



Research Article

ESTABLISHING CORRELATION BETWEEN VARIOUS FORMS OF TOBACCO AND ORAL SQUAMOUS CELL CARCINOMA: A PROSPECTIVE STUDY

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ABSTRACT

Aim: To establish a co-relation of squamous cell carcinoma (SCC) with the use of tobacco and its various forms.

Material & method: A prospective cross sectional study was conducted in the Department of Dentistry at tertiary care centre, IGIMS, Patna for a period of 3 months. Information on habit of using various forms of tobacco and areca nut was gathered. The subjects who were diagnosed with SCC, histopathologically, were included in the study. Statistical analysis was done from the obtained data.

Results: A total of 115 tobacco users were recorded, out of which 36 subjects were included in our study who were histopathologically diagnosed with SCC. Association of SCC was seen with khaini, bidi, pan, lime, guthka and betelnut however, khaini chewing habit was most frequently reported habit associated with SCC.

Conclusion: SCC is among the most common cancer of oral cavity that affects our population. In our study, khaini chewing habit was most important etiological agent of SCC.

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INTRODUCTION

Oral and oropharyngeal carcinomas are the sixth most common cancers worldwide and represent about 90% of all oral malignancies[1,2]. The incidence of oral squamous cell carcinomas (OSCCs) varies in different parts of the world and this difference is largely attributed to the exposure to risk factors specific to the area[3]. In Southeast Asia, oral cancer is the second most frequent form of cancer and the second most frequent cause of death from cancer among males. In India, oral cancer ranks the first among male and the third among female population. Persons exposed to smoking, drinking, and betel quid chewing together are at high risk compared to individuals exposed to any one of these factors.[4]Tobacco first introduced by Portuguese traders about 400 years ago. Although tobacco was initially smoked, it later became popular in a smokeless form.

Of the 400 million individuals

- 47% use tobacco in smoke form
- 16% use it in a smokeless form

About 250 million kilograms of tobacco is consumed each year

- 86% is used for smoking
- 13% in smokeless forms
- 1% as snuff.[5]

Smokeless tobacco is chewed, more often as

- Betel quid (paan), consisting of betel leaves (Piper betle),
- Areca nut (Areca catechu),
- Slaked lime
- Catechu (e.g., Manipuri tobacco, mawa, paan masala). [6]

Aim

To establish a co-relation of squamous cell carcinoma (SCC) with the use of tobacco and its various forms.

MATERIAL AND METHOD

A prospective cross sectional study was conducted in the Department of Dentistry at tertiary care centre, IGIMS, Patna Time duration - 3 months. The study was conducted to gather information about the following

- Sociodemographic data
- Information on habits of using various forms of tobacco and areca-nut
- Symptoms associated with various habits

The subjects who were diagnosed with premalignant lesions or other conditions, based on the clinical examination, underwent

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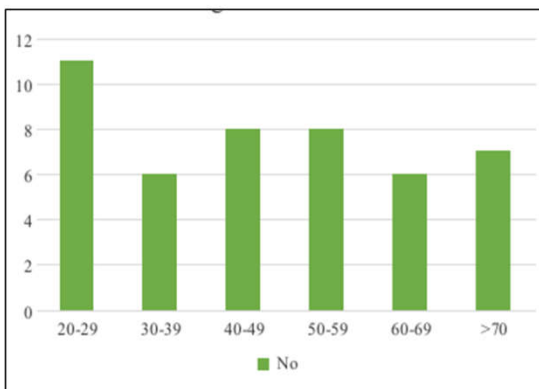
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this questionnaire survey. Information on habit of using various forms of tobacco and areca nut was gathered. The subjects who were diagnosed with SCC, histopathologically, were included in the study. Statistical analysis was done from the obtained data.

