Original Research Article

Knowledge, attitude and practice of dentists towards oral submucous fibrosis

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Received: 17-12-2020 / Revised: 29-01-2021 / Accepted: 23-02-2021

Abstract

Background: Oral submucous fibrosis (OSMF) is an oral precancerous condition characterized by inflammation and progressive fibrosis of the submucosal tissues resulting in marked rigidity and trismus. OSMF still remains a dilemma to the clinicians due to elusive pathogenesis and less well-defined classification systems.**Aim and objectives:** The aim of the study was to assess the knowledge among dental students about the significance of Oral Submucous Fibrosis and it's management.**Methodology:** The questionnaire based study was conducted among 100 participants. A self-administered questionnaire was used. The questionnaire based study was conducted through an online forum , google form software. The questions were formed to observe knowledge,attitude,and practical approach of dental students towards treating OSMF patients attending private dental hospitals .The data collected were stored and results were analysed by SPSS software. Out of 500 participants. Majority of participants were aware that betel quid were the most common habits and blanching mucosa were the common features associated with OSMF. **Conclusion:** Within the limits of the present study, students showed good knowledge on the various clinical and diagnosis aspects of Oral submucous fibrosis, however the knowledge on the management aspect of oral submucous fibrosis was moderate. A better knowledge of OSMF will endure safer health care services for the population.

Keywords: Betel quid , blanching mucosa, malignancy, oral submucous fibrosis.

Introduction

Oral submucous fibrosis (OSMF) is an oral precancerous condition characterized by inflammation and progressive fibrosis of the submucosal tissues resulting in marked rigidity and trismus. OSMF still remains a dilemma to the clinicians due to elusive pathogenesis and less well-defined classification systems. Pindborg has defined oral submucous fibrosis (OSMF) as an insidious chronic disease affecting any part of oral cavity and occasionally extending to the pharynx , esophagus although occasionally preceded by and / or associated with Vesicle formation. OSMF is always associated with juxta-epithelial inflammatory reaction followed by fibroelastic changes in the lamina propria, with epithelial atrophy leading to stiffness of the oral mucosa causing trismus and difficulty in eating. The prevalence in India had increased in recent years to 6.42% with a higher predominance in the southern parts of the subcontinent. OSMF is seen commonly in males between 20 and 40 years of age. The common sites involved are buccal mucosa, labial mucosa, retromolar pads, soft palate and floor of the mouth. Early features of OSMF include burning sensation, hypersalivation or xerostomia and blanching mucosa with marble-like appearance. Later mucosa becomes leathery and inelastic with palpable fibrous bands resulting in restricted mouth opening. Eventually, it leads to restriction of tongue movements, difficulty in swallowing, speech. Oral potentially malignant disorders (OPMDs) are considered as the early tissue changes that happen due to various habits such as smoking tobacco, chewing tobacco or stress[1-5].

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The etiopathogenesis of OSMF is complex and it is a potentially malignant disorder attributed to areca nut (betel nut) chewing. The etiological factors include excessive chilli consumption, vitamins , iron deficiency, autoimmunity, genetic and environmental factors. Areca nut consists of alkaloids like arecoline, arecaidine, guvacine and guvacoline apart from flavonoids, tannins, catechin and copper. The alkaloids stimulate the fibroblasts to produce more collagen, while its structure is stabilized by catechin and tannins. Apart from areca nuts, commercial products like gutkha, mawa and pan masala have been shown to cause Oral submucous fibrosis rapidly due to larger amounts of areca nut in these processed products and/or the synergistic action of nicotine over arecoline. Gutka products contain both SLT and areca nuts[6-10]. The ideal goals of therapy of this potentially malignant disorder such as OSMF, include not only amelioration of the symptoms (burning sensation, restriction of mouth opening), but also stop further disease progression and malignant transformation. Complete regression of this oral mucosal condition had not been achieved in any of the case studies reported till date hence an attempt at finding a permanent cure is still going on Potentially malignant disorders (PMD) have a high risk of malignant transformation. Malignancy is characterized by anaplasia, invasiveness, and metastasis. Various treatment modalities including drug ,surgical therapy and physiotherapy have been proposed till date for the management of OSMF. Various drugs with antifibrotic, anti-inflammatory, and antioxidant activity have been used in the management of OSMF but with unpredictable results and incomplete remission. Not even a single drug has been reported to be effective in treatment of OSMF[11-15]. Hence, a combination of drugs has been used in the treatment of OSMF. The aim of the study was to assess the knowledge among dental students about the significance of Oral Submucous Fibrosis and it's management.

