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Original Research

Study On Aetiopathology Of Ulcers And Membranous Lesions Of Oral Cavity And Oropharynx

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Abstract

Oral cancer ranks in the top three of all cancers in India, age adjusted rates of oral cancer in India is 20 per 100,000 population and accounts for over 30% of all cancers in the country. Early detection of oral lesions will improve the cure rate, and also lowers the cost and morbidity associated with treatment. Data from 300 patients who are histopathologically diagnosed with oral lesions was analyzed for aetiopathological factors from Jan 2012 to Jan 2015. Out of 300 patients 48 %(144) were female and 52 %(156) were male. Mean age of patients was 28.88 years, with almost 75% between 15 and 35 years. Duration of symptoms varied from 1 day to 12 months. 86% patients belonged to low socio economic status and 78 %patients consumed non vegetarian diet. 86% patients practiced the habit of tobacco use (47% smoking and 74% Tobacco chewing) and 10% had betel nut chewing habit. Alcohol consumption was found in 47% of patients. Poor oral hygiene was present in 86% of patients. Pre malignant conditions were found in 28% of patients, chronic traumatic irritation in 21% of patients and Iron deficiency anemia was found in 10% of patients. Most common site of the oral cancer was the tongue (33%). Tobacco and alcohol intake, iron deficiency anemia, chronic traumatic irritation and poor oral hygiene seem to be the most important etiological factors in the development of oral and oropharyngeal malignancy.

Keywords: Cross sectional study, Tobacco usage, pre malignant lesions, Anemia

Introduction

Oral Cancer is the sixth most common cancer reported worldwide with an annual incidence of over 300,000 cases, of which 62% reported in developing countries.^[1] Oral cancer ranks in the top three of all cancers in India, age adjusted rates of oral cancer in India is, 20 per 100,000 population and accounts for over 30% of all cancers in the country.^[2] As majority are diagnosed in the advanced stages III or IV, it is an important public health issue which is responsible for 3% to 10% of cancer mortality worldwide.^[3] Rate of progression of Oral premalignant lesions has been shown up to 17% within a mean period of 7 years after diagnosis. Our aim of study is to study the aetiopathological factors responsible for oral and oropharyngeal lesions which predispose to malignancies in patients with histologically proven lesions.

Materials and Methods:

Patients with clinically diagnosed oral and oropharyngeal lesions who presented to OPD between January 2012 and January 2015 are considered for including in the study. Age limit of patients is from 10 to 60 years. Patients with congenital oral lesions, who do not fit in age limit and without histopathology examination, are excluded. Patients who had been histopathologically diagnosed with an oral lesion (either before their first presentation to OPD, or after undertaking biopsy in ENT outpatient department and histopathological examination) were recruited.

Clinical history and examination was performed with emphasis on probable risk factors of the oral and oropharyngeal lesions using a Proforma. Data was collected regarding habits of tobacco use , alcohol consumption and mouth wash gargling , history of radiotherapy and dietary habits. History was also obtained regarding past history of vitamin A deficiency, Plummer Vinson syndrome, poor oral hygiene, herpetic gingivostomatitis, oral papilloma, oral candidiasis, oral lichen planus and chronic irritation (broken teeth, dental stump and dentures).

Results:

Out of a total of 300 patients, 48% (144) were females and 52 % (156) were males. Mean age of patients was 28.88 years, with 72% (216) between 15 and 35 years. Duration of symptoms varied from a minimum 1 day to a maximum of 12 months. The duration of symptoms were less than 2 months in 180 cases, 2-6 months in 90 cases and more than 6 months in 30 patients. 86%(258) belonged to low socioeconomic status based on modified Kuppaswamy's Socio-economic status scale^{4,14} and 78% (234) patients consumed non vegetarian diet. 86% (258) of patients practiced the habit of tobacco use. 947% (141) of smokers and 74% (222) Of Tobacco chewers) and 10% (30) had betel nut chewing habit. In smokers 60% had more than 5 pack years of smoking which is lower limit of threshold for risk of cancer.⁵

Alcohol consumption was found in 47% (141) of patients. In patients who consumed alcohol, 85% (120) were male. About 40% (56) of patients who consume alcohol took more than 12 drinks per week on average. Poor oral hygiene was observed in 86% (258) of patients, which increases the risk of Systemic diseases.⁶ Chronic traumatic

irritation was observed in 21% (63) of patients and Iron deficiency anemia was found in 10% (30) of patients. Pre malignant conditions was observed in 24% (72) of patients of which Sub mucous fibrosis was found in 20% (60), Leukoplakia in 3% (9) and erythroplakia in 1% (3) of all patients.

