

## A Clinical Study on Ulcero-Membranous Lesions of Oral Cavity and Oropharynx

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### Abstract

**Introduction:** Ulcero-membranous lesions of oral cavity and oropharynx are common ENT complaint we encounter in OPD and also pose effect on health of the patients and so it is important to establish proper diagnosis and to provide appropriate treatment.

**Aims:** To determine the proportion of patients presenting with various clinical features of ulcero-membranous lesions in oral cavity & oropharynx.

**Materials and Methods:** it is a prospective study done in department of ENT over a period of 18 months. Patients with complaints of ulceromembranous lesions attending otorhinolaryngology OPD who are willing to participate in study were considered for study.

**Results:** In present study, most common age group involved were 41-60 years constituting 45.09% and males outnumbered females constituting 65.69%. Most common throat symptom was odynophagia followed by burning sensation, dysphagia and throat pain. Associated ear complaints were present in 14.7% and nose complaints in 5.9%. General symptoms like fever was present in 10.7%, loss of weight was present in 23.5%, general weakness was present in 15.6%, skin lesions were present in 6.9%. Systemic diseases like diabetes was present in 34.3%, hypertension was present in 25.4%, HIV was present in 3.9%. Risk factors like smoking present in 43.1%, alcohol consumption present in 14.7%, tobacco chewing present in 17.6%, prior radiation exposure present in 0.9%. Most common site affected in present study was tongue 44.1% followed by palate 29.4%, buccal mucosa 15.6%, tonsils 8.8%, lips 7.8%, alveolus 2.9%, RMT 1.9%. Most common etiology found was neoplastic etiology which constitute 41.1%, followed by inflammatory etiology 31.3%, infective etiology 20.5% and miscellaneous 6.8%. 52.9% patients were managed conservatively and among patients with neoplastic etiology, 36.2% were treated surgically by oncosurgery team and 10.7% patients were managed with radiotherapy.

**Conclusion:** With increase in habits like smoking and chewing nicotine in any form in adult population there is rise in incidence of malignancies. So high index of suspicion is needed while treating an oral ulcer especially chronic ulcers. Biopsy and histopathological examination are always gold standard to confirm the diagnosis.

**Keywords:** Radiotherapy, ulceromembranous lesions, inflammatory etiology, histopathological examination.

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### Introduction

The importance of mouth to the otolaryngologist is self-evident. It is the portal of entry for visual examination of the oropharynx, larynx and the opening of the eustachian tube in the nasopharynx. Ulcers and membranous lesions of oral cavity and oropharynx is a common complaint encountered in E.N.T OPD. Proper knowledge of aetiopathology of these lesions is necessary to treat the underlying pathology. An ulcer is a discontinuity of an

epithelial surface. Ulcers are common diseases for which patient seeks medical advice. Features which are helpful in identifying the cause of ulcers are the associated constitutional signs and symptoms, presence of lesions on skin, on mucosa other than oral cavity and evidence of bullae and vesicles. The membranous lesion is an inflammatory condition in which cells of mucous membrane surface are killed and exudates is laid down on the surface and the whole necrotic layer is bound by fibrosis to the

underlying tissue to form a false membrane classically seen in diphtheria. There are numerous causes of ulcero-membranous lesions in oral cavity & oropharynx and the condition may be confined to oral cavity & oropharynx or may involve mucous membrane of other parts of the body. They may be part of local or systemic diseases. Ulcers and membranous lesions may be present due to various underlying pathologies. So proper diagnosis, thorough detailed history, general, systemic and local examination and investigations are warranted to find out cause and initiating treatment. [1, 2] Morbidity associated with ulcero-membranous lesions in oral cavity & oropharynx and their effect on general health of an individual is significant.

