), ear symptoms (18%), eye symptoms (18%), dysphagia (2%), difficulty in breathing (2%), difficulty in talking (2%) and weight loss (2%). The duration of symptoms before presentation ranged from 1 month to 35 months (mean = 10.5 months).

Complaints	n	%age
(Neck Lump)	(36)	(72%)
Unilateral	19	38%
Bilateral	17	34%
(Nasal)	(34)	(68%)
Nasal Obstruction	25	50%
Hawking Epistaxis	09	18%
Headache	15	30%
(Otological)	(09)	(18%)
Hearing loss	5	10%
Earache	2	4%
Tinnitus	2	4%
Eye symptoms	09	18%
(Neurological 9 <sup>th</sup> , 10 <sup>th</sup> , 11 <sup>th</sup> )	(3)	(6%)
Dysphagia	1	2%
Dyspnea	1	2%
Difficulty in talking	1	2%
Weight loss	1	2%

## DISCUSSION

Nasopharyngeal carcinoma (NPC) is the most common primary tumor of the nasopharynx. Dependent upon the location and stage of tumor, patients with nasopharyngeal tumors may present in particular with nasal, ear and eye symptoms or neck masses with or without general symptoms of malignancy in advanced cases.

In our study, NPC was seen more in males (76%) as compared to females (24%). This ratio was similar to that reported locally by Ahmed Nadeem Abbasi<sup>13</sup> who reported 71% males and 29% females in a tertiary care hospital of Pakistan. Internationally, Iseh KR<sup>19</sup> from Nigeria reported 73 males and 27 females and Suzina SAH<sup>18</sup> from Malaysia reported 75% males and 25 females which is in agreement with our study.

The mean age of our male patients was 48.8 years and females presented earlier, with a mean age of 46.7 years. Locally, Ahmed Nadeem Abbasi<sup>13</sup> reported the mean age of the male patients, 43.7 years and female patients, 30.3 years which is less than our study and may represent different patterns in different parts of our country. Internationally, Hsu MM<sup>20</sup> from Taiwan reported similar age distribution with mean age of 45.7 years in male patients and 44.8 years in female patients.

In our study, maximum number of patients (72%) presented with neck swelling (38% unilateral and 34% bilateral) which was slightly less than when compared with some of the local studies. Ahmed Nadeem Abbasi<sup>13</sup> reported nodal involvement in 82.1% of patients whereas Haleema Saeed<sup>1</sup> reported neck swelling in 81.5% of their patients. This difference in nodal involvement could be due to the fact our Centre is a tertiary care Centre offering only diagnostic facilities for NPC whereas other local studies were conducted at tertiary care Centers where patients received treatment of NPC so they may have presented late there for this reason.

Internationally, Lim LH<sup>21</sup> and Hsu MM<sup>20</sup> reported that 75% and 75.5% of their NPC patients presented with neck mass respectively which is only slightly more than our study whereas T S Tiong<sup>22</sup> from Malaysia reported neck swellings in 80.8% of patients which could be due to loco-regional difference in presentation of NPC.

In our study, nasal obstruction was the next most common presentation occurring in 50% of patients and epistaxis in 18 % of patients. This was slightly less than reported by Haleema Saeed<sup>1</sup> who reported nasal obstruction in 59.3% and epistaxis in 33.3% of patients which may be again due the fact that our patients presented relatively earlier. Internationally, Hsu MM<sup>20</sup> reported nasal obstruction in 52.4% and epistaxis in 66% of patients on presentation whereas BS Alabi<sup>9</sup> from Nigeria reported nasal obstruction in 63% and epistaxis in 66% of their patients.

Headache was seen in 30% of patients on presentation. This was in agreement with that reported by Haleema Saeed<sup>1</sup> who also reported headache in 30% of patients. Internationally, Lim LH<sup>21</sup> reported headache in 25 % and Hsu MM<sup>20</sup> in 50% patients on initial presentation.

Ear symptoms (hearing loss, earache, and tinnitus) were seen in 18 % of our patients which were slightly more than reported by Haleema Saeed<sup>1</sup> who reported ear symptoms in 14.8% patients. Ear symptoms were reported in 28% patients on presentation by Hsu MM<sup>20</sup> and in 17% patients by Marlinda Adham<sup>23</sup>.

Eye symptoms were seen in 18% of patients on presentation which was similar to as reported by Haleema Saeed<sup>1</sup> who reported eye symptoms in 18.5 % of patients and slightly higher than that reported by Nadeem Abbasi<sup>13</sup>, (15%). Internationally, Hsu MM<sup>20</sup> reported eye symptoms in 9.5 % and Marlinda Adham<sup>23</sup> in 6.3% patients.

Neurological symptoms (Dysphagia, Dyspnea, and Difficulty in talking) were seen in 6% patients in our study which is less than that reported by Haleema Saeed<sup>1</sup> who reported neurological symptoms in 11% patients. Internationally Hsu MM<sup>20</sup> reported neurological symptoms in 5 % patients.

Weight loss was seen in 2% of patients in our study which is less than that reported by Haleema Saeed<sup>1</sup> who reported weight loss in 3.7% patients. Internationally Hsu MM<sup>20</sup> reported weight loss in 1.8 % patients.

## CONCLUSION

Nasopharyngeal carcinomas account for approximately 70% of all primary malignant tumors of the nasopharynx and it is one of the most common malignancies in Asian populations<sup>5,6,7,8</sup>. It has vast variety of symptoms of presentation; the most common being Neck Lump, Nasal Obstruction, Headache, Epistaxis, Ear and Eye symptoms. Therefore any patient presenting with these symptoms has to be scrutinized for nasopharyngeal carcinoma as early diagnosis has significantly better treatment results.

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