Lesions were arising from alveolar ridge in 36 patients, buccal mucosa in 126 patients, floor of the mouth in 24 patients, posterior pharyngeal wall in 9 patients, tonsils in 21 patients, anterior and posterior pillars in 18 patients, hard palate in 9 patients, retromolar trigone in 6 patients, tongue in 36 patients, and vestibule of the tongue in 15 patients. Out of 300 patients recruited in the study malignancy was diagnosed histopathologically in 7% (21) of patients. Out of 21 Patients diagnosed with malignancy, 20 patients had Squamous cell carcinoma and 1 patient was diagnosed with undifferentiated Carcinoma. Commonest site of malignancy was tongue with 7 patients' diagnosed. 20 patients diagnosed with malignancy had more than 1 risk factor and 10 patients had more than 2 risk factors.

Discussion:

Oral cancer resulted in 135,000 deaths in 2013 compared to 84,000 deaths in 1990.⁷ In our study highest numbers of patients, 8 diagnosed with malignancy were in 5th decade.^[8] Incidence of oral and oropharyngeal lesions were almost similar in males and females which differs from studies done in industrialized countries.⁸ 70% of patients presented with soreness or irritation in mouth. According to World Health Organization, 90% of oral cancers were due to tobacco usage.¹⁰ Our study observes that tobacco use was associated in 86% (258) of oral lesions, about 95% of patients diagnosed with malignancy had history of tobacco usage and about 80% diagnosed with pre malignant lesions are tobacco users. Acetaldehyde (a breakdown product of alcohol) is implicated in oral cancer according to 2008 study.¹¹ Our study observes that Alcohol is associated with oral lesions in 47% (141) of patients, 24% (5) in malignancy and about 28% (20) of patients with pre malignant lesions.

Role of viruses could not be observed in the study as only 6 patients got Polymerase chain reaction for Human papilloma virus (HPV16) of which 1 was positive.^[9] Poor oral hygiene which is a risk factor for systemic diseases was present in majority (86%) of patients which is a matter of concern.¹² Association of Pre malignant conditions and risk factors particularly Tobacco use, Alcohol use and chronic traumatic irritation was observed.¹³

Survival rates of oral cancer patients have not significantly improved in decades. Death rate for oral cancer is higher than cervical cancer, Hodgkin's lymphoma, laryngeal cancer, cancer of the testes, and endocrine system cancers such as thyroid, or skin cancer (malignant melanoma). As per oral cancer foundation, if the definition of oral cancer is expanded to include cancer of the larynx, with same risk factors, numbers of diagnosed cases grow to approximately 50,000 individuals, and 13,500 deaths per year in the U.S. Worldwide, with over 640,000 new cases being found each year.

Relative risk of tobacco users with oral cancer is 3.255 times of non tobacco users according to our study. Relative risk of Alcohol usage and oral cancer is 1.39 times according to our study. Relative risk of chronic irritation with oral cancer is 6.08.

Conclusion:

Oral and oropharyngeal lesions are almost equally distributed among males and females. Low socio economic status is found to be associated with lesions. Tobacco chewing, smoking, Alcohol intake and chronic traumatic irritation are strongly associated with oral premalignant lesions and malignancy. Low public awareness of the disease is a matter of serious concern. Oral cancers could be found at early highly survivable stages through a simple, painless, 5 minute examination by a trained medical or dental professional.

SEER database(2011) shows that survival is around 57% at five years when all stages of initial diagnosis, all genders, all ethnicities, all age groups, and all treatment modalities are considered with similar reports from other studies.^[15] Survival rates for stage 1 cancers are approximately 90%, hence more emphasis to be laid on early detection of lesions to improve chances of survival .Viral infections can be evaluated for causative agents of oral lesions if the investigations are made available at affordable costs to patients.

