International Journal of Multidisciplinary Research and Development
Online ISSN: 2349-4182, Print ISSN: 2349-5979, Impact Factor: RJIF 5.72
www.allsubjectjournal.com
Volume 4; Issue 8; August 2017; Page No. 275-277

A study on clinicoetiopathogenesis of oral precancerous lesion in Bareilly population

[1] Anjani Kumar Shukla, [2] Ashok Kuma

[1] MDS, Senior Lecturer, Department of Oral Medicine and Radiology, Vananchal Dental College & Hospital, Garhwa, Jharkhand, India
[2] PG Student, Department of Pedodontics, Vananchal Dental College and Hospital, Garhwa, Jharkhand, India

Abstract
Introduction: Squamous Cell Carcinoma is the most frequent of oral carcinomas and represents approximately 3 % of all human malignant tumors and significant health problem in world wide. Oral cancer is most common malignancies in Southeast Asia. In India oral cancer affected most of younger persons due to various chewing habits. This study was to delineate the causative factor and increase the awareness of oral cancer and precancerous lesion & Conditions among Bareilly population.
Material and Methods: The study group consisted of 100 subjects of both the sexes, with clinically suspicious premalignant lesions. Toluidine blue stain use as a mouth rinse or applied locally to sites of tissue changes with cotton applicators, used as for identifying oral lesions, accelerating decision to biopsy, and guiding biopsy site selection process.
Results: Among the 100 subjects, 4% (04) were alcoholic, 8% (08) were alcoholic and chewing tobacco, 38% (38) were chewing pan masala/guthka, 8% (08) were habitual smokers, 20% (20) were chewing pan masala/guthka and smoking, 16% (16) were chewing tobacco and 6% (06) had no habits.
Conclusion: The study was conducted to determine the patterns of various types of chewing habits and to evaluate the correlation between an individual quid chewing habit and a Oral mucosal lesion. Subjects who were using Betel/ Areca as one of the constituent of the quid showed predominantly OSMF, and leukoplakia was seen in all the subjects who were chewing tobacco as one of the ingredients of the quid.

Keywords: OSMF, leukoplakia, toludine blue, tobacco

Introduction

Squamous Cell Carcinoma is the most frequent of oral carcinomas and represents approximately 3 % of all human malignant tumors [1]. The main carcinogenic agents associated to the development of tumors of the upper aerodigestive tract are tobacco and alcohol [2]. Approximately between 75% and 90% of malignant head and neck tumors have been associated to the joint consumption of tobacco and alcohol. However, a recent study revealed that these risk factors act independently, increasing the risk of cancer compared to the non-smoking, non-drinking population [3].

The most common oral precancerous lesions are oral leukoplakia, oral submucous fibrosis (OSMF), and oral erythroplakia. Actinic cheilitis, some miscellaneous inherited diseases such as xeroderma pigmentosum and Fanconi's anemia, and immunodeficiency are another potentially malignant disorders for oral carcinoma as well as these three diseases [4, 5].

Most of the patients are middle-aged or elderly men. Most commonly site involved are on the buccal mucosa, lower gingiva, tongue and floor of mouth, with the remaining cases distributed throughout the remainder of the oral cavity. India accounts for one third of the world's oral cancer and has a high rate of pre-malignant lesions [6].

The World Health Organization classifies oral precancerous/ potentially malignant disorders into 2 general groups, as follows.

A precancerous lesion is "a morphologically altered tissue in which oral cancer is more likely to occur than its apparently normal counterpart." The precancerous lesions include leukoplakia, erythroplakia, and the palatal lesions of reverse smokers.

A precancerous condition is "a generalized state associated with significantly increased risk of
cancer."

Common Etiological Factors are Tobacco, Alcohol, Sun Exposure, Chronic Irritation, Human Papilloma virus (HPV) infection, Marijuana (potential risk factor among young adults) and Sharp tooth, excessive spices may also be an accelerating cause [7, 8].

The present study was done with the objective to know the causative factor of oral cancer (precancerous lesion and precancerous condition) in Bareilly (UP) population.

Material and Methods

The study group consisted of 50 subjects of both the sexes, with clinically suspicious premalignant lesions, who fulfilled the inclusion and exclusion criteria, presented in outdoor unit in the Department of Oral Medicine and Radiology Institute of dental sciences, Bareilly for a period of one year. The subjects comfortably seated in the examination chair under artificial illumination using sterile gloves, Mouth mask, Mouth Morrior. The clinical examination was carried out and the relevant data were entered into the Performa. An informed consent was taken from each subject for carrying out the diagnostic procedure.