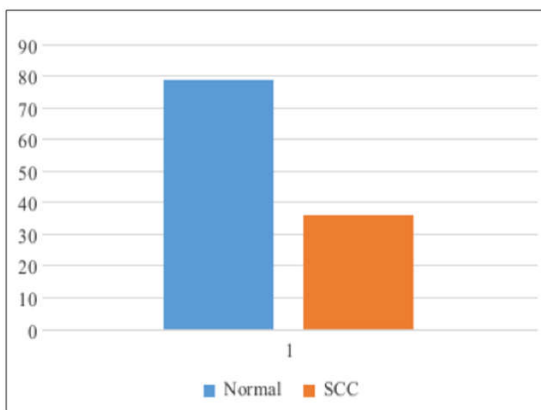
RESULTS

A total of 115 subjects were included in the study. All 115 subjects gave positive history of tobacco consumption. Out of 115 patients, 104 patients were male and 11 patients were female. 71 male subjects did not show any signs or symptoms of SCC whereas 33 male subjects were clinically diagnosed as squamous cell carcinoma patients and out of 11 female subjects, 8 subjects were negative for SCC whereas 3 were clinically diagnosed as SCC positive. The subjects belonged to the age group of 20 to 79 years with maximum number of patients belonging to the 4th and 5th decade. Of the 36 SCC patients, 32 patients were consuming khaini while 23 were consuming gutka, 7 betel nut, 21 were lime users, bidi were consuming bidi while 11 were consuming pan.

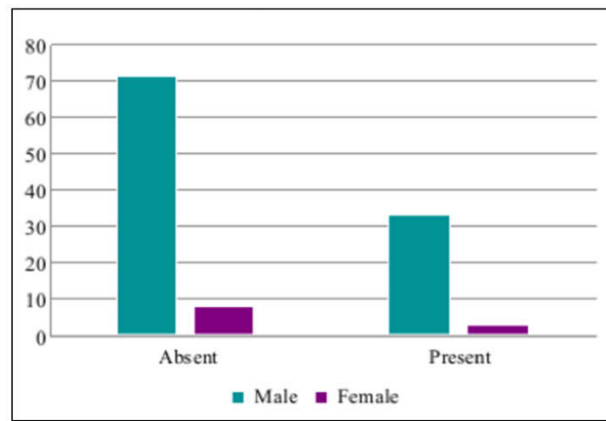
Age wise distribution of tobacco consumers



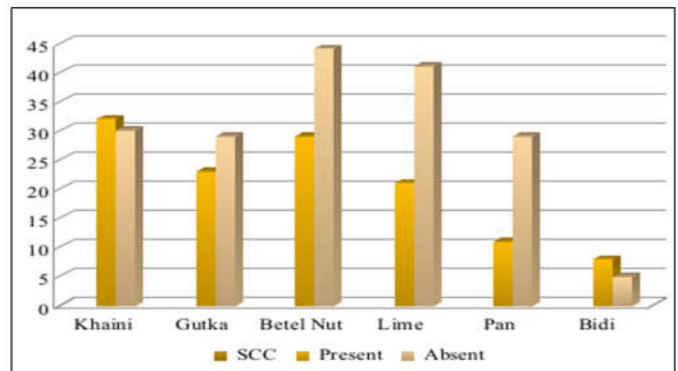
Prevalence of SCC



Gender wise distribution



Different forms of tobacco consumption and its correlation with SCC



DISCUSSION

Oral cancer is a major health problem in tobacco users worldwide. It is one of the ten most common cancers in the world. Despite advances in surgery, radiation, and chemotherapy, the 5-year survival rate for oral cancer has not improved significantly over the past several decades and it remains at about 50-55%. Tobacco and other related habits such as alcohol, betel nut, and poor oral hygiene may contribute to precede oral precancer. There were 71 male and 8 female participants who gave history of habit however they did not show any clinical signs of SCC. 33 male and 3 female participants were clinically diagnosed with SCC. The findings in our study were similar to study conducted by Salian V where male predominance was seen with 44 male and 17 female subjects. The age range of the subjects varied from 20 - 79 years. This was also similar to the study conducted by Salian V in which the agr range of the patients in the study was between 28 and 77 years[4]. In our study, SCC most commonly occurring in the 4th and 5th decade. This is in accordance with Shenoj et al[7] who reported that OSCC commonly occurs in the sixth decade of life. The most common risk factor found in our study was betel nut with 32 patients giving history of khaini consumption followed by Betel Nut, Gutka, Lime, Pan and Bidi.

CONCLUSION

We can conclude from the above study that the most common etiological factor for SCC was betel nut in patients visiting tertiary care centre in Bihar. The patients need to be educated and made aware about the risk factors, consequences of tobacco consumption and its cessation. Further studies including comparisons of demographic data as well as dose

response relationship with oral lesions with larger sample size and in the general population needs to be performed[8].

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