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Original Article

A Clinical Study of Prevalence of Oral Pre Cancerous Lesions and Conditions at K.R. Hospital, Mysore - One year Descriptive Epidemiological Study

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ABSTRACT:-
Introduction:-Oral cancer is the leading global cause of morbidity and mortality. It is one of the ten most common cancers in world. Oral cancer is almost all times preceded by some type of pre cancerous lesion. Early detection and elimination of the causative risk factors can help in reduction of its incidence. In India the incidence of oral cavity cancers are one of the highest in world because of tobacco products are easily available and lack of community awareness. Oral cancers can be prevented by action against risk factors and early detection by simple screening and periodic visits to dentists. **Aim and Objectives:** To study the prevalence of oral pre cancerous lesions and conditions its site and age predilections. **Materials and Methods:-** This one year duration study was under taken on patients visiting to Department of Dentistry K.R.Hospital Mysuru on OPD basis. After obtaining detailed history and informed consent they were screened of oral precancerous lesions. Only clinical criteria were used for diagnosis of oral precancerous lesions. Efforts were also made to motivate them to quit the adverse habits if any. **Results:-** Based on above values we can deduce that maximum lesions in our study noted was Erythroplakia seen in age groups of 31- 40 years(41.7%),followed by Oral submucous fibrosis of (40%)seen in age groups of 51-60 years probably attributed to long standing adverse habits, leukoplakia in age groups of 41-50years and 51-60 years (30%). Results of individual Site depicted maximum site of occurrence of oral precancerous lesions is in Buccal Mucosa in age groups of 41-50 years(30%), followed by Retro Molar Trigone age group of 31-40 years(16.7%),ventral surface of tongue in age groups of 41-50 years and 51-60 years (10%),least being palate with 4.2% in age groups of 21-30 years. **Conclusion:-** The maximum site affected in our study was buccal mucosa (30%) followed by Retro molar Trigone (16.7%), very interestingly maximum lesion noted in our study was Erythroplakia (41.7%), followed by Oral Submucous Fibrosis(40%) least being leukoplakia (30%). Multiple site being affected are Buccal Mucosa and Lip. Based on these observations it can be arrived at a point that the lesions have specific site predilections based on age groups, but evaluate detailed association of lesions with site further studies are contemplated for achieve more level of significance. Early detection of premalignant oral lesion is of utmost importance to prevent further progress to oral cancer.
Key words:- Leukoplakia, erythroplakia, oral submucous fibrosis, retromolar trigone, floor of the mouth.

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INTRODUCTION:-

Cancers are the most common cause of death in adults. Oral cancers is any malignant neoplasm which is found on the lips, floor of the mouth, cheek, tongue, palate. Oral cancer is among the top three types of cancers in India[1-4], adverse habits such as alcoholism, use of tobacco products like cigarettes, smokeless tobacco, betel nut, pan, gutka and Human Papilloma Virus (HPV)[,4.5]are the most common risk factors. Oral cancer may also occur due to poor dental care and poor diet[6], the incidence of oral cancer is highest in India, South and South east Asian countries. In India 90-95% of oral cancers are squamous cell carcinoma[6]. The International agency for research on cancer has predicted that India's incidence of cancer will increase from 1 million in 2012 to more than 1.7 million in 2035.[7] Almost always oral cancers are preceded by some or other type of precancerous lesions and conditions. These lesions can be diagnosed as early as 15 years before they turn into invasive carcinomas. Early detection and treatment of these potentially malignant

lesions can help in primary prevention.[13,14] Several oral lesions like Leukoplakia, Erythroplakia, Oral Submucous fibrosis are regarded to be pre cancerous lesions for oral cancer before their tendency for malignant transformation.

According to workshop co – ordinate by WHO May 2005 at London the use of term "Potentially Malignant Conditions" was suggested.[8,13] The association of tobacco and oral cancer was noticed in India as early as 1902 by Viblock[9]. Oral screening for pre cancerous lesions and tobacco cessation activities, if conducted together can have high impact on reducing cancer. This study was conducted at Department of Dentistry K.R. Hospital Mysuru over period of 1 year from 2015 to 2016, the objectives were to screen all patients coming to OPD for Oral precancerous lesions irrespective of their chief complaints and adverse habits.

MATERIALS AND METHODS:-

This was observational study of 100 study subjects carried out in Department of Dentistry K.R. Hospital Mysuru- Karnataka, and study was carried out for period of 1 year. Study subjects were informed regarding study and informed consent was obtained. A detailed case history proforma was duly filled. All subjects irrespective of their adverse habits were screened for oral pre cancerous lesions by the same researcher. Only clinical criteria were used for diagnosis of Leukoplakia, Oral submucous fibrosis and Erythroplakia.[9] The association of these lesions with respect to age(age groups 21-30 years,31-40 years,41-50 years,51-60 years) were divided , sex, site in oral cavity was studied by Descriptive statistical analysis and Pearson Chi Square test. Statistical analysis was performed with statistical software for cross sectional study in MS excel.

RESULTS: Out of 100 study subjects aged between 21 to 60 years, 54 males and 46 females.

