

A Retrospective Study to Analyze Adverse Habits in Head and Neck Cancer Patients and Their Relationship to Site and Type of Cancer

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Abstract

Objective: To determine the relationship if any between adverse habits in head and neck cancer patients and the site and type of cancer.

Methods: This study involved 100 patients with carcinoma of oral cavity / pharynx or larynx who were treated at Indian Red Cross Society Cancer Hospital between January of 2020 to July of 2023. Data regarding adverse habits, site and type of head and neck cancer were collected from medical records. Depending on the variables studied, frequency, distribution and Percentage tables were prepared.

Results: Analysis of the results showed that the tobacco chewing along with alcohol consumption has more prevalence in head and neck carcinomas. The most prevalent site was tongue followed by buccal mucosa and Squamous cell carcinoma was the most common type of head and neck cancer.

Conclusion: In most of the patients with head and neck cancer the level of tobacco chewing and alcohol usage was high. Preventive interventions against establishing these habits and support for stopping these habits are important to reduce the occurrence of HNC.

Keywords: Tobacco Chewing, Tobacco Smoking, Alcohol, Head and Neck Cancer (HNC), Head and Neck Squamous Cell Carcinoma (HNSCC).

Introduction

Malignancy of Head and Neck is ranked as the seventh most frequent type of cancer that contributes significantly to the global cancer burden. Most of head and neck cancers are squamous cell carcinoma [HNSCC] arising from mucosa or lining of aerodigestive tract and 90% of them represent lip and oral cancers^{1,2}. Lifestyle modifications, particularly effective reduction of exposure to well known risk factors such as alcohol consumption, tobacco smoking and Human papilloma virus infection can prevent more than 70% of oral squamous cell carcinoma^{1,2}. As the number of global cancers and deaths are rapidly growing it is necessary to identify the risk factors³. So far Various studies were mostly focused on assessing the risk factors for HNC patients alone, hence this retrospective research was done on 100 Head and Neck Cancer [HNC] patients, to analyze adverse habits and their relationship to site and type of cancer. Various risk factors were examined along with the site and type of cancer and statistical analysis were done.

Materials And Methods

This Retrospective study involved 100 patients with carcinoma of oral cavity/ pharynx or larynx who were treated at Indian Red Cross Society Cancer Hospital between January 2020 to July 2023. Data regarding adverse habits of various forms of tobacco and alcohol, site and type of HNC were collected from medical records. Data was collected, compiled and entered into Microsoft Excel Version 2016. Statistical analysis for the data was done using SPSS Version 20. Frequency distribution and percentage tables were prepared.

Results

This is a hospital based retrospective research of patients at regional cancer center, from 2020 to 2023. A total of 100 HNC patients in relationship with habit, site, (fig 1) and types of oral cancer (fig2to 8) were studied. The sites included in the study were tongue, buccal mucosa, thyroid, gingiva, retromolar trigone, alveolus, parotid, lower lip. It was observed that the tongue being the most common site, followed by buccal mucosa and the retromolar

trigone. It has also been observed that tobacco chewing and alcohol are the strongest independent risk factors responsible for increased risk for HNC, with synergistic relationships. Among all the patients of HNC, squamous cell carcinoma was the most common type.

