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Original Article

Association of personal habits in Hypopharyngeal carcinoma

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Abstract

Background: Hypopharyngeal carcinoma is a major ENT problem day by day. No treatment is available yet with satisfactory outcome. Advanced stage of presentation makes the condition worse. But still some cases presenting at early stage have successful outcomes. So, it is essential to improve knowledge regarding socio-demographic variables, different risk factors, mode of presentation and burden of disease in the community of Hypopharyngeal carcinoma.

Objectives: To determine the association of personal habits is in Hypopharyngeal carcinoma, observe the different socio- demographic variables of hypopharyngeal carcinoma, to see different risk factors of hypopharyngeal carcinoma and to observe different clinical symptoms associated with hypopharyngeal carcinoma.

Study design: This was a cross sectional, descriptive type of observational study.

Study place: study was conducted at department of Otolaryngology and Head& Neck surgery. Bangladesh Medical University (BMU)

Period of study: Study duration was 1 year from 1st March 2023 to 28 February 2024.

Sample size: Study was carried out with a sample size of 40.

Methods: This cross sectional, observational study was conducted from 1st March 2023 to 28 February 2024 for duration of 1 year among the patients who admitted at depart ment of Otolaryngology and Head& Neck surgery. Bangladesh Medical University. Purposive sampling method was used to collect data. Pre-tested structured data sheet was used to record information. After collection, data was edited by meticulous checking and re- checking. Data was analyzed using SPSS for windows version 22.

Results: The results of this study showed that Hypopharyngeal carcinoma affects more if fifth (37.5%) and sixth (25%) decades of life. Males are highly predominant to develop Hypopharyngeal carcinoma. Male female ratio 5:1. People with low socio-economic status were found more affected by Hypopharyngeal carcinoma. In this observation smoking was found significantly associated with development Hypopharyngeal carcinoma. In this series 82% of patients had history of smoking with mean duration of smoking was 13.5 years. About 75% of patients presented palpable lymph nodes and most of them were at level 11(72%). Pyrifromfossa is the commonest site (84%). In this study all the malignancy was histologically squamous cell carcinoma. Maximum patient presented at advanced stage (stage I and stage III).

Conclusions: Carcinoma of hypopharynx affects more at advanced age. Due to indolent nature of the disease, it is usually present at advanced stage. So, care should be taken early diagnosis of Hypopharyngeal carcinoma.

Keywords: Hypopharyngeal carcinoma, smoking, socio-demographic variable

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Introduction

IHypopharynx is the upper part of aerodigestive tract. It is the common conduit for both swallowing and respiration. It is located posterior to the cartilaginous structure of larynx. It is wide superiorly and progressively narrow towards the level of cricopharyngeal muscle. Hypopharynx is a continuous area. The oropharynx is above it and the cervical esophagus is below it. The Hypopharynx is extended from the hyoid bone to the cricoid cartilage and further subdivided into the region of the pyrifrom sinus, pharyngeal wall and post-cricoid area.

Carcinoma of Hypo pharynx is relative rare indolent and silent in nature and usually present at advanced stage. It commonly affects the male in their fifth or sixth decades[1]. The male to female ratio is overwhelmingly unfavorable for males2. Indian subcontinent has almost highest rate of hypopharyngeal carcinoma3. Among three subsites of Hypopharynx carcinoma of pyriform fossa is the most common (85%) than carcinoma of posterior pharyngeal wall (10-15%), and carcinoma of post cricoid contributes only 5%. Pos-cricoid carcinoma commonly affects the female[4]. Hypopharyngel carcinoma is commonly spread through submucosal invasion and local lymph node. Distant metastasis is rare. Most organoid growth patterns do not present any nodal metastasis. They can be regarded as manifestation of low-grade malignancy. The least organoid or nonorganoid growth pattern shows higher level of nodal metastasis. So structural grading can be a guideline for better management if terms of choice of surgical treatment[5]. Different risk factors are encountered to develop Hypopharyngeal carcinoma. HPC is strongly associated with smoking and alcohol consumption[6]. Other risk factors include low consumption of fruits and vegetables, poor oral hygiene, deficient dental status and exposure to wide variety of occupational agent[7]. Other study indicates link of plummer- Vinson syndrome and other deficiency condition (e.g. iron deficiency anemia, vit-A deficiency) to HPC in woman[8]. Smoking with drinking was multiplicatively greater than those for smoking or drinking in combined cases of Hypopharyngeal carcinoma and esophageal carcinoma[9]. Smoking tobacco and chewing betel nuts and tobacco leaves have got relation in causation of pharyngeal malignancy. Lower standard of living, low income and overcrowding, poor dental hygiene are the risk factors in development pharyngeal malignancy possibly by lowering the level of body immunity or due to chronic irritation. Spicy and hot food contributes to the development of pharyngeal malignancy10. Genetic predisposition is also risk factors for Hypopharyngeal carcinoma11. Premalignant conditions including acanthosis, basal cell hyperplasia, intra epithelial neoplasia, chronic esophagitis, koilocytosis papillimatosis are also risk factors for Hypopharyngeal carcinoma12. Chance survival decreases with increasing tumor size, much more however it will be affected by neck node metastasis. Main cause of death is lymph node relapse13. Performance status is the only significant predictor of survival, other host factor (age, sex) and all tumor factors (TNM staging distant metastasis, stage group histological grade of tumor are not significant14.

