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Prevalence of oral ulcers among patients visiting a dental school in south Kerala

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Abstract

Introduction:Ulcer is a break in continuity of the epithelium brought about by molecular necrosis leading to exposure of underlying connective tissue. Ulcers are commonly seen in the oral cavity, for which the patient seeks help from their physician/dental surgeon. The presenting complaints are usually redness, burning sensation or pain. They can present in any part of the oral cavity but may be painful if it occurs in the mobile mucosa [1].

Aims and Objectives: The aim of the present study was to determine the prevalence of oral ulcers and the type of oral ulcer among patients visiting a dental school in south Kerala and its association with age and gender.

Subjects and Methods: Patients visiting the Department of Oral Medicine and Radiology, Pushpagiri College of Dental Sciences, Kerala over a period of one year with various complaints were examined by trained examiners for the prevalence of oral ulcers, type of oral ulcer and their age and gender were recorded. Patients were categorized into 4 groups children [0-12], teens [13-19], adults [20-59] and old age [60 and above].

Results: Out of 14,907 patients examined, 181 patients presented with oral ulcers. Prevalence of oral ulcers was 1.21%. Of which males (58%) were more commonly affected than females (42%). Patients in the adult age group (20-59) were most commonly affected. Traumatic ulcer was the most common ulcer followed by recurrent aphthous stomatitis, chronic ulcer, malignant ulcer, healing ulcer and psoriatic ulcers.

Conclusion: The results of our study indicate that traumatic ulcer was the most common oral ulcer followed by recurrent aphthous stomatitis. Males were most commonly affected as compared to females. Adult age group was most commonly affected as compared to other age groups.

Keywords: Oral ulcers, South Kerala, Dental School, Prevalence

Introduction

Oral ulceration is a common complaint of patients attending out-patient department. The estimated point prevalence of oral ulcers worldwide is 4% [2]. Based on the duration ulcers can be broadly classified into acute (short term) or chronic (long term). Acute ulcers persist usually less than three weeks and regress spontaneously such as traumatic ulcers, aphthous ulcers, herpetic ulcers and chancres.

Chronic ulcers such as major aphthous ulcers, ulcers from odontogenic infection, malignant ulcers, gummas, ulcers secondary to debilitating systemic disease and some traumatic ulcers (with a persistent traumatic element) persist for weeks and months [3]. In addition, depending on their presentation they can also be typed as single or multiple . The solitary lesions may result from a trauma, infection or it could be a carcinoma and can present as a single ulcerative lesion. Multiple lesions may be seen in viral infections or autoimmune diseases and can present with several ulcerations [4]. Recurrent ulcers may present with a history of similar episodes along with intermittent healing. The size of the ulcers can vary from a few millimeters to centimeters and occasionally may present with fever and regional lymphadenopathy [5]

The aim of the present study was to determine the prevalence of oral ulcers and the type of oral ulcer among patients visiting a dental school in south Kerala and its association with age and gender.

Subjects And Methods

A retrospective study was conducted among 14,907 patients visiting the Department of Oral Medicine and Radiology, Pushpagiri College of Dental Sciences, Kerala over a period of 12 months. Patients were examined by trained examiners for the prevalence of oral ulcers; their age, gender and type of ulcer were also recorded. Patients were categorized into 4 age groups children [0-12], teens [13-19], adults [20-59] and old age [60 and above].

Results

A total of 14907 patients were examined (Figure .1), of which 181 patients (1.21%) presented with oral ulcers at the time of examination. Out of the total number of patients examined, 6918 were males and 7989 were females. Males 95 (52%) and females 86 (48%) presented with oral ulcer [Table 1]. Mean age of patients was 43.5 years. Age groups under adults (20 -59 years) were the most affected [Table 2]. Traumatic ulcer was the most common ulcer [Table 3].Psoriatic ulcer was the least common [Table. 3]. Traumatic ulcer showed a prevalence of 84 (0.56%), followed by recurrent aphthous stomatitis 55 (0.36%), chronic ulcer 17 (0.11%), vesiculobullous ulcers 12 (0.08%), malignant ulcer 6 (0.04%), healing ulcer 5 (0.03%) and psoriatic ulcer 2 (0.01%). Traumatic ulcer was most prevalent in the adult age group (20-59years). Recurrent aphthous stomatitis, healing ulcer and vesiculobullous ulcer were more prevalent under adult age group (20-59 years), whereas chronic ulcer was more prevalent under old age (60years-above) [Figure .2]. Traumatic ulcer was more common among males 49 (58%) than females 35 (42%).

Figure 1: Number of patients who visited The Department of Oral Medicine and Radiology over a period of one year



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 Table 1: Prevalence of oral ulcers based on gender

Male	Female
95 (52%)	86 (48%)

Table 2: Prevalence of oral ulcer based on age

Age Group		Children	Teens	Adults	Old Age
Number	And	9(0.06%)	12(0.08%)	108(0.72%)	52(0.35%)
Percentage					

Table 3: Prevalence of oral ulcer based on types

Type Of Ulcer	Traumatic	Chronic	Malignant	Recurrent	Healing	Vesiculo-Bullous	Psoriatic
				Apthous			
				Stomatitis			
Number And	84(0.56%)	17(0.11%)	6(0.04%)	55(0.36%)	5(0.03%)	12(0.08%)	2(0.01%)
Percentage							

Figure 2: Relation between different types of ulcers and age group



Discussion

Oral ulcers are encountered frequently in our daily practice; it causes a lot of suffering and agony for the patients throughout their life. Most ulcers are caused due to local causes such as trauma, self-elicited injuries and burns. Some may result due to aphthae or malignant conditions and few may be due to underlying systemic diseases, skin disorders or autoimmune diseases [6].

