

## Original Article

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# Clinicopathological Study on Hypopharyngeal Carcinoma in Dhaka Medical College Hospital

Md. Nazmul Islam<sup>1</sup>, Dipankar Lodh<sup>2</sup>, Mohammad Mamun Siddiqui<sup>3</sup>, A. F. Mohiuddin Khan<sup>4</sup>, Kazi Meherunnesa<sup>5</sup>

### Abstract

*A Cross-Sectional Study was carried out from July 2006 to June 2007 at Department of Otolaryngology and Head-Neck Surgery of Dhaka Medical College Hospital, Dhaka. Data was collected from 150 patients with histologically diagnosed Hypopharyngeal carcinoma. Results of this study showed that hypopharyngeal carcinoma affects more in fifth (36.7%) and sixth (27.4%) decades of life. It was found that male were highly predominant to develop hypopharyngeal carcinoma and male female ratio was 9:1. People with lower educational level were found to be affected more by hypopharyngeal carcinoma. In this study 86 percent patients had history of smoking. Mean duration of smoking was 38.0±23.6 years. This study found that the key symptoms of hypopharyngeal carcinoma was dysphagia, pain and neck mass. In this study 83.5 percent patients presented with palpable lymph node and most (76.6%) of them were in level II. Pyriform fossa was found to be the commonest site (83.3%). In this study all malignancy in hypopharynx was histopathologically squamous cell carcinoma*

**Key words:** Hypopharyngeal carcinoma

1. Associate Professor, Department of Otolaryngology and HNS, Dhaka Medical College Hospital, Dhaka, Bangladesh. e-mail: nimunna@gmail.com
2. Assistant Professor, Department of Otolaryngology and HNS, Dhaka Medical College, Dhaka, Bangladesh.
3. Indoor Medical Officer, Department of Otolaryngology and HNS, Dhaka Medical College Hospital, Dhaka, Bangladesh.
4. Professor and Head, Department of Otolaryngology and HNS, Dhaka Medical College Hospital, Dhaka, Bangladesh.
5. HMO, Dept. of Radiology and Imaging, Dhaka Medical College Hospital, Dhaka, Bangladesh.

**Address of Correspondence:** Dr. Md. Nazmul Islam, Associate Professor, Department of Otolaryngology and HNS, Dhaka Medical College Hospital, Dhaka, Bangladesh. e-mail: nimunna@gmail.com

### Introduction

Indian subcontinent has among the highest rates of hypopharyngeal cancer world wide<sup>1</sup>. In Bangladesh pharyngeal cancer is higher than cancer in any other organ<sup>2</sup>. On the contrary, cancer of the hypopharynx is uncommon in the Western world. Approximately 2,500 new cases are diagnosed in the United States each year<sup>3</sup>. The peak incidence of this cancer occurs in males and females aged 50 to 60 years<sup>4,5</sup>. Approximately 25% of the patients in a retrospective study of 150 cases were found to have second primary tumours<sup>6</sup>. Hypopharyngeal carcinomas are considered indolent, silent tumors. A high index of suspicion is therefore needed to detect hypopharyngeal cancer before it has spread<sup>7</sup>. Epidemiological study cannot satisfactorily

define the risk factors to develop hypopharyngeal carcinoma, because of low incidence and different risk factors in different subtypes of hypopharyngeal carcinoma. Such as Post-cricoid carcinoma are common in females<sup>7</sup>. Although earlier reports from Northern Europe, particularly from Sweden, indicated a link between Plummer-Vinson Syndrome, and which consisted of sideropenic anaemia and epithelial changes of the aerodigestive tract, and other nutritional deficiencies in female. Hypopharyngeal cancer among women are currently more likely to be associated with excessive use of alcohol and tobacco, rather than with deficiency diseases<sup>8</sup>.

### Methods

It was a cross sectional study conducted in Otolaryngology and Head Neck Surgery Department of Dhaka Medical College Hospital, Dhaka from July 2006 to June 2007.

