

An Analysis Of Risk Factors Associated With Head And Neck Cancer- A Hospital Based Cross Sectional Study

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I. Introduction:

The presence of Carcinoma in the head and neck region with the exception of brain and orbit is classified as head and neck cancer. Statistically it is the 6th most frequently occurring cancer. It is more common in men than women because of behavioural risk factors such as societal acceptance of nicotine and alcohol usage and acceptance. Over 60% of this group have an advanced form and over 60% die in another 5 years. While threatening the life of an afflicted person it also leads to speech disorders, facial abnormalities, social shunning, sensory deficits, communication issues and overall reduction in quality of life. The risk factors for oral cancer are abuse of alcohol, chewing tobacco, smoking, poverty and familial factors, predisposition to carcinoma, HPV (sexually transmitted) and neglected oral hygiene. This study was undertaken to examine the risk factors specifically alcohol and tobacco usage and their relation to one another and the increased risk with relation to the onset of carcinoma

II. Materials and Methods:

An observational study was conducted to assess etiological factors and treatment outcomes in patients with head and neck cancer. The patients who were registered at the Government Stanley Hospital for squamous cell cancer of the head and neck over a period of one year from May 2019 to May 2020 were contacted for details regarding addictions and other possible etiological factors and their response recorded. Details of treatment, response to therapy and current disease status of the patient were obtained. Response was recorded and the results analysed.

III. Results:

A total of 54 patients were analysed. Of these, 42 (78%) were male and 12 (32%) were female. Age of the patients ranged from 31 to 75 years with the highest incidence in 31-40 year age group (33.3%). The next highest incidence was in the 41-50 and the 51-60 age group (22% each) [Table 1]. The commonest site of cancer was the tongue (50%), followed by buccal mucosa (40%). Only 3% had malignancy of the lip and palate each and 1% in the floor of mouth. [Table 2]

In 91% of cases, malignancy was due to addiction to a carcinogen and in only 9% the etiology was sharp tooth or spicy food. 31 patients were addicted to more than one substance (57%) and 23 patients had a single etiology. Alcohol was the most common substance abuse by 18 patients (33%) followed by Hans (31%). Mawa and smoking were the next most common (24%) and 14% used areca nut 7% each were habituated to areca nut and snuff while 3% chewed tobacco quid. [Fig 1]

Of the 54 patients, 9 did not receive treatment due to logistical issues due to the Covid 19 pandemic and died of the disease. 29 patients received radiotherapy as single modality of therapy, while 3 received ChemoRT. Surgery was the only modality of treatment in 7 patients and 4 patients underwent salvage surgery after completion of radiotherapy for residual disease. Two patients had inoperable disease and received palliative chemotherapy.

Overall, 40 patients (74%) died within 2 years of diagnosis and 10 patients (18%) are alive and disease free. 4 patients (7%) were alive with the disease; 2 patients (3.7%) with distant metastases and 1 patient (1.8%) had local recurrence and 1 had nodal recurrence.

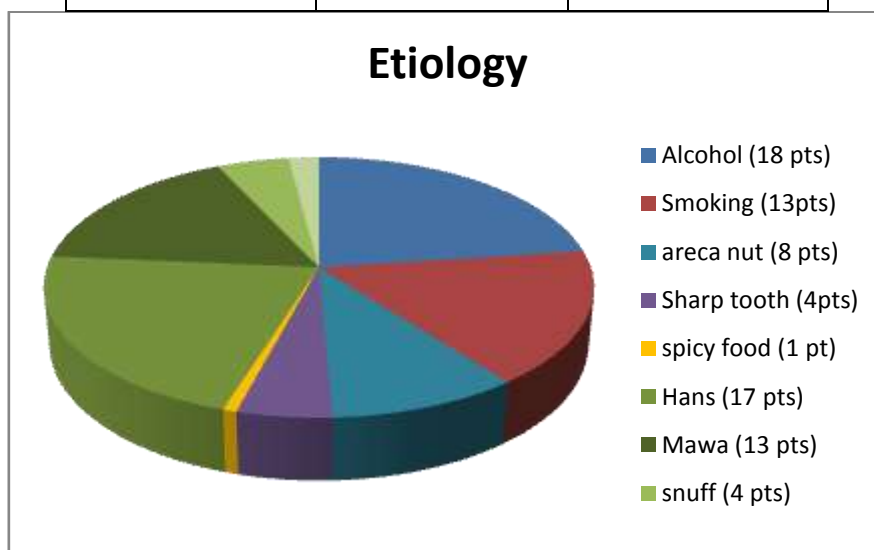
TABLE 1:

AGE DISTRIBUTION			
AGE (in years)	MALE	FEMALE	TOTAL
31-40	16	2	18
41-50	10	2	12
51-60	9	3	12
61-70	7	3	10
71-80	0	2	2
	42	12	54

TABLE 2:

SITE OF MALIGNANCY			
SUBSITE	NUMBER OF PATIENTS	PERCENTAGE	
Tongue	27	50%	
Buccal mucosa	22	40%	
Lip	2	3%	
Palate	2	3%	
Floor of mouth	1	1%	

FIG1:



IV. Discussion:

In India, around 77,000 new cases and 52,000 deaths are reported annually, which is approximately one-fourth of global incidences. The two most important etiological factors of oral cancer are tobacco and alcohol consumption. Tobacco consumption has been the predominant factor causing oral cancer. The continual use of tobacco in various forms such as gutka, zarda, mawa, kharra, khaini, cigarettes, bidi, hookah, etc. is a major cause of tumor development in the oral cavity. In India, the use of smokeless tobacco is an important cause of oral cancer. Meta analyses show that betel quid without tobacco increases the risk of oral cancer in non-smokers around three-and-a-half times, and in those who neither smoke nor drink by around 15 times. Betel quid with tobacco increases the risk of oral cancer around seven times. People who smoke tobacco, drink alcohol and chew betel have over 30 times the oral cancer risk. IARC classifies solar radiation as a probable cause of lip cancer. Human Papilloma Virus (HPV 16 subtype) infection causes around 80% of oral cavity cancers and 14% of oropharyngeal cancers and is associated with a better prognosis.

Spit tobacco, also known as chewing tobacco and snuff, are forms of tobacco that are put between the cheek and gum. Chewing tobacco can be in the form of leaf tobacco (which is packaged in pouches), or plug

tobacco (which are packaged in "brick" form). Snuff is a powdered form of tobacco, usually sold in cans. The nicotine is released from the tobacco as the user "chews."

Although chewing tobacco and snuff are considered smokeless tobacco products, harmful chemicals including nicotine are ingested. More than 28 cancer-causing chemicals have been found in smokeless tobacco. In our study, smokeless tobacco in the form of Hans, Mawa, snuff and plug tobacco was responsible for 65% of all cases. The duration of usage was 1 to 7 years.

Cigarettes contain more than 60 known cancer-causing agents. Smoking tobacco causes around 70% of oral and pharyngeal cancers in men, and around 55% in women. In our study, 24% of patients were smokers who smoked cigarettes or beedis for a period ranging from 5 to 25 years. Alcohol was consumed by 33% of patients and almost one-third of patients had more than one substance addiction.

V. Conclusion:

Tobacco continues to be the most common cause for cancers of the head and neck and smokeless tobacco is seen to be the greatest risk factor and is associated with majority of cancers with a shorter duration of usage. Alcohol is the next common etiological factor and is commonly associated with tobacco use and causes malignancy due to its synergistic effect.

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