Materials and Methods

This was a Cross sectional, descriptive type of observational study conducted at department of Otolaryngology and Head & Neck surgery. Bangladesh Medical University, With the duration of 1 year from 1st March 2023 to 28 February 2024. Patients with hypopharyngeal carcinoma, admitted in the department of Otolaryngology Head& Neck surgery. Bangladesh Medical University. Study was carried out with a sample size of 40.

Selection Criteria:

Inclusion criteria: All patients with clinical presentation of hypopharyngeal carcinoma and histologically proved thereafter.

Exclusion criteria: Patients with hypopharyngeal carcinoma who were diagnosed previously and were treated with chemotherapy, radiotherapy or surgical intervention, severely ill patients not fit for clinical evaluation.

Results and Observation

A descriptive, cross sectional study was carried out with a sample size of 40 to find out the pattern of clinical presentation of hypophayngeal carcinoma. The findings of the study were as follows:

Tablel. 1 Age distribution of the patients

Age in years	Frequency	Percentage
30-40	7	17.5
41-50	8	20
51-60	15	37.5
61-70	10	25
Total	40	100

Table 2.0 Sex distribution of the patients

Sex	Frequency	Percent
Male	33	82.5
Female	7	17.5
Total	40	100.0

Table 3.0 Socioeconomic conditions of the patient.

Socioeconomicstatus	Frequency	Percentage
LowerClass	27	67.5
MiddleClass	10	25
UpperClass	3	7.5
Total	40	100.0

Table 4.0 Distribution of the patient by educational qualification:

Educational qualification	Frequency	Percentage
Illiterate	15	37.5
Primarylevel	12	30
Secondarylevel	6	15
HighersecondaryLevel	4	10
Graduateandabove	3	7.5

Table 5.0 Personal habit of the patients

Personalhabit	Frequency	Percentage
Smoking	33	82.5
Chewingofbetelnut	29	72.5
Alcoholconsumption	3	7.5

Regarding personal habit 82.5% respondents had history of smoking 72.5% respondents had history of betel nutchewing and 7.5%respondents had history of alcohol consumption.

Table 6.0: Distribution of the patient by duration of smoking Duration of cigarette Frequency smoking (years)

Duration of cigarette Frequency smoking	(years)	Percentage
Nosmoking	7	17.5
Upto10	3	7.5
11-20	7	17.5
21-30	11	27.5
31–above	12	30.5

Table 7.0 Residential status of the patients.

Residence	Frequency	percentage
Rural	29	72.5
Urban	11	27.5.0
Total	40	100.0

Table 8.0 Occupation of the patients:

Occupations	Frequency	Percentage
Farmer	17	42.5
DayLaborer	5	12.5
HouseholdWorker	4	10.0
Rikswapuller	2	5.0
Businessman'	6	15.0
Teacher	4	10.0
others	2	5.0
Total	40	100.0

Table 9.0 Distribution of the patient by clinical presentation

Clinical presentation	Frequency	Percentage	Mean Duration (weeks)
Dysphagia	37	92.5	17.32
Pain	35	87.5	11.05
Hoarsenessof	8	20	11.45
voice	5	12.5	13.4
Haemoptysis	30	75	7.67
Neckmass	29	72.5	8.56
Weightloss	35	87.5	
Anaemia			

Table 10.0 Distribution, of the patient by subsites of hypopharyngearcarcinoma

Subsite	Frequency	Percentage
Performfosse	33	82.5
Posteriorpharyngeal	5	12.5
Wall		
Postcricoidregion	2	5
Total	40100	

Table 11.0 Distribution of the patient by involved neck node level.