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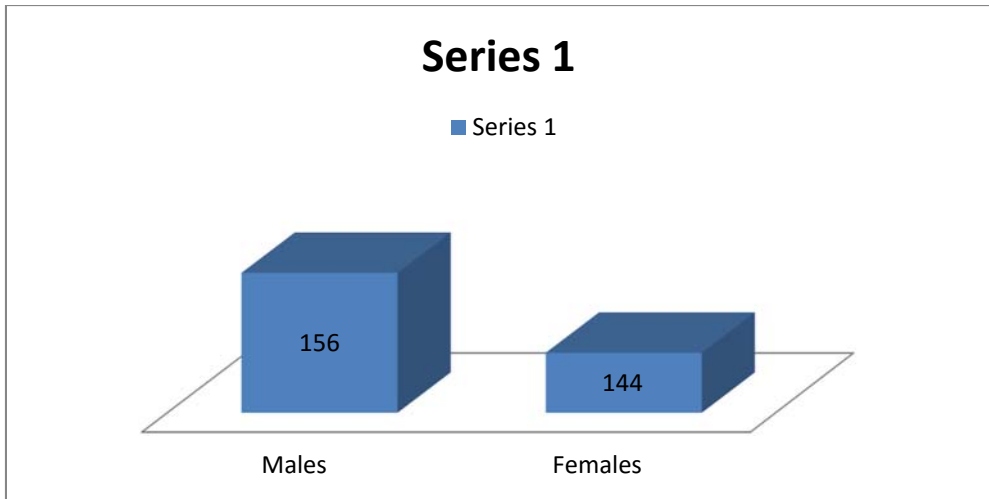
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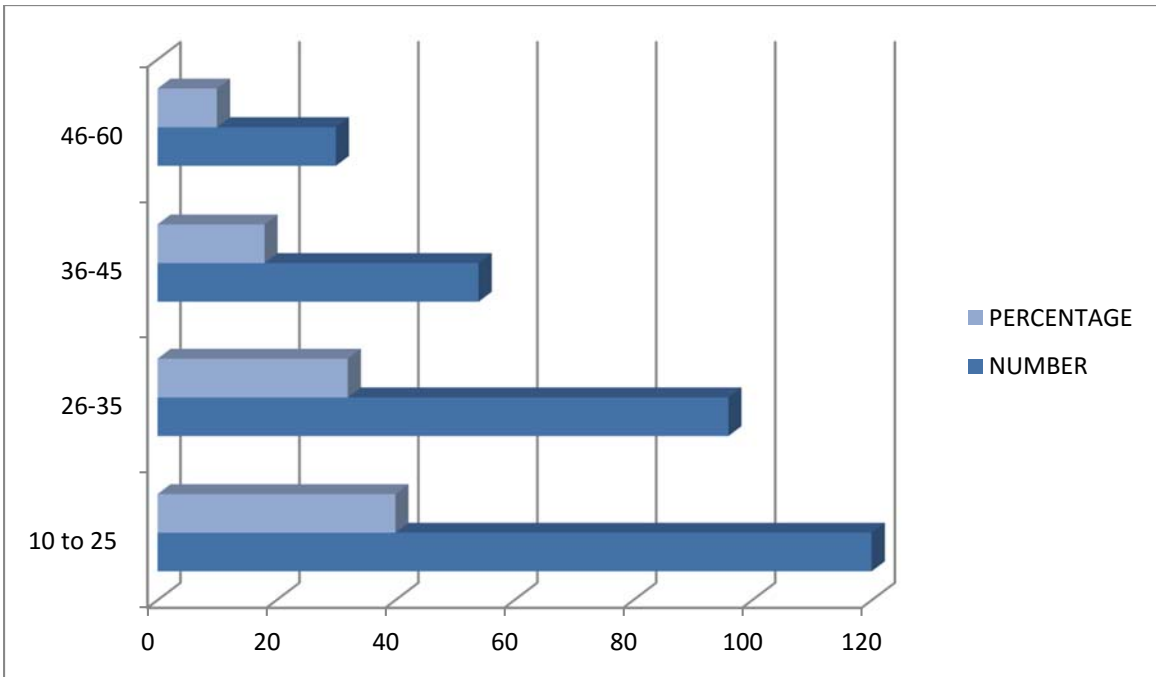
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Figures