Toluidine blue use as a mouth rinse or applied locally to sites of tissue changes with cotton-tipped applicators, used as for identifying lesions, accelerating decision to biopsy, and guiding to biopsy site selection properly.

Inclusion criteria

1. Young, Middle aged and the Elderly population were included in this study.
2. Both Men as well as Women were included.
3. Employed/Unemployed/Students and various other categories of working people were included.

Exclusion criteria

1. Non-co-operatives individuals were excluded.
2. Individuals having any other oral mucosal lesions that may mimic those lesions occurring due to tobacco placement

Statistical Analysis

The data was analyzed by using SPSS 20 software. The data is presented in percentages, rates and ratios. To find the association or difference between the attributes, Chi square test was used in the present study.

Results

A total number of 100 patients were involved in the study out of which 90 Male patients and 10 Female. Among 100 patients within the age group of 10 – 20 years, 100% (10) were males. Among 46 subjects within the age group of 20 – 30 years, 95.7% (44) males 4.3% (02) were females. Among 12 subjects within the age group of 30 – 40 years, 66.7% (08) were males and 33.3% (04) were females. Among 20 subjects within the age group 40 – 50 years, 80% (16) were males and 20% (04) were females and among 12 subjects within the age group > 50 years, 100% (12) were males (Table-1).

Table 1

Age Distribution	Sex		Total
	Male	Female	
10-20	10	00	10
20-30	44	02	46
30-40	08	04	12
40-50	16	04	20
>50	12	00	12
Total	90	10	100

Among the 100 subjects, 4% (04) were alcoholic, 8% (08) were alcoholic and chewing tobacco, 38% (38) were chewing pan masala/guthka, 8% (08) were habitual smokers, 20% (20) were chewing pan masala/guthka and smoking, 16% (16) were chewing tobacco and 6% (06) had no habits (Table-2).

Table 2

Habits	No of Patients	Percentage
Alcohol	04	4%
Alcohol & Tobacco	08	8%
Pan Masala / Guthka	38	38%
Smoking	08	8%
Smoking & Pan Masala/Guthka	20	20%
Tobacco	16	16%
No Habits	06	6%
Total	100	100%

Among the 100 subjects, 10% (10) subjects had leukoplakia, 4% (04) subjects had erythroleukoplakia, 54% (54) subjects had oral submucosal fibrosis, 8% (08) subjects had lichenoid reaction & 8% (08) subject had lichen planus, 12% (12) subjects had chewer's mucosa and 4% (04) subjects had chemical burn lesions in their oral cavity (Table-3).

Table 3

Lesion Seen	No. of Patients	Percentage
Leukoplakia	10	10%
Erythroplakia	04	04%
OSMF	54	54%
Lichenoid Reaction	08	08%
Lichen Planus	08	08%
Chewing Mucosa	12	12%
Chemical Burn	04	04%
Total	100	100%

Among 100 subjects, 16% (16) lesions occurred at alveolus and gingiva, 44% (44) lesions occurred at buccal mucosa, 20% (20) lesions occurred at gingivobuccal sulcus, 8% (08) lesions occurred at lateral border of tongue and 6% (06) lesions occurred at retromolar regions, 6% (06) at Palate area of the mouth. (Table-4)

Table 4

Affected area in oral cavity	No of Cases	Percentage
Alveolus & Gingiva	16	16%
Buccal Mucosa	44	44%
Gingival Buccal Sulcus	20	20%
Lateral Border of Tounge	08	08%
Palate	06	06%
Retromolar area	06	06%
Total	100	100%

Discussion

Age and sex distribution

Males are seen to be exposed to quid chewing habits at quite an early age hence the quid related oral diseases are also seen at an early age in males.(Table-1) Similar study conducted by Guptha PC *et al.* reported that over 70% of the cases of OSMF were less than 35 years of age in 3 recent case-control studies in Bhavnagar, Gujarat, Nagpur, Maharashtra and New Delhi [9]. Our study showed a high preponderance premalignant lesion in males(9:1). Increased number of cases in males is due to more uptake of this chewing habits by male individuals was due to areca nut was chewed for variety of reasons such as stress reliever, mouth freshener, and concentration improver [10]. Similar result with a male preponderance reported by Shah *et al.* (1998) [11].