**Materials and Methods**

Prospective study in all patients attending OPD in GGH Guntur in Eighteen months from the date of approval. Inclusion criteria: Patients of all age groups presenting with ulcero-membranous lesions in oral cavity and oropharynx. Exclusion criteria: Patients who underwent radiotherapy just prior to the disease, with traumatic injuries without infection. Method of study is a time bound prospective observational study of patients attending OPD of GGH Guntur with ulcero-membranous lesions in oral cavity and oropharynx. Study was initiated after obtaining approval from the institutional ethics committee. Informed written consent was taken from the study subjects after explaining to them the plan and intention of the study in the language best known to them. A specially designed proforma was used to collect

data on each individual subject. Patients of all ages visiting ENT outpatient department with ulceromembranous lesion in oral cavity and oropharynx were evaluated. Detailed history including personal, family and medical history were noted. Local and general examination was done. Swab was taken from surface of membrane and base of ulcer taking care to avoid any surface contamination. Material from swab was subjected to staining (grams /alberts /KOH mount) and culture sensitivity. Serology, complete blood count and ESR was done. In suspected malignancy cases biopsy was taken from margin of ulcer and sent for histopathological examination. FNAC was done from suspected lymph nodes. Radiological investigations like CT neck and chest x-ray was done in relevant cases to know the extent of suspected malignant lesions and presence of any subclinical metastatic lymph nodes. Patients with malignancy were treated either with radiotherapy or surgery or both. Patients found to have viral infections were treated with oral and topical antivirus drugs, NSAIDS. Patients found to have bacterial infections were treated with oral or systemic broad spectrum antibiotics. Patients with fungal infection were treated with oral and topical antifungals.

Investigations required : selected patients were subjected to investigations like routine blood investigations, gram stain, albert’s stain, KOH mount culture and sensitivity, peripheral smear, serology, FNAC, HPE, USG, chest x ray, CT neck, MRI.

**Results**

**Table 1: Demographic distribution in study**

Age Distribution	Number	Percentage
0-20 years	7	6.9
21-40 years	37	36.2
41-60 years	46	45.09
61-79 years	12	11.7
<b>Gender</b>		
Males	67	65.6
Females	35	34.3

In our study, most common age group affected range between 41-60 years constituting 45.09% followed by 21-40 years constituting 36.2%. So 5<sup>th</sup> and 6<sup>th</sup> decade were most affected group in our study. Oldest patient in our study aged 79 years and youngest child being 6years. 67 were males which constitute 65.6% and females were 35 in number which constitute 34.3%.

In study by us, males constitute highest population and among them age group between 41-60 years constitute 36.2% followed by 21-40 years constituting 19.6%. Among female population, age group between 21-40 years constitute 16.6% followed by 41-60 years constituting 8.8%.

**Table-2: Clinical presentation of cases in study**

Throat Complaints	Number	Percentage
Dysphagia	59	57.9%

Odynophagia	71	69.6%
Throat Pain	57	55.9%
Burning Sensation	67	65.6%
Foreign Body Sensation	42	41.1%
Cough	13	12.7%
Neck Nodes	12	11.7%
Ear Complaints	15	14.7
Nose Complaints	6	5.9
<b>General Symptoms</b>		
Fever	11	10.7%
Weight Loss	24	23.5%
Weakness	16	15.6%
Skin lesions	7	6.9%
<b>Systemic Diseases</b>		
Diabetes	35	34.3
Hypertension	26	25.4
HIV	4	3.9

In our study ,most common complaint encountered was odynophagia accounting 69.6% followed by burning sensation accounting 65.6% followed by dysphagia 57.9% followed by throat pain 55.9%. Ear complaints were seen in 14.7% of study subjects and nose complaints were seen in 5.8% of

study subjects. Weight loss is the most common general symptom among 23.5%, followed by weakness among 15.6%. Diabetes mellitus was found to be the most common systemic disease accounting 34.3% followed by hypertension constituting 25.4% and HIV among 3.9%.

**Table-3: Distribution of cases according to risk factors.**

Risk Factors	Number	Percentage
Smoking	44	43.1%
Alcohol	15	14.7%
Tobacco	18	17.6%
Exposure To Radiation	1	0.98%

In our study , most common risk factor was smoking accounting 43.1% followed by tobacco chewing among 17.6% and alcohol among 14.7 % of study subjects. Prior history of radiation exposure was seen in 1 subject.

