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DEMOGRAPHIC AND CLINICO-PATHOLOGICAL PROFILE OF HEAD AND NECK CANCER; HOSPITAL BASED STUDY

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ABSTRACT Head and neck cancer is sixth most common cancer in world. In India head and neck cancer are one of the most common cancer. It accounts 20% of the cancer burden in India. The major risk factors are tobacco chewing, smoking, alcohol consumption. The aim of the study was to evaluate retrospectively demographics, histopathological and clinical profile of patients of head and neck cancer. Age wise distribution shows majority of the patients were reported in age group 51 to 60 years. Males were 432 (85.3%) and females were 74(14.6%) with male:female ratio 5.8:1.Majority of patients were hindu 86.1% followed by muslim 13.8%.Most of the patients were addicted to tobacco chewing alone 63%, with smoking in 10%.Smoking alone in 16.2% and not associated with any addiction in 24.7% patients. Both hypertension and Diabetes (2.3%)were the major co-morbidities associated with our patients. Most common site were oral cavity 312 (61.6%) followed by oropharynx 84(16.6%),larynx 62(12.2%), hypopharynx 24(4.7%) ,nasopharynx 11(2.2%),nasal cavity and maxilla 7(1.4%), Salivary gland 5(0.9%),metastatic cervical lymph node with unknown primary1(0.1%). Majorities of the patients were Stage1VA(54.7%),Stage 111(26.4%).Stage 11(14.2%),Stage1 (2.5%), Stage1VB (1.9%). Histopathology showed majorities of patients were of squamous cell carcinoma 494(97.6%). This study showed that head and neck carcinoma is wide spread in this region and majority was reported at advanced stage of the disease. Male and hindu population shows predominance of the disease. Almost 97% cases are squamous cell carcinoma. Tobacco chewing was reported in maximum cases. Early detection of disease can decrease the morbidity and mortality associated with head and neck cancer and improve treatment outcomes.

KEYWORDS : Mortality, Squamous Cell Carcinoma,tobacco, Smoking, Morbidity

INTRODUCTION

Head and neck cancer are sixth most common cancer in world(Parkin DM et al 1984) .In India it is the most common cancer and accounting 20% cancer in India.. This is major public health problem. Oral cancers are predominant forms of head and neck squamous cell cancer (HNSCC) in India and Southeast Asian countries; oropharyngeal and tongue cancers are common in the Western world (Bhurgri Yet al 2006). These differences in site of disease may be due to relative distribution of major risk factors(Sankaranarayanan et al 1998). Head and neck cancer comprise of oral cavity including lips, pharynx, larynx, nasal cavity and paranasal sinuses and salivary glands. Head and neck cancer have a multiple etiology (Warnakulasuriya S;2009). The consumption of tobacco in form of tobacco chewing(khaini), smoking, alcohol ,betel quid (paan) are major preventable risk factor. Betel quid consists of areca nut, betel leaf, catechu, and slaked lime(Warnakulasuriya S et al 2002) Areca nut alone is a confirmed carcinogen and associated with a premalignant condition called oral submucous fibrosis (OSMF) and oral cancer(Gupta PCet al;1998) . It is a chronic, debilitating disease of the aerodigestive tract owing to irreversible fibroelastic changes in the lamina propria which leads to trismus,known as submucous fibrosis.In India alone 0.5% of the population of India have OSMF .

Tobacco consumption in India is growing at a rate of 2%–3% per annum, by 2020 it will account for13% of death in the country (Jandoo et al2008,Siddiqui MS;2012). Less intake of fruits and vegetables are also associated with head and neck cancer(Chung et al 2012).Diet rich in red meat and fats leads to higher risk(Edefonti et al ;2012). Recently head and neck cancer have been proposed to have viral etiology like human papilloma virus(Elango et al;2011,Rautava et al;2012),Epstein barr virus.The overall prevalence of HPV in head and neck cancer is around 50%,27(Cruz IB et al;1996).Majority are associated with cancers of the oropharynx. .28(. Gillison ML;2004,Saba et al;2011). In Western country this rise in HPV-related cancers has been mainly due to the change in sexual practices. These patients are younger,nonsmoker, have bulky nodes, equal gender distribution, and have better survival.(Haraf DJ et al;1996,Sisk EA et al;2002,Strome SE et al;2002) .

