

Head and Neck Squamous Cell Carcinoma – A Three Years Experience at Bahawal Victoria Hospital, Bahawalpur

Head and Neck Squamous Cell Carcinoma

Raees Abbas Lail¹, Farwa Batool Shamsi², Sadaf Shafique³, Munazza Hassan¹, Qurrat-ul-Ain Tahir¹ and Nadia Naseem⁴

ABSTRACT

Objective: The aim of this study was to determine the frequency and incidence of head and neck squamous cell carcinoma (HNSCC) in reference to site of lesion reported at Bahawal Victoria Hospital, Southern Punjab, Pakistan.

Study Design: Descriptive cross sectional study.

Place and Duration of Study: This study was conducted at the Quaid-e-Azam Medical College/ Bahawal Victoria Hospital, Bahawalpur from January 2015 till December 2017.

Materials and Methods: It included 126 cases of head and neck squamous cell carcinoma proven by histopathology. Data was retrospectively accessed from the record of Pathology Department. The data was analyzed with help of SPSS version 20.

Results: Mean age of patients was 55.27 ± 7.29 years, median age was fifty years. Smoking history was affirmative in 74.32% of patients. Male to female ratio was found to be 1.5:1. Pharynx (49 patients), larynx (43 patients), oral cavity & tongue (24 patients), esophagus (8 patients) and skin (2 patients) were the most common sites involved by squamous cell carcinoma in descending order of frequency. Majority of these neoplasms were categorized as well-differentiated squamous cell carcinomas (n=71, 56.34%).

Conclusion: Peak incidence of Squamous cell carcinoma of head and neck region is in the sixth decade of life and is less prevalent in females in comparison to males. Oropharyngeal region turned out to be the most frequent site which was affected by head and neck squamous cell carcinoma followed by larynx.

Key Words: Head and Neck Squamous Cell Carcinoma, Oral Cancer, Larynx Cancer, Pharynx Cancer.

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INTRODUCTION

Head and neck (HN) tumors are the sixth commonest occurring tumors. Squamous cell carcinoma from head and neck region is found to account for almost 80% of the malignancies of head and neck region.

According to record of Cancer Registry and Clinical Data Management Unit at Shoukat Khanum Memorial Cancer Hospital and Research Center, Lahore HNSCC

¹. Department of Pathology, Sahiwal Medical College, Sahiwal.

². Department of Pathology, Faisalabad Medical University, Faisalabad.

³. Department of Pathology, Quaid-e-Azam Medical College, Bahawalpur.

⁴. Department of Morbid Anatomy & Histopathology, University of Health Sciences, Lahore.

Correspondence: Dr. Raees Abbas Lail, Assistant Professor of Pathology, Sahiwal Medical College, Sahiwal.

Contact No: 0300 783 4400

Email: raeesabbas@gmail.com

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(head and neck squamous cell carcinoma) is a global concern but more so in the local population of Pakistan, where it is the second most common malignancy. Every year almost 550,000 new cases of HNSCC are registered and it accounts for 380,000 deaths across the globe. There is a male preponderance of the malignancy with male to female ratio of 2:1 to as high as 4:1.² Incidence of Head & Neck SCC among males exceeds twenty cases per 100,000 in Europe, Indian Subcontinent, in African Americans residing in United States and Brazil.³ Squamous cell carcinoma (SCC) of tongue and mouth are frequently observed in Indian subcontinent due to smoking and excessive use of tobacco chewing.³ Recurrent exposure to carcinogens is supposed to be the major cause of HNSCC.

Cases of HNSCC have been reported to have 6 to 10 mutations in genetic code. Alcohol and tobacco are very strong risk factors⁴ whereas bad oral hygiene is also linked to the occurrence of head and neck cancer⁸. Stronger role of HPV is increasingly highlighted in tumors from oro-pharynx in men compared to women in developed countries.⁴ Prognosis of HNSCC depends on clinical stage of the disease, regional lymph node involvement and certain specific histopathological features⁵. Patients with head and neck SCC (squamous cell carcinoma) usually come to attention at later stage

due to multitude of symptoms mimicking benign conditions.⁶

Due to absence of correct data based on epidemiology regarding cancer requires a serious effort to establish cancer data profiles in Pakistan. The most important step required is to lay foundation of National Cancer Registry of Pakistan in order to assess and accurately monitor progression or regression of cancer cases site wise at national level, so that policy makers may direct funds for required appropriate national action against cancer⁷.