**Table-4: Distribution according to site of involvement and etiology.**

Site	Number	Percentage
Buccal mucosa	16	15.6
Palate	30	29.4
Lips	8	7.8
Tongue	45	44.1
Alveolus	3	2.9
Tonsil	9	8.8
RMT	2	1.9
<b>Etiology</b>		
Infective	21	20.5%
Inflammatory	32	31.3%
Neoplastic	42	41.1%
Miscellaneous	7	6.8%

In our study , most common site involved is the tongue which constitute 44.1% followed by palate which constitute 29.4% followed by buccal mucosa which constitute 15.6%. In study by us, we found

neoplastic etiology as highest constituting 41.1% followed by inflammatory etiology accounting 31.3% followed by infective etiology constituting 20.5% and miscellaneous 6.8%.

**Table-5: Distribution according to sites involved in etiology**

Site	Infective	Inflammatory	Neoplastic	Miscellaneous
Buccal Mucosa	1	8		7
Lips		5		3
Palate	14	2	10	
Tongue	3	15	27	
Tonsil	5		4	
Alveolus			3	
RMT	2			

In study by us, neoplastic etiology constitute highest and among neoplastic lesions tongue involvement is more followed by palate. Among inflammatory lesions ,tongue involvement is more followed by buccal mucosa. Among infective lesions palate involvement is more common followed by tonsil.

**Table-6: Distribution of patients according to treatment modalities**

Treatment modality	percentage
conservative	52.9%
surgical	36.2%
Radiotherapy	10.7%

In study by us 52.9% patients were managed conservatively and among patients with neoplastic etiology 36.2% were treated surgically by oncosurgery team and 10.7% patients were managed with radiotherapy.

**DISCUSSION**

In our study common age group affected range between 41-60 years. Study done by John S et al found that the highest number of ulcero-membranous lesions was seen in female patients with age range between 36- 45 years (17%) and male patients with age range between 46-55 years (17%) [3]. Study by prakash et al found age group affected the most in their study was 11-30 years. [3] Study done by sandeepchahande et al found maximum cases of mucosal lesions were found in age group 10-19 years while the minimum cases found in 0-9 age group. [4] Study done by bhaskaran K et al [5] found maximum cases

affected range between 10-25 years while minimum cases range between 46-65 years. In study by us least age encountered was 6 years and highest age was 79 years. Study by john S et al [1] found Least age of the patient encountered was 22 years male and highest age of the patient was 65 years . Study done by sandeep et al4found the minimum age of the patient was 1 year and maximum age was 70 years. In study by us highest number of ulcero-membranous lesions were found in male patients among age range between 41-60years and female patients in age range between 21-40years.

**Table-7: Comparison of our study with other studies**

Study	Results	Percentage
<b>Age distribution</b>		
Our study	41-60 years	45.09%
John S et. al [1]	36-55 years	34%
Prakash et al [3]	11-30 years	53.6%
Sandeep et al [4]	10-19 years	23%
Bhaskaran et al [5]	10-25 years	40%
<b>Gender</b>		

Our study	Males	65.6%
Prakash et al [3]	Males	55.5%
Bhaskaran et al [5]	Males	52%
Sandeep et al [4]	Equal	50%
John S et al [1]	Females	60%
<b>Common symptoms</b>		
Our study	Odynophagia	69.6%
Prakash et al [3]	Non specific ulceration	54%
Sandeep et al [4]	Burning sensation	45%
<b>Most Common Symptom</b>		
Our study	Smoking	43.1%
Thimmappa TD et al [7]	Smoking	49 %
Praksh et al [3]	smoking	62.5%
Syed mushtaq et al [4]	Areca nut chewing	32%
John S et al [1]	Tobacco chewing	35%
Sandeep et al [4]	Tobacco chewing	35%
<b>Site of involvement</b>		
Our study	Tongue	44.1%
Prakash et al [3]	Buccal mucosa	72.2%
Syed mushtaq et al [4]	Buccal mucosa	55.5%
John S et al [1]	Buccal mucosa	64%
Sandeep et al [4]	Buccal mucosa	42%
Bhaskaran et al [5]	Buccal mucosa	42%
<b>Etiology</b>		
Our study	Neoplastic	40.1%
John S et al [1]	Neoplastic	27%
Syed mushtaq [6]	Malignant ulcers	33-66%
Sandeep chahande et al [4]	Malignant ulcers	13%
Prakash et al [3]	Non specific ulcers	34%
Thimmappa et al [7]	Non specific ulcers	50%