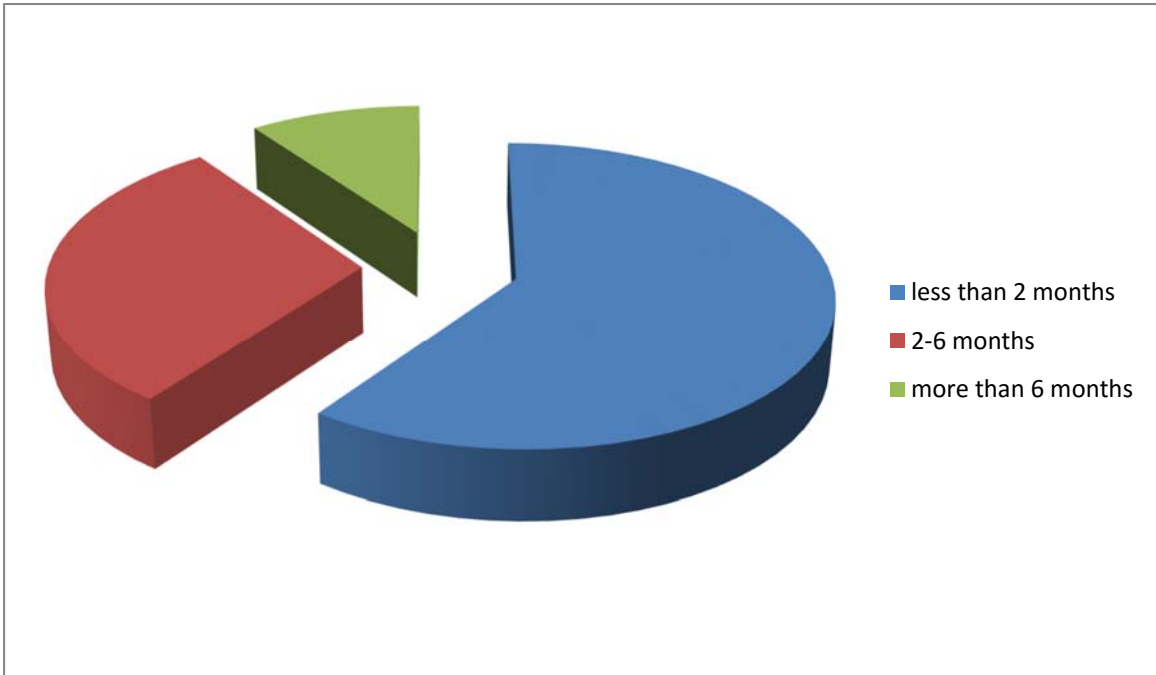
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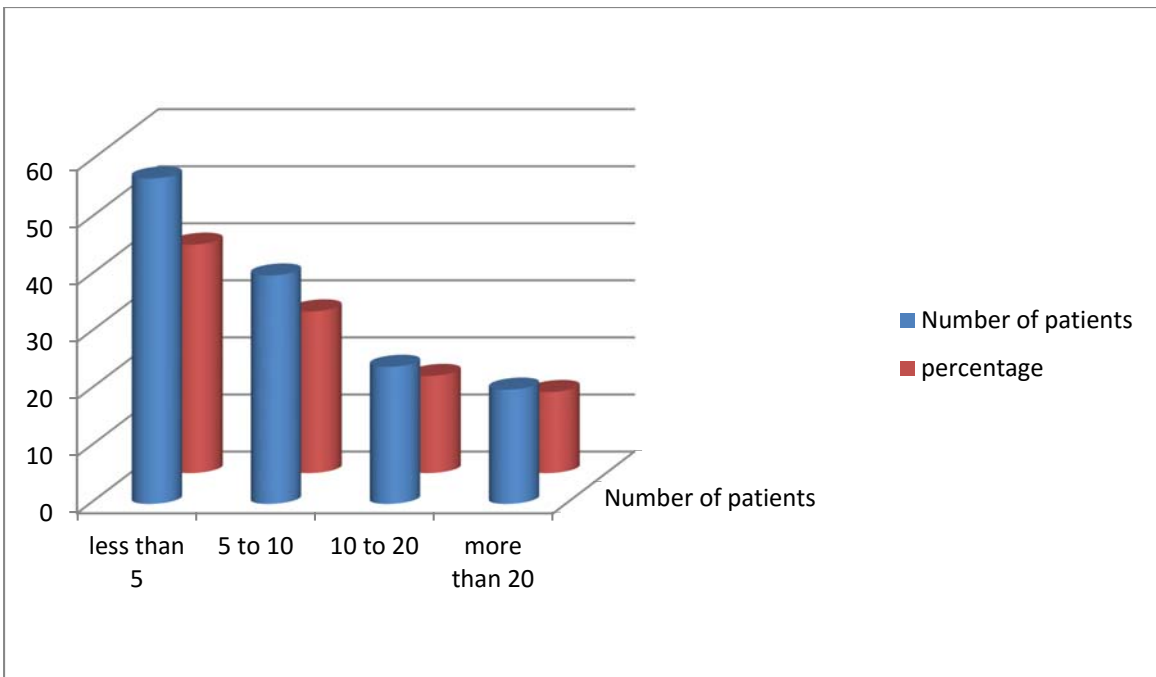
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