Materials and Methods

The questionnaire based study was conducted online among 500 participants via Google forms. Snowball sampling was used. A self-administered question was used[1]. The questions were formed to observe the knowledge, attitude, practical approach of dentists towards treating OSMF patients attending private dental hospitals.The questionnaire consisted of 13 questions. The study protocol was approved by the Institutional Scientific Review board and ethical approval was obtained. The results were analysed and the responses were tabulated in the form of a bar chart. Descriptive statistics for frequency and Chi square test was used to determine the correlation between the variables where P value < 0.05 is considered statistically significant.

Results

From the results we observed that 65% of participants were aware that females had increased prevalence of OSMF compared to male . Majority of the participants responded that betel quid (53%) was the most common type of habit associated with OSMF (Figure 1). 66% of participants responded that blanching mucosa was the commonest feature associated with OSMF. 68% of participants were aware that OSMF had increased malignant potential and 32 % of participants are unaware of it. 60% of participants were aware that stopping of gutka/ pan chewing habits alone will not resolve the problem in patients having trismus. 89% of participants were aware that treatment regimen / modalities vary with various stages of OSMF. 70% of participants were aware that they will treat OSMF by corticosteroids, lycopene, pentoxifylline (Figure 2) . Majority of participants responded that antifibrinolytic activity will be the action of hyaluronidase in OSMF. 60% of participants were aware that drug lycopene was prescribed for OSMF as antioxidants. 53% of participants were aware that intralesional injections can be started from stage 3 of OSMF. 58% of participants were aware that corticosteroids + hyaluronidase / placental extracts will be the drugs/ drug given as intralesional injections in OSMF. 55% of participants were aware that oral physiotherapy alone will not help in treating OSMF. Majority of participants responded that oral mucositis will be the postoperative complication with surgical treatment of OSMF. Majority of respondents reported that OSMF has increased malignant potential (Pearson chi square test; p - value = 0.494 > 0.05 which was statistically not significant). Majority of respondents reported that OSMF treated corticosteroids, lycopene, pentoxifylline.(Pearson chi square test; p - value = 0.141 > 0.05, which was statistically not significant). Majority of respondents reported that treatment regimen / modalities vary with various stages of OSMF. (Pearson chi square test; p value = 0.413 > 0.05, which was statistically not significant). Majority of respondents reported that oral physiotherapy exercise alone cannot be helpful in treating OSMF (Pearson chi square test; p - value=0.988 > 0.05, which is statistically not significant) .Majority of respondents reported drug lycopene prescribed for OSMF is antioxidants. (Pearson chi square ; p -value = 0.042 > 0.05 which is statistically not significant).