In present study male to female ratio being 1.9:1. Study by Manjunath K et al [8] in the year 2017, which also shows male preponderance. [8] Study by Bhaskaran K et.,al [5] And Rajesh Kumar A et al found that males to female ratio was 1.08:1. Study by Prakash, et al [3] found male to female ratio was 1.1:1. Study by Sandeep Chahande et al [4] found that male to female ratio was 1:1. Study done by John S et al [1] females (60%) were most commonly affected. In our study among throat complaints odynophagia constitute 69.6 %, burning sensation constitute 65.6%, dysphagia constitute 57.9%, throat pain 55.9%, and foreign body sensation constitute 41.1%. Study done by John S et al [1] found out that the most common symptoms in their study were ulcero membranous lesions in the oral cavity and discomfort followed by pain and burning sensation. Study by Sridhar RD et al in the year 2017, throat pain was the most common symptom followed by odynophagia. Study done by Sandeep chahande et al found that Major complaint of patients was ulceration (80%) followed by

patches or membranes (20%) in mouth or throat. Associated complaints included burning sensation in mouth (45%), constipation (41%), trismus (32%), dyspepsia (29%), decreased appetite (27%), foul smell from mouth (26%), difficulty in swallowing (22%), bleeding from mouth (19%) and lesions at other parts of body (8%). Study done by prakash et al [3] found that most common lesions found were nonspecific oral ulcerations with 54% of the cases in their study and all the cases studied were associated with ulcer, pain and burning sensation in the mouth. In our study , history of smoking is present in 43.1 % and tobacco chewing in 17.6% and alcohol consumption in 14.7 % . Study done by Gupta B, et al showed Combined effects of tobacco and alcohol consumption habits elevated the risk by twelve fold (OR=12.05; 95% 4.61-31.49) in comparison to never users of these habits. Combination of these lifestyle risk factors accounted for 86.8% of population attributable risk. Tobacco chewing was present in 14 patients . Study done by prakash et al [3] where history of smoking

was present in 62.5%, alcohol in 50%, chewing betel nut and tobacco in 62.5%. Study done by Syed Mushtaq, Sanjeev Tadasadmth et al [6] found out that Areca nut was chewed by 32% of total cases and betel quid 16% of cases in benign group. Study done by John S. et. al [1] found highest number of patients in their study (39) gave history of tobacco chewing. 13 patients gave history of alcohol consumption, and 8 patients had both a smoking and an alcohol consumption history. Study done by Sandeepchahande et. al [4] found most common causes of oral and oropharyngeal lesions was tobacco /guthka chewing (35%) followed by psychological stress (29%) and bidi /cigarette smoking (28%). Other causes included anaemia (14%), trauma (6%) etc. In present study, involvement of tongue constitutes (44.1%), followed by palate (29.4 %) and buccal mucosa (15.6 %). Study by Prakash et al [3] found that buccal cavity (72.2%) was more affected in aphthous ulcers patients and buccal mucosa (40.8%) and gingivo buccal sulcus (26.6%) were more affected in cases with malignant ulcers. Study by Sandeep chahande et al [4] found out that the buccal mucosa is the most common site for oral mucosal lesions (42%) in which maximum number of cases were those of ulcers followed by leukoplakia. The next most common site of ulcers and membranous lesions in oral cavity was tongue (25%) and lesions found were leukoplakic plaques, malignant ulcers, and aphthous ulcers. Other sites include anterior and posterior pillars (4%), retromolar trigone (4%) and gums(1%) (6). Study done by John S et. al [1] found mucous membrane is most affected (64%) and hard palate(19%) and then tongue(18%). Study done by Bhaskaran K et al [5] found buccal mucosa affected the most (42%) followed by tongue(12%) and alveolar ridge(12%). Study done by Syed Mushtaq, Sanjeev Tadasadmth et al [6] found that among the malignant oral ulcerative lesions, buccal mucosa was the commonest site involved comprising 55.5% next was oral tongue lateral margin 33.3%. In our study, we found site of predilection in ulcero membranous lesions most commonly was tongue, reason being more number of neoplastic etiology cases we found in present study and due to habit of chronic smoking and tobacco chewing. In present study neoplastic etiology constitutes highest ( 40.1 %), followed by inflammatory etiology( 32.3%) and then by infective etiology (20.5%) followed by miscellaneous (6.9%) which is in comparison to study done by John S et al [1] which found out that most common etiology being neoplastic etiology which constitute altogether (27%), aphthous ulcers (15%),traumatic etiology (12. 8%) . Study done by Prakash et al [3] found that nonspecific ulcers were most common (54%), followed by aphthous ulcers (18%), followed by malignant ulcers (8%). Study done by Thimmappa et al [7] found that most