Fig: 1 Overall Prevalence of Cancer and its relation to habit

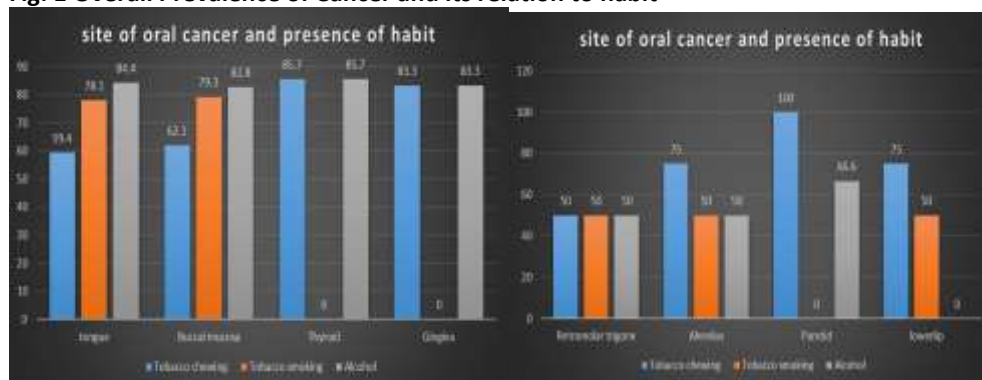


Fig: 2. Tongue Cancer and Presence of habit

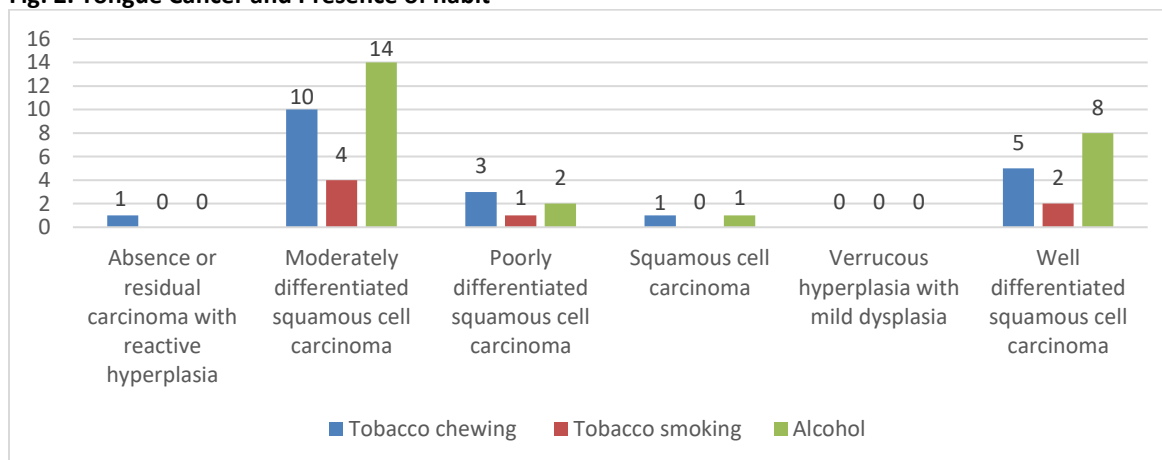


Fig: 3. Buccal Mucosa Cancer and presence of habit

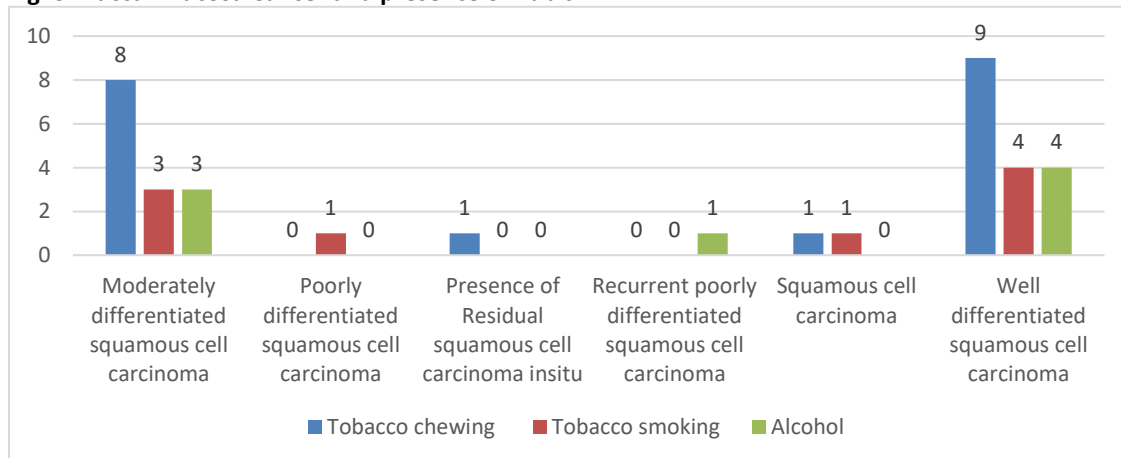


Fig: 4. Thyroid Cancer and Prevalence of habit

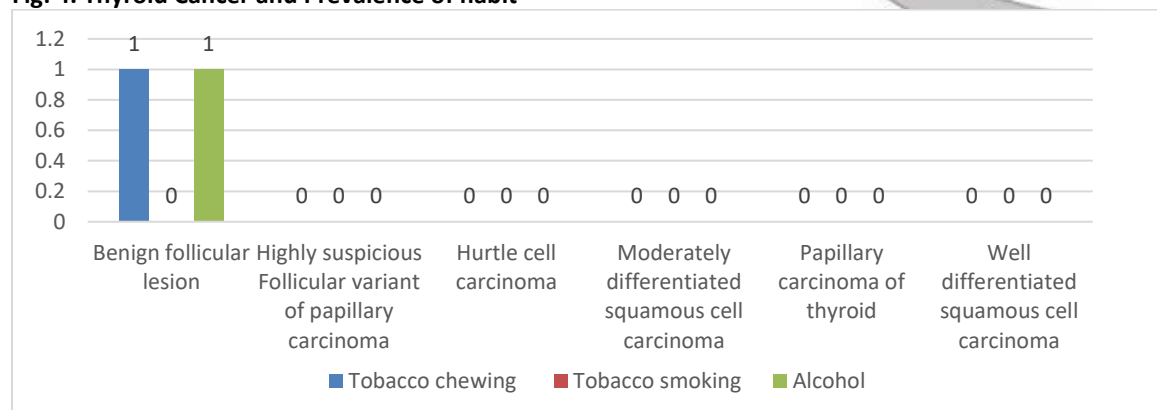


Fig: 5. Gingiva Cancer and Prevalence of habit

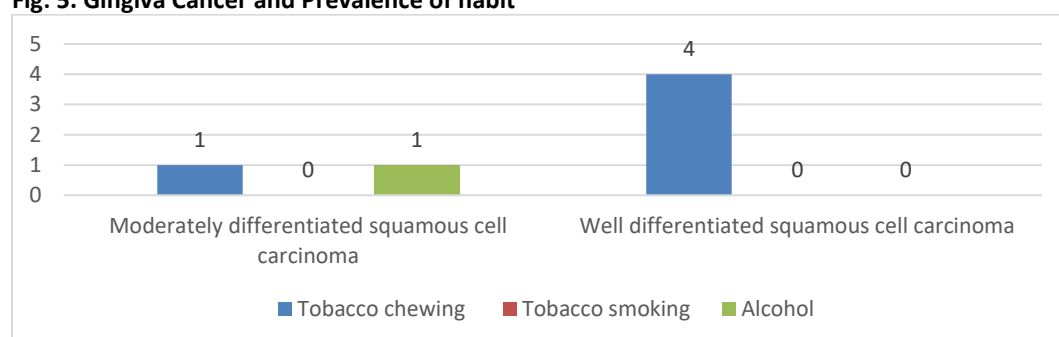


Fig: 6. Cancer in Retromolar trigone and presence of habit

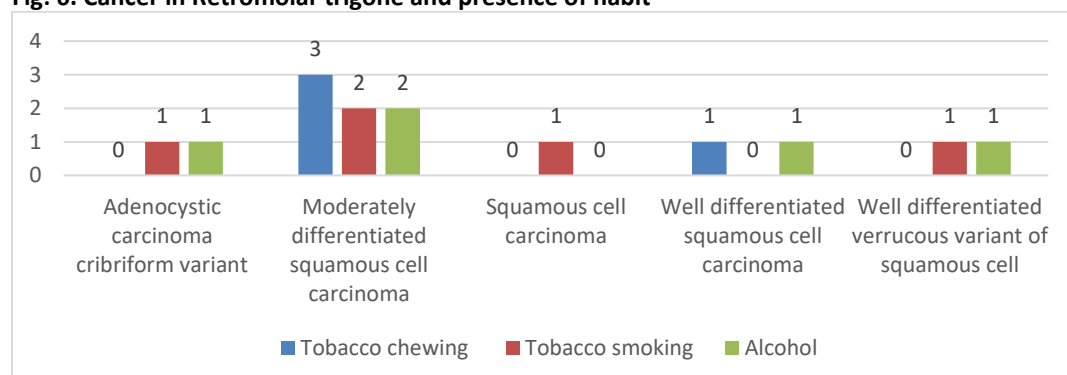


Fig: 7. Alveolus Cancer and habit

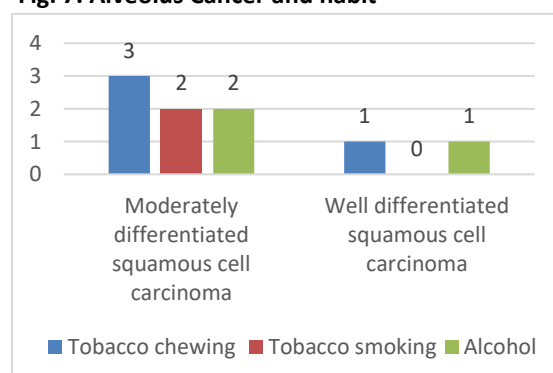
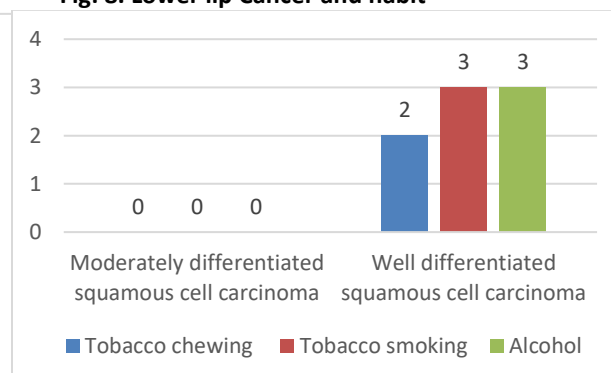


Fig: 8. Lower lip Cancer and habit



Discussion

HNC comprise malignancies of oral cavity, nasal cavity, paranasal sinuses, salivary glands, nasopharynx, oropharynx, hypopharynx and larynx³. Usually epithelial carcinomas of head and neck are squamous cell in character, develop from the mucosal surfaces and account for more than 90% of HNCs⁴. According to a pooled analysis, the population-attributable hazards for alcohol and tobacco varied by area. In Europe, these factors were thought to be responsible for 84% of all HNCs, but in North America, the