Habits

In our study (Table–2), out of total 100 patients, 8% patients were smokers, 38% were habituated to smokeless tobacco in the form of pan/ gutkha, 20% were both smokers and habituated to Pan/ guthka, 4% of patients were alcoholics, 8% were habituated to alcohol as well as tobacco smoking or chewing and 16% were habituated to chewing tobacco product. Only 6% did not have any habit. Smoking and alcohol consumptions were seen only in males. None of the females were smokers or habituated to alcohol. In the study of Khandekar SP *et al.*, 71.3% of patients were habituated to tobacco. 63.3% were habituated to tobacco in the form of cigarettes and beedis [12].

Habits v/s lesion

Among the various habits pattern in our study (Table–3)

Leukoplakia, Erythroleukoplakia, OSMF, chewer's mucosa, lichenoid reaction and chemical burn were seen, but OSMF (54%) was predominately the major lesion associated with Pan Masala/ Guthka Chewing. OSMF can occur with the use of betel/Areca nuts without the use of tobacco in the quid.

Site of the lesions

In our study (Table–4), amongst the premalignant lesions, Buccal mucosa (44%) was the commonest site involved, followed by Gingivo-buccal Sulcus (20%), Alveolus and Gingiva (16%), Palate (6%), Retromolar region (6%) and lateral border of oral tongue (8%). According to Mishra M *et al.* (2005) buccal mucosa (52.26%) affected cases are more in number.

Conclusion

Majority of the patients with various chewing habits pattern and oromucosal lesions were in Males and within the age group of 20-30 years group. The majority have habit of chewing Tobacco + betel (Pan Masala/Guthka).

Lesions encountered in our study were Oral submucous fibrosis, Chewers Mucosa, Leukoplakia, Lichen planus, Lichenoid reaction and Chemical burn. But Out of all the lesions in our study, OSMF was seen in majority of the patients and they are using Areca nut/Betel as one of the constituent of the quid. Buccal mucosa was the most common site affected by these chewing habits.

References

1. Brandizzi D, Gandolfo M, Velazco ML, Cabrini RL, Lanfranchi HE. Clinical features and evolution of oral cancer: A study of 274 casesin Buenos Aires, Argentina. Med Oral Patol Oral Cir Bucal. 2008; 13:E544-8.
2. Pöschl G, Seitz HK. Alcohol and cancer. Alcohol Alcohol. 2004; 39(3):155-65.
3. Hashibe M, Brennan P, Benhamou S, Castellsague X, Chen C, Curado MP *et al*. Alcohol drinking in never users of tobacco, cigarette smoking in never drinkers, and the risk of head and neck cancer: pooled analysis in the International Head and Neck Cancer Epidemiology Consortium. J Natl Cancer Inst. 2007; 99(10):777-89.
4. Van der Waal I. Potentially malignant disorders of the oral and oropharyngeal mucosa; terminology, classification and present concepts of management. Oral Oncol. 2009; 45:317-323. [PMID: 18674954 DOI: 10.1016/j.oraloncology.2008.05.016]
5. Thomas G, Hashibe M, Jacob BJ, Ramadas K, Mathew B, Sankaranarayanan R *et al*. Risk factors for multiple oral premalignant lesions. Int J Cancer. 2003; 107:285-291. [PMID: 12949809]
6. Kumar A, Birua C, Kant C. A study on clinicoetiopathogenesis of oral precancerous lesion in Jharkhand. International Journal of Contemporary Medical Research. 2016; 3(9):2691-2693.
7. Report of a meeting of investigators on the histological definition of precancerous lesions. Geneva: World Health Organization. 1973.
8. World Health Organization. Collaborating Centre for Oral Precancerous lesions. Definition of leukoplakia and related lesions: an aid to studies on oral precancer. Oral Surg Oral Med Oral Pathol. 1978; 46:518-39.
9. Gupta PC, Sinor PN, Bhonsle RB, Pawar VS, Mehta HC. Oral submucous fibrosis in India: A new epidemic? Natl Med J India. 1998; 11:113-116.
10. Mathew P, Austin RD, Varghese SS, AD MK. Role of areca nut and its commercial products in oral submucous fibrosis- a review. Journal of Advanced Medical and Dental Sciences Research. 2014, 2(3).
11. Shah N, Sharma PP. Role of chewing and smoking habits in the etiology of oral submucous fibrosis a case control study. J Oral Pathol Med. 1998; 27:475-479.
12. Report of a meeting of investigators on the histological definition of precancerous lesions. Geneva: World Health Organization. 1973.
13. Mishra M, Mohanty J, Sengupta S, Tripathy S. Epidemiological and clinicopathological study of oral leukoplakia. Indian J Dermatol Venereol Leprol. 2005; 7:161-5.