

Epidemiological and Clinico-pathological study of Oral Leukoplakia in Patna and its periphery.

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Abstract

Epidemiological analysis and distribution of leukoplakia, in Patna and its periphery peripheral Population with comparison among gender, age group, as well as various oral sites All the cases reporting to the dental Out Patient department with screening of leukoplakia, included in the study total number of patients are 40. A proper clinical examination and essential investigation was carried out and final diagnosis based on histopathological study. Data obtained was compiled on a MS Office Excel Sheet (v 2010). Data was subject to statistical analysis using Statistical package for social sciences (SPSS v 22.0, IBM). An increase in the occurrence of leukoplakia, especially in the middle age groups directly attributable to tobacco (smokeless/ smoked form) was observed.

Key words: Epidemiological, Leukoplakia, Tobacco.

Introduction

Oral leukoplakia (OL) is the most frequent precancerous lesion of the oral cavity. [1, 2].It is defined by WHO (1997) as “a predominantly white lesion of the oral mucosa that cannot be characterised as any other definable lesion”. [2, 3, 4]. The prevalence of oral leukoplakia, worldwide, is approximately 1%-2% for all ages together. There are geographical differences with regard to gender distribution. Leukoplakias are usually diagnosed after the fourth decade of life. The risk factors for malignant transformation include age, site, size, appearance, presence of dysplasia, and abnormal DNA content, but there is no single predictive factor or any reliable biomarker predictive of malignant transformation.[3] Leukoplakia is a clinical term and the lesion has no specific histology. [6] Pathohistological examination of leukoplakia can show hyperkeratosis, atrophy, acanthosis and may or may not demonstrate different degrees of

epithelial dysplasia. [2, 6] Dysplasia reflects histological changes which are followed by the loss of uniformity of the architecture of the epithelial cells.[5] According to these findings, oral leukoplakia can be distinguished as dysplastic and non dysplastic lesions. Based on histological examination the presence of dysplasia has been associated with a risk of malignant transformation to oral cancer. [3]

The aims and objectives of this present studies are as follows:

1. To obtain epidemiological information of Leukoplakia.
2. Distribution of this disease in Patna and its peripheral Population with comparison among gender, age group, as well as various oral sites.

Materials and Methods

Data obtained was compiled on a MS Office Excel Sheet (v 2010). Data was subject to statistical analysis using Statistical package for social sciences (SPSS v 22.0, IBM).

The present study was carried out in the department of Oral & Maxillofacial pathology of Buddha institute of dental sciences and Hospital Patna. All the cases reporting to the dental Out Patient department with screening of leukoplakia. Total 40 patients were examined. A proper clinical examination and essential investigation was carried out and final diagnosis based on histopathological study.

Results

Results obtained were expressed as frequencies and percentages of males and females participating in the present study and mean age of the participants, participants with a particular habit, site, clinical and histopathological staging/ grading.

Table 1: showing mean age of study participants with Minimum & Maximum and standard deviation.

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	40	20	75	43.75	12.643

The total number of the leukoplakia is 40 and the age of the patients ranged from 20 to 75 years (mean age 43.75 years). [Table 1, 2 Graph 1, 2] Among all 40 patients, 30 were male and only 10 were female. [Table 3 Graph3]

Table 2: showing Age coded into decades.

	Frequency	Percent
20-29 years	4	10.0
30-39 years	12	30.0
40-49 years	11	27.5
50-59 years	9	22.5
60-69 years	1	2.5
>70 years	3	7.5
Total	40	100.0

The above table reveals 80% of leukoplakia were seen in 4th ,5th and 6th decades of life.

Table 3: Distribution of Sex among study participants

	Frequency	Percent
Males	30	75.0
Females	10	25.0

More common in male then female (ratio 3:1)

Table 4 : Age and Gender distribution of study participants.

		SEX		Total
		Male	Female	
AGE CODE	20-29 years	4	0	4
	30-39 years	7	5	12
	40-49 years	8	3	11
	50-59 years	7	2	9
	60-69 years	1	0	1
	>70 years	3	0	3
	Total	30	10	40

When we subdivided the gender and age difference we found out that in both genders, leukoplakia were more prevalent in 4th, 5th, and 6th decades of life.

Table 5: Distribution of Habits among study participants

S.NO.	Habit	Frequency	Percentage
1.	Khaini	8	20
2.	Tobacco	10	25
3.	Bidi	2	5
4.	Cigarette	4	10
5.	Gutka	5	12.5
6.	Alcohol	2	5
7.	Paan	5	12.5
8.	Supari	3	7.5
9.	Spicy food / hot / chilly	1	2.5

In our study the tobacco and khaini are more prevalent of leukoplakia than other products.