HPV-16 is the most common type, being present in 30.9% of oropharyngeal carcinomas, 16% of oral cancers, and 16.6% of laryngeal cancers. Prevalence of HPV in oral cancers is similar in Europe (16%) and North America (16.1%), but greater in Asia (33%) (Kreimer AR et al ;2005). There is chromosomal deletion and other alteration in chromosomes 3p, 9p,17p,13q and mutation in tumour suppressor genes likes p53(Cadoni et al;2012). The prevalence of the p53 mutation is common in Europe and USA but rare in India. Overexpression of p53 in the magin of tumour is a predictor of clinical outcome(Jalali et al;2011).

The mean age of patients at presentation of head and neck cancers is the fifth and early sixth decades in Asian populations compared with the seventh and eighth decades in the North American population (Chhetri DK et al;2000, Diaz EM et al 2003, Lin Cs et al ;2006, Sieczka E et al;2001, Strome SE;1999). Globally incidence of head and neck cancer is higher in males compare to female. India has highest rate of head and neck cancer in females(Sankaranarayanan et al ;1998). In India, nearly two-thirds of patients present with advanced stages(Agarwal AK;2011, Patel UA et al;2006).

This study was planned to study the demographic, histopathological and clinical profile of patients of head and neck cancer retrospectively in our hospital.

MATERIALS AND METHODS

This is retrospective non randomized study .Total 506 patients histological confirmed diagnosis of head and neck cancer either primary or postoperative cases receiving radiotherapy with or without chemotherapy were included in study during periods of January 2015 to January 2017. This study was done in department of Radiation oncology of the Mahavir Cancer Sansthan Patna, which was approved by their ethical committee. Data was collected from the detailed case history performa of these patients. Data related to age, sex, addiction.site, TNM staging and final diagnosis based on histopathological report.

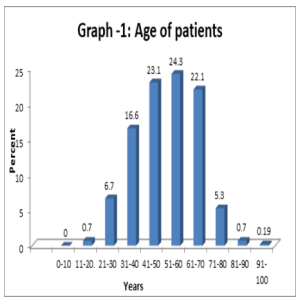
RESULTS

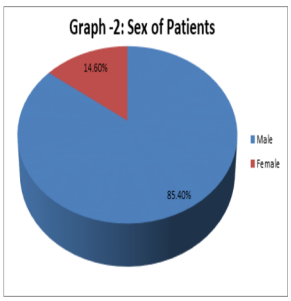
Total of 506 patients histologically confirmed of head and neck cancer from January2015 to January 2017 were analysed. Age wise

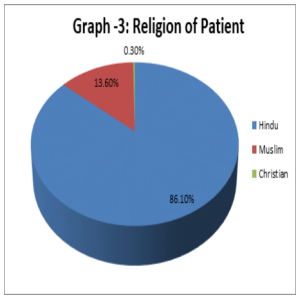
distribution shows majority of the patients were reported in age group of 51 to 60 years (Graph - 1). Males were 432 (85.3%) and females were 74(14.6%) with male:female ratio 5.8:1 (Graph - 2).Majority of patients were hindu 86.1% followed by muslim 13.8% (Graph - 3). Most of the patients were addicted to Tobacco chewing 63% alone, with smoking in 10% .Smoking alone in 16.2% ,alcohol in 11.4% and not associated with any addiction in 24.7% patients (Graph - 4). Both hypertension and Diabetes 12 patients(2.3%)were the major co-morbidities associated with our patients (Graph - 5).

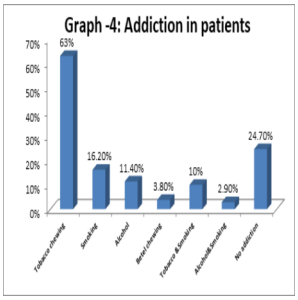
Most common site were oral cavity 312 (61.6%) followed by oropharynx 84(16.6%),larynx 62(12.2%), hypopharynx 24(4.7%) ,nasopharynx 11(2.2%),nasal cavity and maxilla 7(1.4%), Salivary gland 5(0.9%),metastatic cervical lymph node with unknown primary1(0.1%) (Graph - 6). Majorities of the patients were Stage 1VA -277 (54.7%),Stage 111 -134(26.4%).Stage 11-72(14.2%),Stage 1-13(2.5%),Stage1VB-10(1.9%) (Graph - 7).

