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Prevalence of Mucocele Among Patients Visiting Private Dental Hospital- An Institutional Study

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KEYWORDS	ABSTRACT:
mucocele, extravasation, retention, lip biting, Pathology, innovative technology, novel method, dental hospital.	Introduction : Oral mucocele is a benign, mucus-containing cystic lesion of the minor salivary gland. They occur in two forms one is the extravasation type and the other is retention type. The present study assesses the current prevalence of oral mucoceles among patients visiting the Oral Pathology department of a private dental hospital.
	Objectives : Aim of this study is to assess the current prevalence of oral mucoceles among patients visiting the Oral Pathology department of a private dental hospital.
	Methods : Data of cases diagnosed as Oral mucocele was extracted using the DIAS All the cases were collected in specified time and from patients who had undergone biopsy. The obtained data were subjected to statistical analysis using SPSS software
	Results : From this study it was evident that mucoceles were more prevalent in males when compared to females.Extravasation type of mucocele (60%) was the most common mucocele reported in males. In females extravasation type was reported in 20% of the females and 10% reported retention type of mucoceles. Pearson Chi-square test shows p value was found to be 0.2 (>0.05) and was statistically not significant
	Conclusions : From this study we can conclude that mucocele is more prevalent among male patients than female patients .They often go away without treatment. However, removal of the feeding salivary gland might occasionally be required.

1. Introduction

Oral mucocele is a benign, mucus-containing cystic lesion of the minor salivary gland. They occur in two forms one is the extravasation type and the other is retention type .The extravasation type is more common than the retention type [1].The cyst evolves when the mouth's salivary glands get clogged with mucus. Most cysts occur on the lower lip, but they can appear anywhere inside the oral cavity. They are generally temporary and painless[2]. Mucoceles develop mostly in children or adolescents who have a history of injury or lip biting. Whereas mucus-retention cysts generally develop in older adults without any history of preceding trauma[3]. Oral mucoceles are benign soft tissue masses and are clinically distinguished by single or multiple, soft, fluctuant nodules, varying from the normal color of the oral mucosa to deep blue. It occurs in any age and equally affects both sexes with most occurrences in patients between the age of 10-19[4]. Mucocele may be traumatic or non-traumatic in origin. lip biting is the most common causative factor for incidence of an oral Mucocele[5] .An histopathologic study is vital to corroborate the findings and to make sure that glandular tissue is completely excised[6].Conventional management of mucocele is excision with the corresponding overlying mucosa. Prevalence of the Data of the mucocele in the Indian population is very few.

The present study assesses the current prevalence of oral mucoceles among patients visiting the Oral Pathology department of a private dental hospital. This will improve

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the knowledge on current prevalence of these lesions among South Indian Population and also improves the understanding about the behaviour of these lesions.

2. Methods

This was a retrospective cross sectional study conducted among the patients visiting the oral pathology department of a private dental hospital in Chennai.The data was collected by reviewing the patients records from Dental Information Archiving Software (DIAS). Only the patients reported with mucocele to the Oral Pathology department were included in the study. Patients reported with other oral lesions were excluded. 10 oral mucocele cases were reported from July 2020 to January 2021. Age, gender, history of lip biting and the treatment done was compiled in Excel Sheet. Statistical analysis was done using SPSS software Version 20.0. Descriptive statistics and the relation between variables was determined using the chi square test. p<0.05 was considered statistically significant.

3. Results

Total of 10 Mucocele cases were reported to the department of oral pathology, Saveetha dental College and hospital. Mucoceles were more prevalent in males when compared to females. 70 % of the male and 30 % of the female were diagnosed histopathologically as mucoceles collected data is shown in Fig 1. Excision of mucocele was performed in 80 % of the patients whereas no treatment was done for the rest 20% of the patients Fig 2. Lip biting was found to be the main cause of the mucoceles.80% of the patients who had the habit of lip biting experienced mucocele (Fig 3). Most of the mucoceles reported in males were in the lower lip (60%) followed by the inner side of the cheek (10%). From this study it was noted that extravasation type was more common when compared to the retention type. 90% of the patients presented with extravasation type whereas only 10% of the patients presented with retention type. 50 % of the patients reported with mucocele were in the age group of 16-19, 20% were from the age group of 11-13 and 30% of the patients were from the age group of 13-16.According to the datas collected most common site of mucocele is lower lip. 80% of the patients reported with mucoceles had the habit of lip biting.Most of the mucoceles reported in males were in the lower lip (60%) followed by the inner side of the cheek (10%). Females showed increased prevalence in the lower lip (20%)

followed by floor of the mouth (10%). Pearson Chisquare test shows ,p value was found to be 0.04 (>0.05) and was statistically significant (Fig 4). Extravasation type of mucocele (60%) was the most common mucocele reported in males. In females extravasation type was reported in 20% of the females and 10% reported retention type of mucoceles. Pearson Chi-square test shows p value was found to be 0.2 (>0.05) and was statistically not significant (Fig 5).





