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## Prevalence of potentially malignant disorders: An institutional study

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### Abstract

**Background:** To evaluate the prevalence of Oral potentially malignant disorders in mahabubnagar, Telangana.

**Materials and Methods:** The data was collected retrospectively year-wise for a period of 3 years from 2016 to 2018 from the records of the department of oral pathology, SVS institute of dental sciences. Age, sex, site involved, and final diagnosis based on the histopathological findings were noted and analyzed.

**Results:** A total of 1453 oral biopsies were reviewed. Of these 62 cases were potentially malignant disorders with buccal mucosa being the most frequently involved site. Most commonly seen lesion was leukoplakia.

**Conclusion:** With the knowledge about the prevalence rate of potentially malignant disorders preventive programmes can be organized to reduce the malignant transformation.

**Keywords:** potentially malignant disorders, prevalence, leukoplakia

### 1. Introduction

Oral potentially malignant disorders (OPMDs) include a variety of lesions and conditions characterized by an increased risk for malignant transformation [1]. Sir James Paget first described malignant transformation of an oral lesion into tongue carcinoma in the year 1870 [2]. The following disorders are regarded as being potentially malignant like leukoplakia/erythroplakia, Oral submucous fibrosis (OSMF), palatal lesions in reverse smokers, lichen planus and discoid lupus erythematosus. In addition, in patients suffering from rare, inherited syndromes such as xeroderma pigmentosum and Fanconi's anemia, there is an increased incidence of oral cancer [3]. Among the above mentioned OPMDs leukoplakia/erythroplakia, oral submucous fibrosis and lichen planus are commonly seen in India. The malignant potential of lichen planus remains controversial with low transformation rate of about 0.2%–1% [4].

Oral cancer is the sixth most common cancer worldwide. It accounts for 4% of all malignancies in men and 2% in women [5]. More than 90% of all oral cancers are OSCCs, which is often preceded by a premalignant lesion [6]. Hence, there is a need for the knowledge about the prevalence rate, early detection of these OPMDs to decrease the burden of cancer incidence. With this background a retrospective study was planned to analyze prevalence rate of the most common OPMDs referred to SVS College of dental sciences, Mahabub nagar, Telangana.

### 2. Materials and Methods

Data was retrieved manually from the biopsy records of Oral pathology department, SVS institute of dental sciences from the year 2016 to 2018. Data was collected year-wise in the context of age, sex, site involved, and final diagnosis given based on histopathological features.

### 3. Results

A total of 1453 biopsies were reported in this institute during the study period that is from 2016 to 2018. Among the total number of biopsies 62(4.26%) were OPMDs. Year wise distribution of number of total cases and number of OPMDs is given in (Table1, Fig1). Of the potentially malignant cases, 41 were males and 21 were females (Fig 2). Most common age group seen was 25 to 55 yrs. Most common site involved with PMDS was buccal mucosa

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(48 cases-77.41%). Distribution of different PMDS is as follows, 34 were reported as leukoplakia (52.8%), 14 were reported as OSMF (22.58%), and 13 were reported as lichen planus (20.96), one reported as erythroplakia (1.61%) (Figure3). On histopathological evaluation dysplasia was seen in 16 cases (50%) of leukoplakias, 5 cases (51%) of OSMF and only 1 case (7.5%) of lichen planus. One (100%) Erythroplakia case was presented as severe dysplasia (Table2).

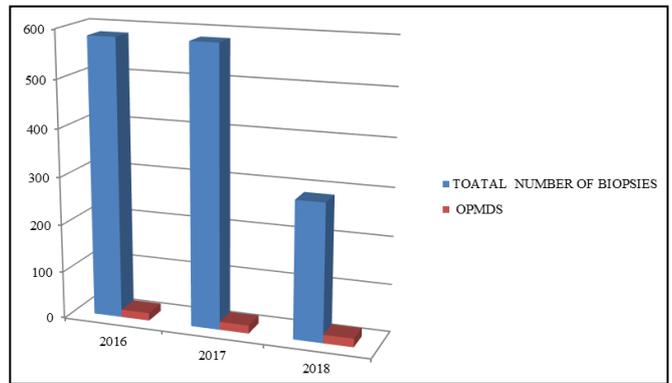
**4. Discussion**

It is well accepted that all potentially malignant disorders do not progress to cancer but they have higher risk of malignant transformation unless diagnosed early and treated. According to our study results OPMDS constituted about 62 of total 1453 biopsies during the period of 3years with a prevalence rate of 4.26% which is similar to the studies done by Warnakulasuriya *et al.*,1984 (4.2%) [7], Rao *et al.*, in 1998 [8] (3.98%), and Lim *et al.*, in 2003 [9] (4.2%), Hari Vinay *et al.*, 2014(4.2%) [10]. In contrast, our prevalence is much higher when compared with the study done by Bhonsle *et al.*, in 1976 [11] (1.78%), suggesting that there is a slight regional variation in occurrence of the disease. According to the many researchers most age group showing PMDS noted was 30 to 50years [12, 13], even we noticed highest cases in the similar age group.