Table 6: Distribution of Site of lesion among study participants.

S.NO.	Site	Frequency	Percentage
1.	Labial mucosa	3	7.5
2.	Dorsum of Tongue	4	10
3.	Buccal mucosa	11	27.5
4.	Buccal vestibule	3	7.5
5.	Gingiva	4	10
6.	Lateral border of tongue	6	15
7.	Floor of the mouth	2	5
8.	Labial Vestibule	5	12.5
9.	Palate	2	5

Leukoplakia was found to be more occur in Buccal mucosa, followed by lateral border of tongue and labial vestibule.

Table 7: Distribution of clinical features of lesion among study participants.

	Frequency	Percent
Homogeneous	20	50.0
Ulcerative	14	35.0
Nodular	6	15.0
Total	40	100.0

Homogenous and Ulcerative leukoplakia were found to be more when compared with the Nodular variety.

Table 8: Distribution of Histological grading of lesion among study participants.

Grades of Dysplasia	Frequency	Percent
Mild	23	57.5
Moderate	12	30.0
Severe	5	12.5
Total	40	100.0

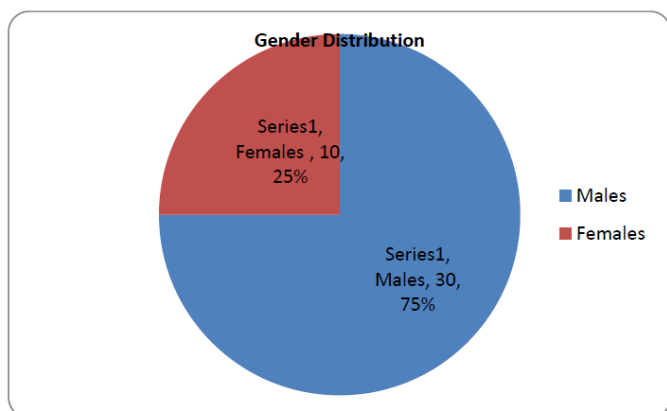
After histopathological grading of leukopakia it was found that, mild dysplasia was maximum followed by moderate dysplasia and severe dysplasia respectively.

Table 9: Age-wise distribution of Histological features.

		HISTOLOGICAL FEATURES			Total
		Mild	Moderate	Severe	
AGE CODE	20-29 years	3	1	0	4
	30-39 years	9	3	0	12
	40-49 years	8	3	0	11
	50-59 years	2	4	3	9
	60-69 years	1	0	0	1
	>70 years	0	1	2	3
	Total	23	12	5	40

Mild dysplasia was seen in 4th and 5th decades of life, moderate dysplasia was found to be in and 4th, 5th and 6th decades.

The graphical representation of Age Distribution.



Graph 1: Pie diagram representing Gender Distribution.

Discussion

The present study was analysis of oral Leukoplakia cell carcinoma in Patna and its periphery and its incidence.. A thorough clinical and histopathological examination was carried out in individual visiting to department of oral and maxillofacial pathology. In our study exhibit that those patients taking in any form of tobacco where more prone to develop oral leukoplakia. The above finding is accordance to the findings of Minati Mishra et al and Nasir A Salati.[7] We observed that oral leukoplakia was prevalent in male over 30 years of age, which is identical with the findings of Marija Bokor et al and Axell T, et al.

Indira et al in her study found out that leukoplakia occurred in the age range of 36 to 55 years which was little higher when compared to our our findings.[8] Though the gender predominance, site and habits were in accordance to her findings, the nature of the lesion was found to be in contradiction as in our study we found Homogeneous and Ulcerative variants to be more when compared to Nodular type, but her study reveals Homogenous and Nodular to be predominant. In our study the results were also in accordance to P.Gangadharan et al, in his study showed the age range for leukoplakia was in between 4th and 5th decade, and Buccal mucosa to be the most affected site.9[] A study conducted by Vaishali Keleskar and Alka Kele revealed a male predominance and when the form of tobacco was considered with the incidence of leukoplakia, it was found that tobacco chewers were maximum followed by cigarette and Bidi smokers which was found to be in accordance to our study as we tabulated almost 60% cases of leukoplakia were associated any forms of tobacco. [10].

Conclusion:

An increase in the occurrence of leukoplakia, especially in the middle age groups directly attributable to tobacco (smokeless/ smoked form) was observed. There is a high level of ignorance regarding potentially malignant disorders among general public especially tobacco users. Government and the private sectors should work hand in hand in spreading the awareness of these potentially malignant disorders among general public which in turn would help in reducing the incidence of OSCC and reduce the burden of this disease on the individual and the society.

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