The bar chart depicts the prevalence of mucoceles among males and females. The X-axis represents the gender and Y-axis represents the percentage of the patients. Purple represents male and pink represents female. Mucoceles were prevalent in males when compared to females.





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"no treatment". Excision was found to be the treatment of choice for mucoceles



Fig 3:

The bar chart represents the association of lip biting and mucocele. X-axis represents the cause of the Etiologylip biting habit and Y-axis represents the percentage of patients.Yellow represents the habit of lip biting and Brown represents "no lip biting". Lip biting was found to be the main cause of the mucoceles.



Fig 4:

The bar graph represents the association between the gender and the site of the mucoceles. X-axis represents the gender and Y-axis represents the percentage of the mucocele reported.Blue represents the occurrence of the mucocele in the lower lip. Blue denotes lower lip,Green denotes the inner side of the cheek ,sandal colour denotes floor of the mouth. Most of the mucoceles reported in males were in the lower lip (60%) followed by the inner side of the cheek (10%). Females showed increased prevalence in the lower lip (20%) followed by floor of the mouth (10%). Pearson Chi-square test shows ,p value:0.04 (>0.05) and was statistically significant.





The bar graph represents the association between the gender and type of mucocele reported . X-axis represents the gender and Y-axis represents the percentage of the mucoceles reported.Brown represents the extravasation type of mucocele,whereas gray represents the retention type of the mucocele. Extravasation type of mucocele (65%) was the most common mucocele reported in males. In females extravasation type was reported in 20% of the females and 15% reported retention type of mucoceles. Pearson Chi-square test shows p value :0.2 (>0.05) and was statistically not significant.

4. Discussion

Mucocele is a soft tissue lesion mainly seen in minor salivary glands characterised by a cavity filled with mucus caused due to mucous extravasation. These are the most common cystic lesions affecting the oral mucosa and are mostly seen in paediatric patients Mucoceles have an approximate prevalence of around 2.4 cases per 1,000 people.Many patients with mucoceles report a history of chronic biting of the lip, habit of sucking or any another parafunctional habit .In this study 80 % of the patients reported mucocele in the lower lip. Senthilkumar et al also reported that lower lip is the most common site of its occurrence [7].In this study 80% of the patients reported to have the habit of lip biting, as lip biting is common in the lower lip, most of our patients reported mucoceles in the lower lip. Yoshimura et al reported that the pathology of Mucocele is usually due to lip biting habit or accidental injury to the salivary glands [8]. Our data also showed that 80% of the patients had a history of lip habits.

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In another study conducted by Yadav et al the diagnosis of mucocele may require routine radiographs, ultrasonography or advanced diagnostic methods computed tomography and magnetic resonance imaging for better visualizing the form, diameter, position and determination of the lesion origin[9]. Most of our cases were diagnosed clinically and more than 80 % patients have undergone diagnostic excision biopsy for the confirmation of the same histopathologically. Sybele et al confirmed that Fine-needle aspiration can be used as a useful diagnostic technique for evaluating patients with salivary gland nodules and enlargement [10].

In this study majority of the mucoceles were found to be extravasation type.Only 15% of the patients had retention type.On comparing the datas collected by Daniels J et al it was observed that the retention type is less common than extravasation [11]. In this study 80% of the patients did not feel any pain and 20% of the patients had pain. Jeff Burgess et al also confirmed that most of the mucoceles are painless swellings[12]. In this study mucoceles were found to be more in the age group of 16-19 years. This result was inconsistent with Mansi et al, the author reported that mucoceles are prevalent in teenagers [13]. From the above results it was observed that mucoceles were more prevalent in males when compared to females. This result was incontraditory with datas provided by Oliveira et al, the author reported that males and females were equally affected and mucoceles doesn't have sex predilection[14].In this study it was noted that the 80% of the patients did not feel discomfort , but Bagan it et al reported that patients had Discomfort, interference with speech, difficulty in mastication and swallowing [15].80% of the patient had undergone excision whereas the rest 20% did not undergo any treatment. Alana Biggers et al reported that mucoceles do not require treatment and will heal on their own over time .In a study conducted by Achili it has been noted that intralesional injection of sclerosing agent OK-432 or steroid injection and drugs are given to treat mucoceles [16]. The variations in drug responsiveness among the study participants are influenced by several factors including age, gender, comorbid conditions and habits[17].

Mucocele is a very common lesion occuring in teen agers, treatment of mucocele should be carefully planned based on the age of the patient, level of cooperation and size of the lesion. Early detection and prompt diagnosis of these lesions can lead to better prognosis and also help in the implementation of successful clinical treatment .

From this study we can conclude that mucocele is more prevalent among male patients than female patients. Mucoceles occur mostly on the lower lip and have been noted in patients who have lip biting habits and chronic trauma .Common type of mucocele is the extravasation type.Treatment of choice for mucoceles involves excision.

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