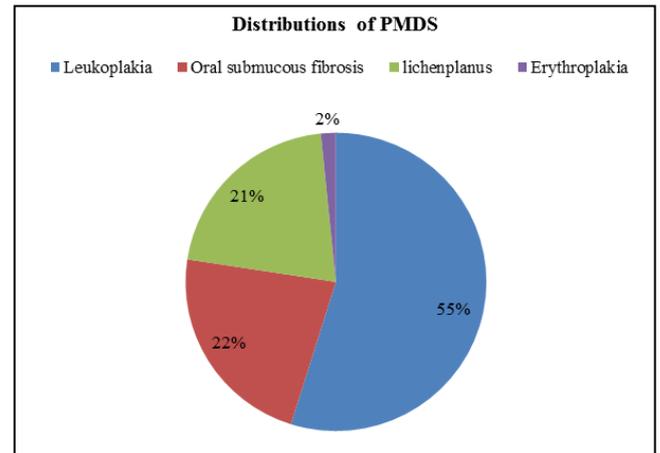
Considering the individual lesions in our study, leukoplakia showed an overall 2.33% prevalence, which was similar to the studies done by Bhonsle *et al.*, at Goa in 1976 [11] (1.6%) but in contrast to a study by Saraswathi *et al.*, in 2006 [12] (0.6%) and study by Hari Vinay *et al* 2014 [10] (0.8%) Second, prevalence of OSMF was noted as 0.96 in our study and is similar to study done by Pindborg *et al.* at Trivandrum in 1965 (0.9%) [14] but higher than the other studies, done by Pindborg *et al.*, at Lucknow [15] (0.5%), and Saraswathi *et al.*, at Chennai in 2006 [12] (0.55%). which could be due to habitual differences between the study groups. Finally, the prevalence of lichen planus is 0.89 in our study, which is higher in contrast to the studies done by Lay *et al.*, at Bilugyum in 1982 [16] (0.4%), Saraswathi *et al.*, at Chennai in 2006 [12] (0.15%) but it is less in contrast to studies done by Hari Vinay *et al* 2014 [10] (2%). These changes could be related to geographical variation and life style changes between the study groups.

Most common site noted for the occurrence of OPMDS was buccal mucosa (77.41%), followed by tongue (17.74%). These results are in correlation with the studies done by Bhurgri Y *et al* in 2005 [17] (buccal mucosa-55.9%, tongue-28.8%) and by Shyam *et al* in 2014 [18] (buccal mucosa-47.7%, tongue-27.6%). On histopathological evaluation of these OPMDS it is evident that leukoplakia and OSMF cases almost equally showed dysplastic changes and these changes are less seen in lichen planus.

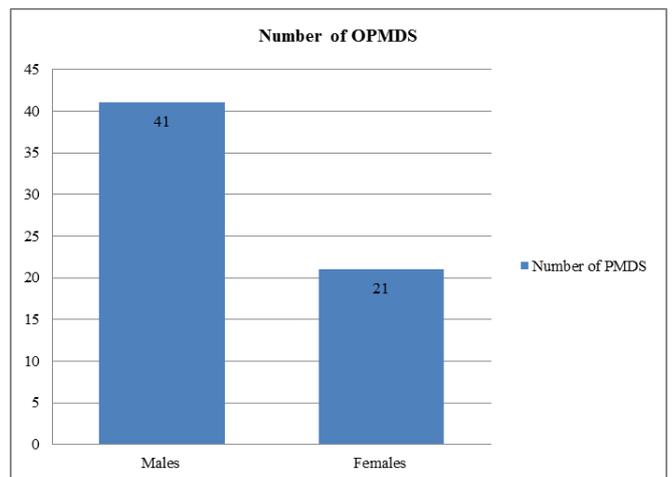
An effort was made to evaluate the prevalence rate of OPMDS. As it is an experience of individual institution, the data reported may not reflect the whole community. Further studies with larger sample size should be encouraged.



**Fig 1:** Year wise distribution of total number of cases reported and number of OPMDS



**Fig 2:** Distribution of different variants of OPMDS



**Fig 3:** Distribution of OPMDS in different genders

**Table 1:** Year wise distribution of total number of cases reported and number of OPMDS

Year	Total biopsies	OMPDS
2016	583	19
2017	583	18
2018	287	25

**Table 2:** Number of cases showing dysplasia

	Without dysplasia	With dysplasia
Luekoplakia	16	18
OSMF	5	12
Lichen planus	1	12
Erythroplakia	0	1

## 5. Conclusion

Studies evaluating the prevalence rate of OMPDS which are associated with increased risk of malignant transformation help us conducting awareness programmes at community centers and they further helps us to promote prevention activities in order to reduce the morbidity and mortality rates.

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