Discussion

The idea for this survey stemmed from the current interest in our community. OSMF is an insidious, chronic disease with multifactorial etiology. Various treatment modalities had been proposed for OSMF but with unpredictable results. General dental practitioners have a basic knowledge about oral submucous fibrosis as they come across oral problems associated with OSMF in their practice. Patients visit a dental clinic with a chief complaint associated with teeth pain or bleeding gums. Most of the time, practitioners give importance to the area of complaint and tend to miss out the asymptomatic mucosal lesions [13].If left unchecked , it can affect the quality of life and actually shorten life expectancy. This means that practitioners must play a more active role in educating their patients about the role Oral submucous fibrosis and its malignant transformation and their overall health. An important component of health and overall quality of life is oral health. It can have an impact on overall quality of life and dental disease are increasing more and more in the world. In this study 55% of participants reported that females had an increased prevalence of OSMF compared to male . A similar study reported similar evidence that betel nut chewing was the habit associated with OSMF. Arecanut (Gutkha) was a significant etiological factor as compared to other etiological factors were reported. From the results of this study ,68% of participants were aware that OSMF had increased malignant potential . A similar study reported similar evidence that OSMF had one of the higher rates of malignant potential among potentially malignant oral lesions. In patients with oral submucous fibrosis, the oral epithelium becomes atrophic and thereby becomes more vulnerable to carcinogens. 60 % of participants were aware that stopping gutka / pan chewing habits alone will not resolve the problem in patients having trismus . A similar study reported similar evidence that stopping the habits alone will not resolve the problem. OSMF does not regress spontaneously or on cessation of areca nut chewing. Once the disease is present, it either persists or becomes more severe with involvement of additional areas of oral mucosa. [14-16] In this study we observed that the majority of the participants responded that the action of hyaluronidase in OSMF will be antifibrinolytic activity . 86% of participants were aware that drug /drugs given for intralesional injection in OSMF were corticosteroids + hyaluronidase / placental extracts. A similar study the similar evidence that corticosteroids and hyaluronidase were the combination of drugs used in intralesional injections . Leena et al reported that the medical treatments were not completely systematized, optimal doses of its treatment with intralesional injection of corticosteroids with hyaluronidase or placental extract is effective to some extent. A similar study postulated that treatment following intralesional injections of various drugs leads to aggravated fibrosis and pronounced trismus. The resultant worsening of this condition with oral submucosal injections were attributable to repeated needle stick injury to the soft tissues at multiple sites, clinical irritation from drugs being injected, and to the progressive nature of the disease[17-19].The same outcome had been observed with some surgical methods employed to treat OSMF. Conservative lines of treatment like topical steroids, vitamins supplements , antioxidants, physiotherapy would give expected symptomatic relief of pain and burning sensation. The limitation of the study includes limited sample size , single centred study and does not represent ethnic groups or population.

Conclusion

The study could be done in a larger population. Continuing dental education programs and hands on education among dentists should be essential .Within the limits of the present study, students showed good knowledge on the various clinical and diagnosis aspects of Oral submucous fibrosis, however the knowledge on the management aspect of oral submucous fibrosis was moderate. A better knowledge of OSMF will endure safer health care services for the population. Training and skill improvement through various dental education programs on OSMF will improve the quality of dental practice and will be beneficial to the patients.

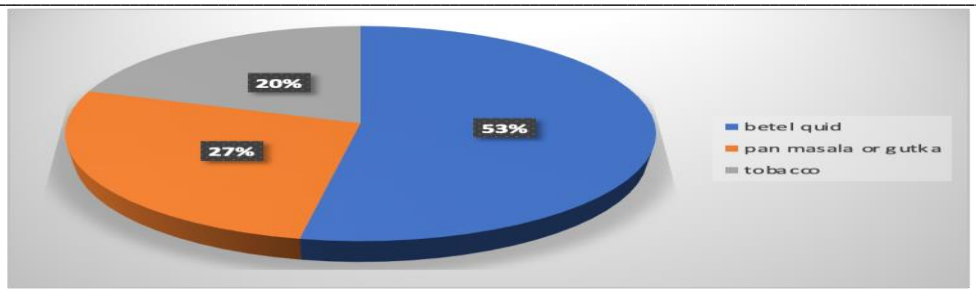

Fig 1: Pie Diagram showing the responses to the question: "Which type of habit is associated with OSMF?"

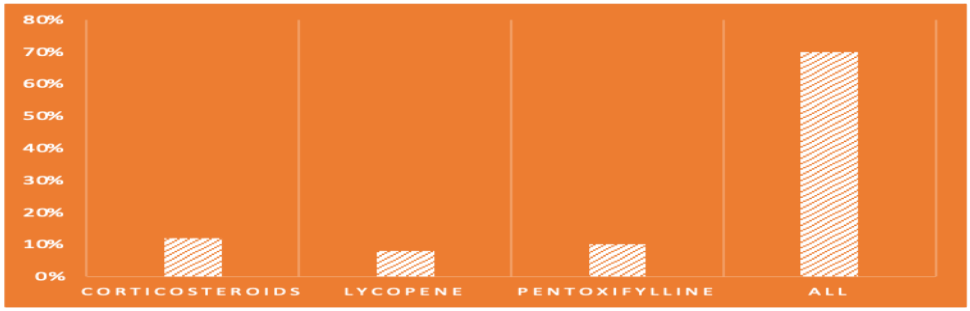

Fig 2: Bar chart showing the responses to the question: "How do you treat OSMF?" X axis represents the distribution of knowing the student's knowledge regarding treatment of OSMF

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Conflict of Interest: Nil Source of support:Nil