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Frequency of human papilloma virus in Oropharyngeal Carcinoma at tertiary level Hospital in Bangladesh

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Abstract

Background: The incidence of oropharyngeal carcinoma has been increasing in many parts of the world. The potential etiologic role of human papillomavirus (HPV) infection in head and neck squamous cell carcinomas has been recognized for more than 3 decades.

Aim: To assess the frequency of human papilloma virus in oropharyngeal carcinoma

Methodology: This cross-sectional study has been conducted in a tertiary level hospital at the Department of Otolaryngology-Head & Neck Surgery, BSMMU, Dhaka, Bangladesh. 20 cases of oropharyngeal carcinoma enrolled as a sample in this study. PCR has performed to detect HPV DNA of those cases who were histologically proven oropharyngeal carcinoma. The results were expressed as percentage and p value <0.05 will be considered as the level of significant.

Result: Total 20 patients were studied in this period. But no patient found positive for HPV.

Keywords: Human papilloma virus (HPV), Oropharynx, Bangabandhu Sheikh Mujib Medical University (BSMMU).

Introductions

Head and neck cancer (HNC) is the sixth most common cancer worldwide. Mortality rates are high, with more than 200000 deaths occurs due to this disease annually [1]. Smoked and smokeless tobacco and alcohol use are associated with increased use of developing malignancy of the oral cavity and oropharynx [2]. The incidence of tobacco associated carcinoma significantly decline from 1973 to 2004 [3]. Most likely a result from efficient tobacco prevention programs, the incidence of HPV positive oropharyngeal carcinoma clearly increased during the same period [4]. The incidence of HPV related Oral and oropharyngeal cancer (OPSCC) varies greatly worldwide. Frequency of HPV positive Oral and oropharyngeal cancer (OPSCC) 80% in north America [4], 40-50% in Western/south Europe [5] and less than 10% in certain region of Spain [6].

Frequency of OPSCC in Eastern india is 33.6%, south india 48%, West india 15%, central india 27.5% and North east india 28%. HPV positive HNSCC appears distinct from the HPV negative HNSCC in multiple clinical presentations. Majority of patient HPV associated HNSCC being young and male. Patient with HPV associated HNSCC have an improved prognosis [7, 9]. HPV associated OPSCC is associated with a 28% reduced risk of dying and 49% reduced risk of local regional recurrence [10].

Method

This observational prospective cross-sectional study was done from august 2018 to April 2019 in dept of otolaryngology and head neck surgery, BSMMU to study frequency of human papilloma virus in oropharyngeal carcinoma. 20 cases of oropharyngeal carcinoma were taken as a study sample. PCR were performed to detect HPV DNA of those cases who were histologically proven for oropharyngeal carcinoma. All the data were compiled and sorted properly, and the numerical data were analyzed statistically.

Confidentiality and consent were maintained throughout the study. Ethical clearance and certificate were issued by member secretary IRB, BSMMU for the study on 30.06.2019.

Results

Within the period total 20 patient who attended and admitted to otolaryngology ward of BSMMU.

Table 1: Distribution of total oropharyngeal cases

Age, years	Male	Female
< 50	2 (10%)	1(5%)
50-59	5(25%)	3(15%)
60-69	3(15%)	2(10%)
> 70	3(15%)	1(5%)
Total	13(65%)	7(35%)

Table 2: Distribution of cases according to the site involvement

Tumour location	HPV positive	HPV negative
Base of the tongue	00	07 (35%)
Tonsil	00	13(65%)
Soft palate	00	00
Total	00	20 (100%)

Total 20 cases were admitted during this time period. Age distribution were 45 to 75 years.

Male patients were more than female.65% of male and 35% female patients were attended during this period. Maximum patients were within 50 -59 years.