The patients suffering from hypopharyngeal carcinoma admitted in the Indoor Department who satisfied the inclusion criteria were included in the study. The sample was taken purposively.

Total 150 patients were included in the study. Patients attending Out-patient or Emergency Department of Otolaryngology and Head Neck Surgery Department of Dhaka Medical College Hospital (DMCH) with carcinoma of the hypopharynx or suspected malignancy in hypopharynx were the study population. Among them data were collected from histopathologically diagnosed hypopharyngeal carcinoma patients in a structured questionnaire. Previously diagnosed cases of hypopharyngeal carcinoma in any hospital other than DMCH & patients who received radiotherapy or chemotherapy for hypopharyngeal carcinoma were excluded.

### Results

A total of consecutive 150 histopathologically positive patients were included in this study at

Dhaka Medical College Hospital from July 2007 to June 2008. More patients were examined and investigated but only 150 of them were taken in this study as they fulfilled the criteria.

**Table I**

*Distribution of the patients by age (n=150)*

Age ( in years)	Frequency	Percent
Up to 40	26	17.3
41-50	28	18.6
51-60	55	36.7
61-above	41	27.4
Total	150	100.0

Most of the patients presented in this study were between the fifth and sixth decade of life. Mean age was 54.25±12.17 years.

**Table II**

*Distribution of the patients by sex (n=150)*

Sex	Frequency	Percent
Male	135	90
Female	15	10
Total	150	100

Table shows the sex distribution of the patients. Most of the patients (90.0%) were male and 10.0% were female. Male female ratio was 9:1.

**Table III**

*Distribution of the patients by educational qualification (n=150)*

Educational qualification	Frequency	Percent
Illiterate	64	42.7
Primary level	45	30.0
Secondary level	12	8.0
Higher secondary	15	10.0
Graduate and above	14	9.3
Total	150	100.0

People from lower educational background were found to be affected more by hypopharyngeal carcinoma. In this study 42.7 percent were illiterate and 30.0 percent completed their primary education.

**Table IV**  
*Distribution of the patients by personal habit (n=150)*

	Frequency	Percent	Duration (Year)
Smoker	129	86.0	38.03±23.69*
Betel Nut chewer	113	75.3	65.18±33.55
Alcohol	7	4.7	

\*Mean ± SD

Table shows the frequency distribution of the personal habits of the patients. Smoking (86.0%) and betel nut chewing (75.3%) were most common personal habit and only 4.7% of the people used to consume alcohol.

**Table V**  
*Distribution of patients by duration of cigarette smoking (n=150)*

Duration of cigarette smoking(years)	Frequency	Percent
No smoking	10	6.6
Up to 10	10	6.6
11-20	25	16.7
21-30	40	26.7
31-above	65	43.4
Total	150	100.0

Most (70.1%) of the patients were smokers for at least 20 years or more in this study. Only 6.6% of the patients were non smokers. Mean duration of smoking was 32.67 ± 12.54 years.

**Table-VI**  
*VI Distribution of the patients by clinical presentations (n=150)*

Clinical presentations	Frequency	Percent	Duration (weeks)
Dysphagia	136	90.7	22.32±25.12*
Pain	130	86.7	21.07±30.95
Hoarseness of voice	27	18.0	82.60±35.14
Haemoptysis	19	12.7	87.37±30.67
Neck mass	110	73.3	31.61±40.87
Anaemia	133	88.7	
Weight loss	109	72.7	9.85±3.34

\*Mean ± SD

Table shows the different clinical presentation of the patients. Most common clinical presentation were dysphagia (90.7%) and pain (86.7%). Only 18.0% patients had hoarseness of voice and 12.7% patients had haemoptysis. 73.3% had palpable neck mass, 74.0% had anorexia, 88.7% had anaemia, 72.7% had history of weight loss and 74.7% had fatigue.

**Table VII**  
*Distribution of the patients by neck node level (n=150)*

Neck node level	Frequency	Percent
No node	25	16.7
Level- II	115	76.7
Level-III	10	6.7
Total	150	100.0

Mean nodal size (±SD) was 2.31(±1.14) cm Level II lymph nodes (76.7%) were mostly involved in this study. Only 25 (16.7%) patients were found with no nodes.