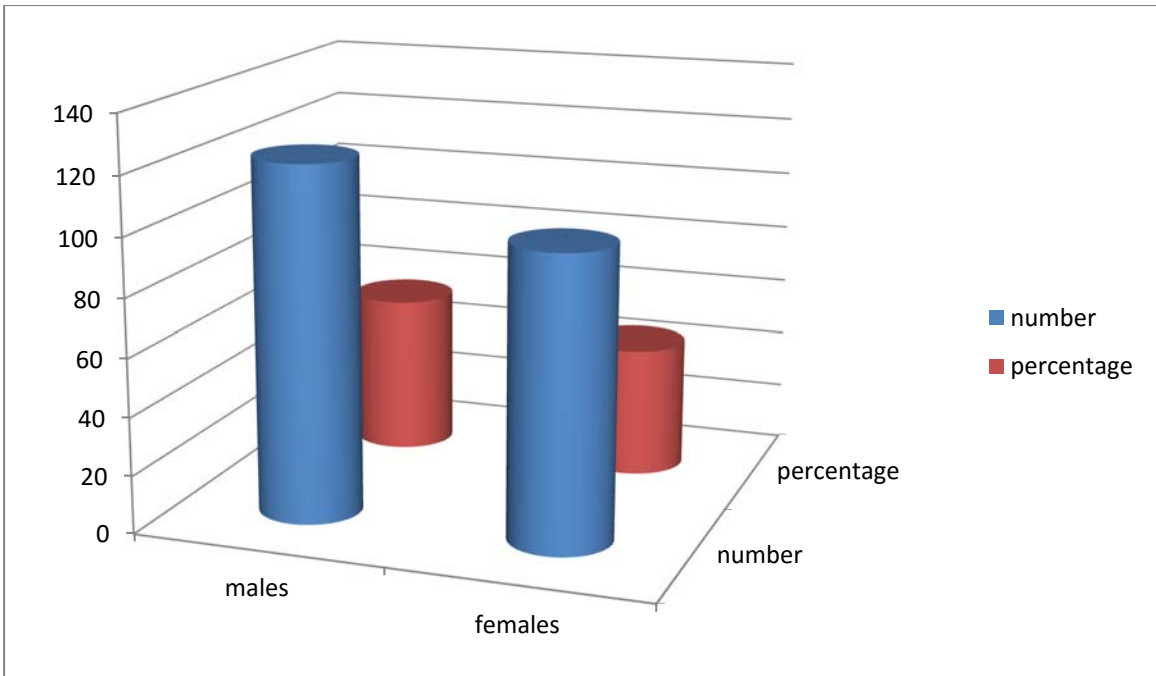
Duration of Symptoms



Smoking in pack years



Tobacco Chewing Habit among patients



Pre Malignant conditions