MATERIALS AND METHODS

It is a descriptive cross-sectional investigation carried out at Quaid-e-Azam Medical College/Bahawal Victoria Hospital, Bahawalpur. After taking approval from institutional ethical review committee, data of HNSCC patients was accessed retrospectively from the record of Pathology Department. A total of 126 cases of head and neck SCC (squamous cell carcinoma) proven by histopathology from January 2015 till December 2017 were retrieved. The data was analyzed using SPSS version 20. Age, smoking history, male to female ratio and site of occurrence of SCC was ascertained in head and neck region. Frequencies and percentages were calculated.

RESULTS

The mean age of cases was 55.27 ± 7.29 years; the median age was fifty years. Smoking history was affirmative in 74.32% of patients. Male to female ratio was found to be 1.5:1. Pharynx (49 patients), larynx (43 patients), oral cavity & tongue (24 patients), esophagus (8 patients) and skin (2 patients) were the most common sites involved by squamous cell carcinoma in descending order of frequency. The details of anatomical regions involved by HNSCC are given in Table. Majority of the neoplasms were categorized as well-differentiated squamous cell carcinomas ($n=71$, 56.34%).

Table No.1: Anatomical region involved by Squamous cell carcinoma

Anatomical Site	Number of Cases (n)	Percentage (%)
Pharynx	49	38.88%
Larynx	43	34.12%
Oral cavity & tongue	24	19.04%
Oesophagus	08	6.34%
Skin	02	1.58%
Total Cases of HNSCC = 126(100%)		

DISCUSSION

Head and neck cancers are not very common in countries where tobacco use is high.⁹ Pakistan is the

second largest consumer of the smokeless tobacco products, a triggering factor for oral cancer.¹³ Retrospective study of 126 histologically diagnosed HNSCC cases showed, the mean age of patients was 55.27 ± 7.29 years. A study from Uganda showed mean age 57.7 years, and 80% of the cases presented at a late stage⁷. Studies from Yemen and Sudan had mean ages of 51.3 and 48.78 years.^{9,11}

History of smoking and use of tobacco was present in 74% of patients. Alcohol and tobacco are the known risk factors for cancers of oral cavity and oropharynx⁷. Smoking, is linked with an increasing risk of HNSCC, especially SCC of oropharynx.¹²

Patients of HNSCC were more males, and ratio of males to females was 1.5:1, in this study. Male predominance has also been reported in many studies from developed as well as developing countries.¹³ In a recent study in United States of America, prevalence of human papilloma virus was markedly high in men in comparison to women, a risk factor for SCC.⁴ Similarly prevalence of smoking and smokeless tobacco use was more in males, according to a study conducted in Karachi.⁹

Data of the present study conducted at tertiary care hospital Bahawalpur indicates that majority of the patients of HNSCC had oropharyngeal tumors (58%) with involvement of pharynx in 43 cases while 24 cases had an oral cavity tumor. Larynx was the next frequent site of involvement (34%) followed by oesophagus (6.3%) and skin (1.6%). Nabukenya et al. reported pharynx as the highest involved site (37.3%), followed by the oral cavity (17.6%) and the larynx (17.6%) in the patients of HNSCC.¹⁰ Another study showed that primary site of lesion in males is larynx and in females is oral cavity.¹ A similar study conducted previously in this region also showed larynx to be the most frequent single primary site for HNSCC¹⁵.

More than half (56%) cases of HNSCC were well differentiated on histopathology in this study. Similar results were found in the previous study with 51% cases of well differentiated type¹⁵. The majority of patients had moderately-differentiated tumors in a study done in Puerto Ricans¹⁴.

Pakistan is high risk area for occurrence of tumors of head and neck region. As of latest statistical estimates, oral cavity and lip cancer is most common cancer in males in Pakistan and second most common cancer in females¹⁶⁻¹⁹. In the absence of national tumor registry, accurate statistical data is not available which is needed for improved primary prevention, diagnostic and treatment facilities.

CONCLUSION

Squamous cell carcinoma (SCC) of head and neck region has peak incidence in life's sixth decade. It is more common in males in comparison to females.

Oropharyngeal region is the most frequently affected site in head and neck SCC followed by larynx.