**Table VIII**  
*Distribution of the patients by sub sites of hypopharyngeal carcinoma*

Sub site	Frequency	Percent
Pyriform fossa	125	83.3
Posterior pharyngeal wall	19	12.7
Post cricoid area	6	4.0
Total	150	100.0

Pyriform fossa is the commonest sub site (83.3%) of hypopharyngeal carcinoma. 12.7% and 4.0% patients had posterior pharyngeal wall and post cricoids area carcinoma respectively.

### Discussion

In the present study the hypo pharyngeal carcinoma was mostly seen in the fifth and sixth decades of life. Mean age was  $54.2 \pm 12.1$  years (Table-I). This is consistent with the finding of A. Escribano Uzcudn et al, who found that hypopharyngeal carcinoma most often affects man in their fifth and sixth decades of life, with a consistently reported peak incidence at the age of 50-60 years<sup>4,5</sup>. In this study the sex distribution revealed that male were highly predominant to develop hypopharyngeal carcinoma and the male to female ratio was about 9:1 (Table-II). A. Escribano Uzcudn et al also found similar ratio and concluded that in hypopharyngeal carcinoma the male to female ratio is overwhelmingly unfavourable for men<sup>4,5,9</sup>. In this study we also found that the people with lower education were affected more by hypopharyngeal carcinoma. Out of 150 patients, 64 (42.7%) were illiterate and 45 (30.0%) had primary education (Table-III). Only 14 (9.3%) patients were graduates or having higher education. Mean duration of smoking was  $38.0 \pm 23.6$  years (Table- VI). In this study 75.3% subjects were found to have history of Betel nut and leaf chewing (Table-

IV). Mean duration of betel nut and leaf chewing was about  $65.1 \pm 33.5$  years (Table-IV). Mohammad Zillur Rahman found that lower standard of living, low income, overcrowding, poor orodental hygiene, smoking tobacco and chewing of betel nut and tobacco leaves have got relation in the causation of pharyngeal malignancy<sup>5,11</sup>. In this study 90.7 percent patients with hypopharyngeal carcinoma presented with dysphagia (Table-VII) and mean duration of dysphagia was  $22.3 \pm 25.1$  weeks<sup>7</sup>. Pain was complained by 86.7 percent of patients (Table-VI) and mean duration of pain was  $21.0 \pm 30.9$  weeks<sup>5,7</sup>. Hoarseness was complained by 18 percent of patients (Table-VI). Mean duration of hoarseness of voice was  $82.6 \pm 30.6$  weeks<sup>5,7</sup>. Neck mass in the form of direct extension or metastatic neck node was seen in 73.3% percent of patients (Table-VI). Mean duration of neck mass was  $31.6 \pm 40.8$  weeks<sup>5,7</sup>. These findings are consistent with the findings of Kamruzzaman M et al and Wolfensberger M et al<sup>5,10</sup>. Wolfensberger M et al concluded that that pain, dysphagia, hoarseness of voice, a painless neck mass or visible ulcerating lesion is key point to diagnose hypopharyngeal carcinoma<sup>10</sup>.

In this study Pyriform fossa (83.3%) was the commonest site of hypopharyngeal carcinoma<sup>14</sup>. Post-cricoid (12.7% ) and posterior pharyngeal wall (4% ) carcinoma were comparatively less in number (Table-VI). About 83.4 percent patients presented with palpable lymph node at level II and level III and most of them (76.6%) were in level II (Table-VIII)<sup>4,7,11</sup>. Palpable lymph node size was  $2.3 \pm 1.1$  cm. In the present study the histopathological type of hypopharyngeal carcinoma was squamous cell carcinoma in all cases (Table-XI)<sup>3,5,11</sup>. Of them well differentiated in 16.7%, moderately differentiated in 50% and poorly differentiated in 33.3% (Table- 4.14) patients respectively<sup>5,12,13</sup>.

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