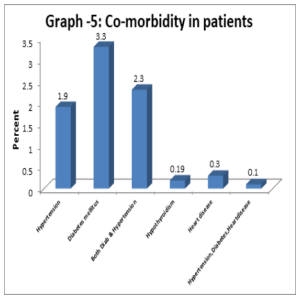
Histopathology showed majorities of patients were of squamous cell carcinoma 494(97.6%). Rest other types in 12(2%) patients have adenocarcinoma 0.3%,adenosquamous carcinoma 0.5%,adenoidcystic carcinoma 0.5%.,mucoepidermoid carcinoma 0.5% (Graph - 8).

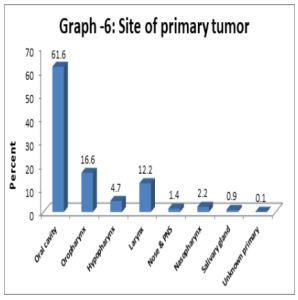


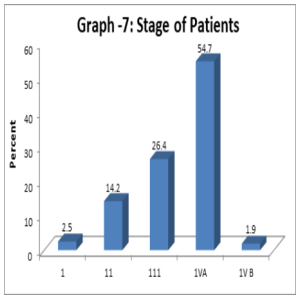


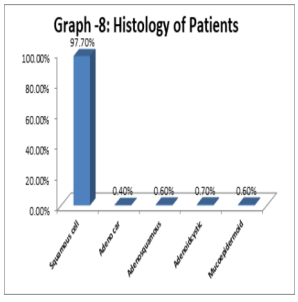












DISCUSSION

Age wise distribution shows majority of the patients were reported in age group of 51 to 60 years which corresponds with study of Gangane et al 2007 reported majority of patients with oral squamous cell carcinoma in age group of 50-59 years in there study. Males were 432 (85.3%) and females were 74(14.6%) with male:female ratio 5.8:1.The higher male preponderance in this region may be due to excess use of tobacco by males specially gutkha,pan masala which was rarely used by female.Male predominant were also observed by Nair et al 2012 and Chung et al 2005. Male to female ratio observed was higher than that of northeast india 2.9:1.(Abhinandan et al 2006) and northern india (Mehrotra et al 2005).

Majority of patients were hindu 86.1% followed by muslim 13.8%. Most of the patients 75.3% were addicted to tobacco chewing, smoking, alcohol and also not associated with any addiction in 24.7% patients. Tobacco is easily available in India, most commonly used as smokeless chewable khaini which is an oral preparation of tobacco and slaked lime for longer duration in buccal sulcus. This is risk factor for precancerous condition and oral cancer. Sanghvi observed that risk ratio for oral cancer were four fold in chewers, two fold in smoker, four fold in chewers and smokers both. Most common site were oral cavity 312 (61.6%) followed by oropharynx 84(16.6%),larynx 62(12.2%), hypopharynx 24(4.7%) ,nasopharynx 11(2.2%),nasal cavity and maxilla 7(1.4%), Salivary gland 5(0.9%),metastatic cervical lymph node with unknown primary1(0.1%).

According to Sanghvi et al,1989 India has highest incidence of oral cavity and oropharynx carcinoma. This could be due to tobacco chewing and in non addicted case might be related to human papilloma virus infection. Over all prevalence of human papilloma virus in head and neck cancer is 50%. Both hypertension and Diabetes 12 patients (2.3%) were the major co-morbidities associated with our patients. Diabetes mellitus is chronic disorder known to affect oral disease progression shown also by Ainamo et al 1990. In our study majorities of the patients were Stage 1VA -277 (54.7%),Stage 111 - 134(26.4%).Stage 11-72(14.2%),Stage 1-13(2.5%),Stage1VB-10(1.9%).This might may be due to poverty, illiteracy, ignorance. All leads to delay by the patients.In India 2/3rd cases presents in locally advanced stage Agrawal et al 2011 and Patel et al 2006.

CONCLUSION

It was concluded from study that majority of patients were reported in age group of 51 to 60 years, Males were 85.3% and females were14.6% with head of neck cancer. Most of the patients 75.3% were addicted to tobacco chewing, smoking, alcohol drinking. Most common site was oral cavity, oropharynx and larynx. Salivary gland carcinoma is least. Almost 84% cases were reported in advanced stage while only 2.5% cases are in stage I. it shows that addiction is major cause which affect people after completion of 5th decades of life. Male patients and hindu patients are predominant with head and neck cancer. So this require specific prevention programme, cessation of forms of tobacco use with life style modification and change in dietary habits. Therefore it needs early diagnosis which will improve treatment outcomes.

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