Author's Contribution:

Concept & Design of Study: Raees Abbas Lail
 Drafting: Munazza Hassan
 Data Analysis: Farwa Batool Shamsi,
 Sadaf Shafique
 Revisiting Critically: Qurrat-ul-Ain Tahir
 Final Approval of version: Nadia Naseem

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

- Xin Liu, Xiao-lei Gao, Xin-hua Liang, Ya-ling Tang. The etiologic spectrum of head and neck squamous cell carcinoma in young. *Oncotarget* 2016;47(40):66226–66238.
- Fitzmaurice C, Allen C, Barber RM., Barregard L, Bhutta ZA, Brenner H, et al. Global, regional, and national cancer incidence, mortality, years of life lost, years lived with disability, and disability-adjusted life-years for 32 cancer groups, 1990 to 2015: a systematic analysis for the global burden of disease study. *JAMA Oncol* 2017;3(4):524-548.
- Xin Liu, Xiao-lei Gao, Xin-hua Liang, Ya-ling Tang. The etiologic spectrum of head and neck squamous cell carcinoma in young. *Oncotarget* 2016;47(40):66226–66238.
- Bray F, Ren JS, Masuyer E, Ferlay J. Global estimates of cancer prevalence for 27 sites in the adult population in 2008. *Int J Cancer* 2013; 132(5): 1133-1145.
- Lambert R, Sauvaget C, de Camargo Cancela M, Sankaranarayanan R. Epidemiology of cancer from the oral cavity and oropharynx. *Eur J Gastroenterol & Hepatol* 2011; 23(8):633-641.
- Balmain A, Barrett JC, Moses H, Renan M.J. How many mutations are required for tumorigenesis? Implications from human cancer data. *Molecular Carcinogenesis* 1993; 7(3): 139-146.
- Chaturvedi AK, Anderson WF, Lortet-Tieulent J, Curado MP, Ferlay J, Franceschi S, et al. Worldwide trends in incidence rates for oral cavity and oropharyngeal cancers. *J Clin Oncol* 2013;31(36): 4550-9.
- Guha N, Boffetta P, Wünsch Filho V, Eluf Neto J, Shangina O, Zaridze D, et al. Oral health and risk of squamous cell carcinoma of the head and neck and esophagus: results of two multicentric case-control studies. *Am J Epidemiol* 2007;166(10):1159-73.
- Taghavi N, Yazdi I. Prognostic factors of survival rate in oral squamous cell carcinoma: Clinical, histologic, genetic and molecular concepts. *Arch Iran Med* 2015;18(5): 314 – 319.
- Nabukenya J, Hadlock TA, Arubaku W. Head and Neck Squamous Cell Carcinoma in Western Uganda: Disease of Uncertainty and Poor Prognosis. *OTO Open* 2018; 2(1): 2473974X18761868.
- Cheong SC, Vatanasapt P, Yi-Hsin Y, Zain RB, Kerr AR, Johnson NW. Oral cancer in South East Asia: Current status and future directions. *Translational Research in Oral Oncol* 2017; 2: 2057178X17702921.
- Abdul-Hamid G, Saeed NM, Al-Kahiry W, Shukry S. Pattern of head and neck cancer in Yemen. *Gulf J Oncol* 2010; 1:21-24.
- Niaz K, Maqbool F, Khan F, Bahadar H, Hassan FI, Abdollahi M. Smokeless tobacco (paan and gutkha) consumption, prevalence, and contribution to oral cancer. *Epidemiol Health* 2017;30 e2017009.
- Abuidris DO, Eltayeb EA, Elgayli EM, El Mustafa OM. Pattern of head and neck malignancies in Central Sudan (study of 314 cases). *Sudan J Med Sci* 2008;3:105-09.
- Almodovar J, Pérez SI, Arruza M, Morell CA, Báez A. Epidemiology of head and neck squamous cell carcinoma in Puerto Ricans. *P R Health Sci J* 1996;15(4):251-5.
- Aupérin A, Hill C. Epidemiology of head and neck carcinomas. *Cancer Radiother* 2005;9 (1):1-7.
- Busquets JM, García HA, Trinidad-Pinedo J, Baez A. Clinicopathologic characteristics of head and neck squamous cell carcinoma in Puerto Ricans. *P R Health Sci J* 2003;22(3):259-64.
- Chaudhary MH, Shabbir S, Sams-ul-Alam M, Ehsan Ullah, Usman K. Head and neck Squamous Cell Carcinoma-- A 5-year experience at a tertiary care hospital in Bahawalpur. *Rawal Med J* 2013; 38(4):341-44
- Pakistan fact sheet GLOBOCAN 2018. May 2019. <http://gco.iarc.fr/today/data/factsheets/populations/586-pakistan-fact-sheets.pdf>