Prevalence of pre cancerous lesions in relation to age groups:-

TABLE SHOWING LESION VS AGE			Age (in years)				Total
			21-30	31-40	41-50	51-60	
Lesion	ERYTHROPLAKIA	Count	3	5	4	4	16
		% within ages	12.5%	41.7%	20.0%	13.3%	18.6%
	LEUKOPLAKIA	Count	5	1	6	9	21
		% within ages	20.8%	8.3%	30.0%	30.0%	24.4%
	LEUKOPLAKIA+ERYTHRO PLAKIA	Count	5	2	3	2	12
		% within ages	20.8%	16.7%	15.0%	6.7%	14.0%
	OSMF	Count	8	4	4	12	28
		% within ages	33.3%	33.3%	20.0%	40.0%	32.6%
	OSMF+ERYTHROPLAKIA	Count	0	0	1	1	2
		% within ages	0.0%	0.0%	5.0%	3.3%	2.3%
	OSMF+LEUKOPLAKIA	Count	3	0	2	2	7
		% within ages	12.5%	0.0%	10.0%	6.7%	8.1%
Total		Count	24	12	20	30	86
		% within ages	100.0%	100.0%	100.0%	100.0%	100.0%

Site vs Gender			Sex		Total
			Male	Female	
Site	Buccal Mucosa	Count	10	10	20
		% Within Sex	20.8%	26.3%	23.3%
	Buccal Mucosa + Lip	Count	7	3	10
		% Within Sex	14.6%	7.9%	11.6%
	Buccal Mucosa + Palate	Count	4	1	5
		% Within Sex	8.3%	2.6%	5.8%
	Buccal mucosa+ Retromolar Trigone	Count	0	2	2
		% Within Sex	0.0%	5.3%	2.3%
	Floor Of Mouth	Count	3	3	6
		% Within Sex	6.2%	7.9%	7.0%
	Lip	Count	1	1	2
		% Within Sex	2.1%	2.6%	2.3%
	Palate	Count	1	3	4
		% Within Sex	2.1%	7.9%	4.7%
	Palate + Ventral Surface Of Tongue	Count	0	1	1
		% Within Sex	0.0%	2.6%	1.2%
	Retromolar Trigone	Count	3	1	4
		% Within Sex	6.2%	2.6%	4.7%
	RMT + Buccal mucosa	Count	9	7	16
		% Within Sex	18.8%	18.4%	18.6%
	Ventral surface Of Tongue	Count	7	3	10
		% Within Sex	14.6%	7.9%	11.6%
	Ventral surface Of Tongue + Buccal Mucosa	Count	1	0	1
		% Within Sex	2.1%	0.0%	1.2%
	Ventral surface Of Tongue + Floor Of Mouth	Count	2	2	4
		% Within Sex	4.2%	5.3%	4.7%
	Ventral Surface of Tongue + Lip	Count	0	1	1
		% within sex	0.0%	2.6%	1.2%
Total		Count	48	38	86
		% within sex	100.0%	100.0%	100.0%

Based on above values we can deduce that maximum lesions in our study noted was Erythroplakia seen in age groups of 31- 40 years(41.7%),followed by Oral submucous fibrosis of (40%)seen in age groups of 51-60 years probably attributed to long standing adverse habits, leukoplakia in age groups of 41-50years and 51-60 years (30%).

Site and Gender Predilections:-

Results of individual Site depicted maximum site of occurrence of oral precancerous lesions is in Buccal Mucosa in age groups of 41-50 years(30%), followed by Retro Molar Trigone age group of 31-40 years(16.7%),ventral surface of tongue in age groups of 41-50 years and 51-60 years (10%),least being palate with 4.2% in age groups of 21-30 years.

In combined Site maximum lesions are seen in Buccal Mucosa and Lip in age groups of 31-40 years of age (25%), and Retromolar Trigone and Buccal Mucosa in age groups of 21-30 years and 31-40 years (25%),followed by Ventral surface of tongue and Buccal Mucosa in age group of 31-40 years and Ventral surface of tongue and Floor of Mouth in age groups of 21-30 years and 31-40 years (8.3%), least being combined Palate and Ventra Surface of Tongue in age groups of 21-30 years (4.2%).

DISCUSSION:-

Oral cancer is a major health problem and will increase in coming days in both sexes , however early detection and prevention will reduce this burden. Oral cavity is accessible for visual examination and oral cancers and pre cancerous lesions have well defined clinical diagnostic features but oral cancers are detected in advanced stages[13,14]. In simple examination of oral cavity it can be diagnosed by self or professional mouth examination earlier detection will aid in better curing rates and will also reduce the cost of treatment[11]. In India the incidence of oral cavity cancers are one of the highest in world because of tobacco products are easily available.[13]and lack of community awareness. In our study Erythroplakia was the most common clinical findings as per examiners data which can be related to other studies also[20], as in this study biopsy has not been done for lesions to rule out exact Histopathologica features, this observation is base only clinical criteria [9], most affected region was Buccal Mucosa , followed by Retromolar trigone which can be coincided to other studies[2,13,15] Oral cancers can be prevented by action against risk factors and early detection by simple screening and periodic visits to dentists. It has to be enforced way for Multi center randomized controlled trials of dietary supplementation for persons with oral precancerous lesions by assessing required vitamins, retinoids and carotenoids[2,17]. Education campaigns are needed to raise public awareness about oral cancer and its links with tobacco usages, alcohol consumptions and other precipitating factors.

CONCLUSION:-

The maximum site affected in our study was buccal mucosa (30%) followed by Retro molar Trigone(16.7%), very interestingly maximum lesion noted in our study was Erythroplakia (41.7%)[20], followed by Oral Submucous Fibrosis(40%) least being leukoplakia (30%) which is similar to other studies[18,19]. Multiple site being affected are Buccal Mucosa and Lip , Buccal Mucosa and RMT (25%), followed by Ventral surface of the Tongue and Floor of the mouth and least affected being Palate. However in this study we have not included habits and biopsy and any other serum markers as it was clinical descriptive study and emphasis is made to highlight of age groups and site predilections only. Based on these observations it can be arrived at a point that the lesions have specific site predilections based on age groups, but to evaluate detailed association of lesions with site further studies are contemplated for achieve more level of significance. Early detection of premalignant oral lesion is of utmost importance to prevent further progress to oral cancer.

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