Lymphnode level	Frequency	Percentage
Nonode	7	17.5
Level1	29	72.5
Level3	4	10
Total	40	

Table 12.0. Histopathological grading: Histopathological-grading of tumor

Histopathological grading of tumor	Frequency	Percentage
Welldifferentiated	7	17.5
Moderatedifferent	29	72.5
Undifferentiated	4	10
Total	40	100.0

Table 13.0. stage of disease atthetime of presentation:

Stageofdisease	Frequency	Percentage
StageI	5	12.5
StageII	7	17.5
StageIII	21	52.5
Stage IV	7	17.5
Total	40	100

Discussion

This descriptive cross sectional study comprises of 40

patients over a period of 1 Year ranging from March 2019 to February 2020 to observe pattern of clinical presentation of hypo pharyngeal carcinoma. Sample size was 40. In this study the hypopharyngeal carcinoma was mostly seen in the age group of fifth and sixth decade of life. This isconsistentwiththefindingofAEUzcudnetalwhofoundthat'popharyngealcarcinomamostoftenaffectintheir fifth and sixth decade of life with a consistently reported pick incidence at the age of 50-60 years.

Inthisstudythesexdistributionrevealedthatmalewashighlypredominanttodevelophypopharyngealcarcinoma and the male to female ratio was about 5:1. AE uzcudn et al also found similar ratio and opined that in hypopharyngear carcinoma the male to female ratio is overwhelmingly unfavorable for men.

In this study we also found people 'with lower education were affected by hypopharyngeal carcinoma out of 40 respondents37.5%wereilliterateand30%hadprimary levereducation. Only7.5%were graduateorhavinghighereducation.

Lowerincomewasalsoassociatedwithhypopharyngealcarcinoma.Halfofthesubjects inthisstudyearnlessthan taka five thousand monthly. Rahman MZ in a Bangladeshi series explained that rower standard of living, Lower income, overcrowding? Poor dental hygiene are risk factors in developing of hypo pharyngeal carcinoma.

Inthisstudy82.5%0fthesubjecthadhistoryofsmoking.Meandurationofsmokingwas13years.Andmeannumber of smoking was 14 per day. So smoking was significantly associatedhyopopharyngear carcinoma.

($p<0.05$) Rahman MZ et at found smoking tobacco leaves and betel nuts have got relation in the causation of hypo pharyngealcarcinoma.Takezakishowedthathypopharyngealcarcinomawasmultiplicativelyinpersonhadahistory of smoking with drinking than those for smoking or drinking. In this series only 7.5% subjects were alcoholic.

In this study pyriformfossa was the commonestsite (82.5%). of hypopharyngealcarcinoma, postcricoidsregion (5%) and posterior pharyngeal wail (12.5%) were comparatively less in number.

About 75% patient presented with palpable lymph node. Most of them (82.5%) were at level II and level III. In this study retropharyngeal lymph node and mediastinal lymph nodes were not evaluated. There was no distant metastasis. Murakamietalfoundhypopharyngealcarcinomaspreadsthroughsubmucosalinvasionandlocallymph node. Distant metastasis was rare.

In present study histological type of hypopharyngeal carcinoma was squamous cell carcinoma in all cases. Of them 17.5% well differentiated carcinoma, 72.5% moderately differentiated carcinoma 10% poorly differentiatedcarcinoma.

Mostofthecasepresentedinadvancedstage. Only30%casepresentedinstageIand stageIIinthisstudy. Onthe otherhand70%casepresentedinstageIIIandstageIV.Steineretalinastudyfoundalmostsimilarpercent(71.4%) of patient presented in advanced stage.

Conclusions

Hypopharyngealcarcinomaisbeinga major ENT problemdaybyday. Notreatmentisavailableyetwithsatisfactory outcome. Smoking was significantly associated hyopopharyngearcarcinoma.Person with lower socioeconomic statusaremostcommonlysusceptibletodevelophypopharyngealcarcinoma. pyriformfossaisthecommonestsiteofaffectioninhypopharyngealcarcinoma. Itcanalsoconcludethatmostofcasespresentedatadvancedstagewith regional lymph node metastasis. Distant metastasis is rare in hypopharyngeal carcinoma. So earlier diagnosis is imperative in case of hypopharyngeal carcinoma and hypopharyngeal carcinoma should be suspected if a male patient present aged between 40-60 years present with dysphagia, neck node and history of smoking.

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