Physical trauma can be caused during regular activities like tooth brushing or flossing, sharp edges of denture or tooth, oral piercings and sometimes can be self-inflicted by the patient when he/she is under local anesthesia during a dental procedure [5]. Chemical burns due to aspirin are seen in patients who keep the aspirin tablet to relieve pain [7]. Mucosal alterations can also be caused by mouth washes or oral care products with high alcohol content. The ulcers have a yellowish white necrotic psuedomembrane with borders that are raised and erythematous. The ulcers of the lip are usually crusted [8]. The prevalence of traumatic ulcer in our study was 84 (0.56%) which is much lesser compared to study conducted by Zuhair H Muhaidat and Rania E Rodan [2013] among Jordanian people on prevalence of oral ulcers, where the prevalence of traumatic ulcer was 4.5% [9] and another study conducted by Mathew al et al. [2008] on the prevalence of oral mucosal lesions among south India patients showed a prevalence of 1.01% which is also higher than our study [10]. In a study conducted by Feng J et al [2015] in Shangai , China on prevalence and distribution of oral mucosal lesions, traumatic ulcer showed a prevalence of 1.13% [11] and in study conducted by Ge S,Liu L,Zhou Q,et al.[2020] on prevalence of and related risk factors in oral mucosa diseases among residents in the Baoshan District of Shangai, China, Traumatic ulcer showed a prevalence of 1.23% [12], all of which are higher than our study.

patients after traumatic ulcerations. It also interferes with normal activities by affecting eating and swallowing [13]. RAS has been reported as affecting 20% of the general population at any time. The prevalence of our RAS in our study was 0.36%, which is much higher compared to the study conducted by Rajmane YR et al.[2017] in western population of Maharashtra, India where prevalence of RAS was 0.1% [14] .It was much lesser compared to the study conducted by Mathew al et al.[2008] on the prevalence of oral mucosal lesions among patients in southern India where the prevalence of RAS was 2.1% [10].It was lesser than the study conducted by Feng J et al [2015] in Shangai , China on prevalence and distribution of oral mucosal lesions, where the prevalence of recurrent aphthae was 1.48%[11].In comparison to the study conducted by Ge S,Liu L,Zhou Q,et al.[2020] on prevalence of and related risk factors in oral mucosa diseases among residents in the Baoshan District of Shangai, China, recurrent aphthae had a prevalence of 1.68% [12], which is much higher compared to our study. In a study conducted by Kovac-Kovacic M, Skaleric U [2000] on The prevalence of oral mucosal lesions in a population in Ljubljana, Slovenia, recurrent aphthae had a prevalence of 9.7% [15] which is very much higher compared to our study.

Recurrent aphthous stomatitis (RAS) is one of the most

common painful oral mucosal conditions seen among

Squamous cell carcinoma is the most common oral malignancy and accounts for more than 90% of oral cancers. It presents as a non-healing ulcer that can persist for days and weeks. The lesion is destructive and timely diagnosis and treatment is crucial in determining the prognosis of the patient. [16, 17, 18]. The prevalence of malignant ulcers in our study was 0.6% which was lesser compared to a study done by Mathew al et al.[2008] on

the prevalence of oral mucosal lesions among south Indian patients where the prevalence of oral malignant ulcers was 1.7% [10] ,much lesser compared to the study conducted by Starzyńska A et al. [2014] on Oral premalignant lesions: epidemiological and clinical analysis in the northern Polish population where prevalence was 3.43% [19] and very much lesser compared to the study conducted by Srivastava R et al.[2020] on Prevalence of oral premalignant lesions and conditions among the population of Kanpur City, India where prevalence was 5.62% [20].However the prevalence of oral malignant ulcer in our study (0.6%) was much higher compared to the study by Ikeda N et al. [1995] on Prevalence study of oral mucosal lesions in a selected Cambodian population where prevalence was 0.1%.[21]

Pemphigus vulgaris is the most common form of pemphigus, accounting for over 80% of cases. The oral lesions may start as a bulla which breaks to form shallow ulcers [22]. A thin layer of epithelium peels away leaving a denuded base referred as Nikolsky's sign named after Pyotr Nikolsky (1858–1940), a Russian physician [16]. Out of 14,907 patients examined, only 12 patients (0.08%) were clinically diagnosed to be suffering from oral pemphigus vulgaris.

Psoriasis is a chronic inflammatory skin disorder affecting 1-3% of the world population. Psoriasis inside the mouth is relatively uncommon [23]. It is more likely to develop in those with the more severe forms of psoriasis, especially pustular psoriasis. According to our study the prevalence of oral ulceration associated with psoriasis was 2 (0.01%).

Conclusion

Ulcers frequently affect quality of life of affected individuals as a result of long lasting and recurrent episodes of pain. Traumatic ulcer was the most prevalent ulcer followed by recurrent aphthous stomatitis, chronic ulcer, vesiculobullous ulcers, malignant ulcers, healing ulcers and psoriatic ulcers in our study. Adult age group was the most affected. Male were most commonly affected than females. Traumatic ulcer is one among the commonest solitary ulcer presenting in the oral cavity and heals after the predisposing factor is removed and it usually present with no significant symptoms. But non healing large traumatic ulcer with symptoms like lymphadenopathy can mimic squamous cell carcinoma. Thorough history taking and clinical examination is inevitable and proper biopsy and histopathological examination is mandatory to confirm the diagnosis and only after that patient should be continued with treatment so that it will provide a better prognosis for the condition.

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