percentage dropped to 51%². Study conducted by Sankaranarayanan and Soben reported that buccal mucosa was the commonest site followed by anterior two thirds of tongue and lower gum⁵. Present study results showed that the most prevalent site was tongue followed by the buccal mucosa and retromolar trigone. Guidelines given by Shaw and Beasley show that smoking and alcohol are an independent risk factors for Head and Neck cancers whereas Human papilloma viruses (HPV 16 & 18) are recognized as positive agents for oropharyngeal squamous cell carcinoma⁶. A study conducted by Maasland et al. reported that alcohol consumption and cigarette smoking has principal role in HNC carcinogenesis and a significant positive multiplicative interaction between both factors⁷. A lack of awareness and knowledge about HNC symptoms persists among HNC patients⁸. Symptoms that are more common in HNC include: A lump in the neck, jaw or mouth, mouth ulcer, white or red patches, difficulty in moving jaw and swallowing, speech problems or hoarseness or change in the voice, numbness in the mouth, loose teeth or dentures that no longer fit well⁹. Present study results showed that the tobacco chewing along with alcohol consumption has more prevalence when compared with tobacco chewing / smoking in Carcinomas of Tongue and Buccal mucosa. Present study results showed Squamous Cell Carcinoma was the most common type of Head and Neck Cancer and this was similar to the reports by Curado MP, Hashibe M¹⁰. The limitation of the present study was retrospective design inherently limited the sample size, the frequency and duration of tobacco chewing, smoking and the type of alcohol beverage, but thorough data collection and careful case selection ensure the findings remain robust and informative. In addition, there were several other etiological factors like genetic predisposition, socioeconomic status, poor oral hygiene, malnutrition, human papilloma virus which can contribute for the development of the Head & Neck Cancers.

Conclusion

This study showed high degree of correlation between Tobacco & Alcohol Habits in Head and Neck Cancers. Tobacco plays an important role in Carcinogenesis; Alcohol has Synergistic effect. Greater degree of sensitization of the Public regarding the relationship between Adverse Habits and Carcinoma is the Need of the Hour. Effective Sensitization could help in reducing Cancer burden of the World.

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