common etiology was nonspecific ulcers which constitute (50%) , then by aphthous ulcers (15%),followed by traumatic ulcers (8.3%) , malignant ulcers (6.5%),dental ulcers (6.5%), HIV and AIDS (3.2%) and ulcers due to T.B(3.2%). Study done Sandeep chahande et al [4] found that ulcers (80%) are most common than membranous lesions (20%) and among chronic ulcers which constitute ( 44%) ;29.5% are malignant , 29.5% are leukoplakia ,13.6% are chronic nonspecific pathology,9% are lichen planus ,9% are candidiasis and 6.8% are pemphigus vulgaris. Study done by Syed Mushtaq, Sanjeev Tadasadmth et al [6] found that ulcerative lesions are more common (66%), among which malignant etiology is common (33-66%) followed by benign etiology (27-54%) and premalignant (6-12%). In our study, we found neoplastic etiology being the highest, this could be due to increased addiction to smoking and smokeless tobacco among adult and elderly population and also because our hospital being a tertiary health care hospital with oncosurgery and radiotherapy facility, we often get more number of chronic ulcers which do not subside with medication for biopsy unlike nonspecific ulcers and aphthous ulcers which can be treated at primary health care centre level. In our study, 52.9% patients were managed conservatively and among patients with neoplastic etiology, 36.2% were treated surgically by oncosurgery team and 10.7% patients were managed with radiotherapy. In study done by Lee TL, et al, Tongue conservation treatment with induction chemotherap, followed by conservation surgery and risk-adapted adjuvant therapy, is feasible for patients with oral tongue squamous cell carcinoma who are good responders to induction chemotherapy. In study done by John S et. al 68% cases were managed conservatively. Patients with recurrent aphthous stomatitis were treated symptomatically with multivitamins, antioxidants, antacids, topical anaesthetic agents, and antiseptic gargling solution. 3 % patients with viral etiology were treated with oral acyclovir and topical anesthetic agents. 7% patients with oral candidiasis were treated with oral fluconazole, topical clotrimazole and topical antiseptic gargling solution. 6% patients received radiotherapy and 21% patients underwent surgery. In study done by prakash S H et al [3] most common lesions found were nonspecific oral ulcerations with 54% of the cases in this study. These ulcers heal after symptomatic treatment based on clinical diagnosis. Patients can be treated on OPD basis, so there is no need for admission and biopsy in these cases. Chronic ulcers should be followed up and biopsy should be done at regular intervals to exclude malignancy.

### Conclusion

There are numerous causes for ulceromembranous lesions of oral cavity and oropharynx and

establishing proper diagnosis and providing timely treatment is the key to prevent morbidity and sometimes mortality as well. Although aphthous ulcers are more common, we found neoplastic etiology as highest especially malignancy in our study, which could be because of our hospital being a tertiary health care hospital with availability of radiotherapy and oncosurgeons and also ample number of referrals from near by PHC hospitals and district hospitals for biopsy and further management unlike aphthous ulcers which can be treated at PHC level. With increase in habits like smoking and chewing nicotine in any form in adult population there is rise in incidence of malignancies. So high index of suspicion is needed while treating an oral ulcer especially chronic ulcers. Biopsy and histopathological examination are always gold standard to confirm the diagnosis.

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