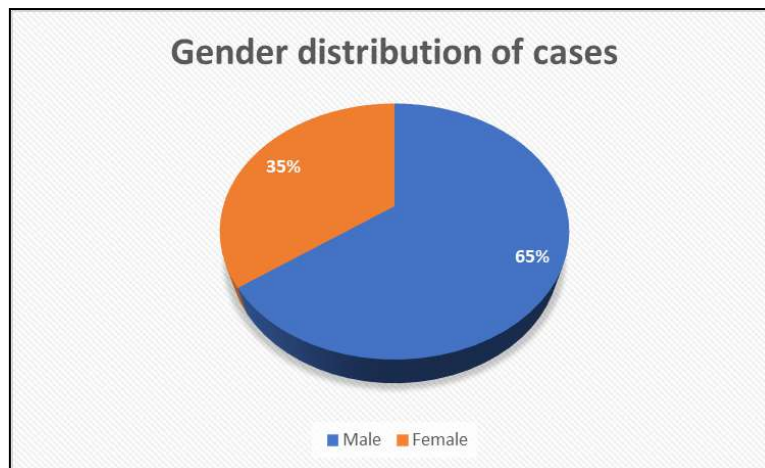


Fig 1: Gender distribution of HPV negative cases

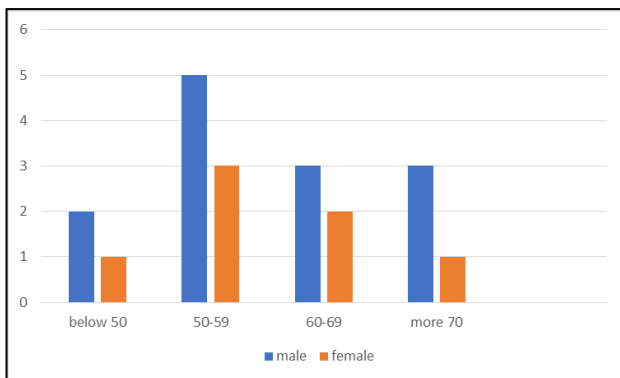


Fig-2: Distribution of cases according to the ages

No cases found HPV positive among these 20 cases. Maximum cases were the tonsillar carcinoma (65%) but there was no soft palate carcinoma involvement.

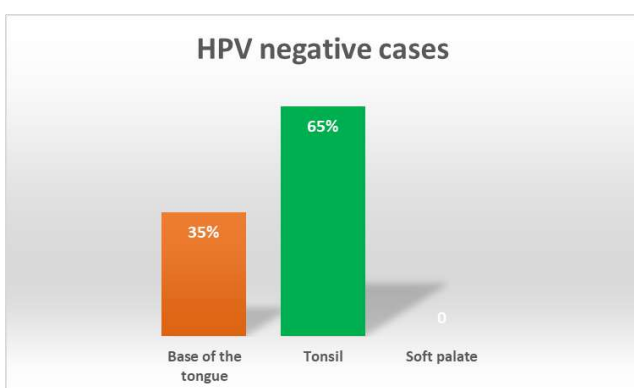


Fig 3: Distribution of oropharyngeal carcinoma (HPV negative cases)

Discussion: HPV prevalence in oropharyngeal carcinoma is considered uncertain and small number of patients found positive for HPV in South East Asia.

Frequency of HPV in oropharyngeal carcinoma at tertiary level hospital, BSMMU was found 100% negative in all cases (n=20) (Table-2).

In this study all cases were search for the HPV positive cases in oropharyngeal carcinoma. Soft palate carcinoma was nil (0%) among these cases and tonsil (65%) were more frequently involved cases (Table -2). Base of tongue were less frequently involved cases of this study (Fig-3). Murthy *et al.* [3] found similar findings in their study.

Conclusions

This study shows frequency of HPV positive cases at BSMMU, Bangladesh was nil which reflects the scenario of Bangladesh. This study only detects HPV positive or negative cases of oropharyngeal carcinoma. This study may help in further study of oropharyngeal carcinoma in other aspect in Bangladesh.

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