Short Communication

Screening of oral potentially malignant disorders: Need of the hour

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Abstract

Oral potentially malignant disorders (OPMDs) include a variety of lesions and conditions which display an increased risk for malignant transformation to oral cancer. As the incidence and prevalence of OPMD are highly increasing in India, its early detection and prevention is the need of the hour. Early diagnosis of such disorders is necessary to prevent the malignant transformation. Many advanced diagnostic techniques are used to predict their progression and to assess the risk of malignant transformation. Management of symptoms of OPMDs is necessary for the overall well-being of the patient. This short communication provides an overview and the importance of early diagnosis and prevention of OPMDs.

Keywords: Cancer risk, early diagnosis, malignant transformation

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INTRODUCTION

Oral cancer is one of the most alarming health problems in terms of morbidity and mortality facing the mankind today. Globally, it was estimated to be the 15th most common cancer with higher incidences among males in 2012. The estimated incidence and death from oral cancer saw a global increment of 14.2% and 13.9%, respectively, from 2008 to 2012.[1] Oral squamous cell carcinoma (OSCC) is the sixth most common cancer worldwide. Oral cancer accounts for 4% of all malignancies in men and 2% in women.[2] More than 90% of all oral cancers are OSCCs, which is often preceded by a premalignant lesion.[3] As oral pathologists, it is mandatory for us to make a significant contribution in curtailing the menace. Hence, the need of the hour is early detection and appropriate intervention, i.e., at the stage when it manifests as oral potentially malignant disorders (OPMDs).

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ORAL POTENTIALLY MALIGNANT DISORDERS

OPMD include a variety of lesions and conditions characterized by an increased risk for malignant transformation to OSCC. The following disorders are regarded as being potentially malignant: (1) leukoplakia/erythroplakia, (2) oral submucous fibrosis, (3) palatal lesions in reverse smokers, although still somewhat questionable, (4) lichen planus and (5) 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.[4] The malignant potential of lichen planus remains controversial, and in any case, the reported transformation rates are low (0.2%–1%). The risk factors which synergistically contribute to OSCC include tobacco smoking, alcohol consumption, use of smokeless tobacco and betel quid chewing.[5]

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DIAGNOSTIC TECHNIQUES

Although all the OPMD exhibit distinct clinical features, many adjunctive diagnostic techniques may also be considered. Among those techniques, autofluorescence, chemiluminescence or vital staining with toluidine blue has low specificity. Optical coherence tomography detects dysplasia by the fluctuation of light scattering due to random cellular changes in dysplastic tissues in comparison to normal mucosa. Another study suggests that narrow band imaging technique demonstrates intraepithelial papillary capillary loop pattern destruction or twisted elongation which is indicative of the histological changes. Lugol's iodine solution (5%) applied directly on suspicious lesions is routinely used for the detection of OSCC margins. Normal mucosa stains brown or mahogany due to high glycogen content, whereas malignant tissue does not stain and appears pale compared to surrounding normal tissue. However, biopsy and histopathological examination of the OPMD lesion remains the standard procedure to assess the risk of transformation. Severity of dysplasia is considered the "gold standard" predictor of OPMD progression by many clinicians. Despite these techniques, many investigators have sought to define cellular/molecular markers or gross chromosomal changes (ploidy status) which accurately differentiate nonprogressive OPMD from progressive OPMD, thereby predicting the cancer risk of OPMD.[5,6]

MANAGEMENT

Management of OPMD is necessary to reduce the symptoms and to prevent the malignant transformation of these lesions. Factors affecting therapeutic outcome of these lesions include larger size, extent, diffuse pattern and presence of a systemic illness. Although there is no scientific evidence that treatment of OPMD truly prevents the possible future development of OSCC, managing the symptoms is necessary for the overall well-being of the patient.[7] As a measure to prevent the development of OPMD which will possibly transform into OSCC, oral health professionals should take efforts to increase the awareness and to educate the masses regarding the ill effects of the use of tobacco and other carcinogenic factors.

CONCLUSION

The incidence and prevalence of OPMD in India are highly increasing, and hence, the early detection and prevention of its transformation into OSCC is the need of the hour. Unfortunately, accurate and solid statistical information on the prevalence of OPMD is unavailable at the national level. It is important to pool the data available at various health centers all over the country to obtain a reasonable and valid data. The Indian Association of Oral and Maxillofacial Pathologists has taken an initiative by appointing representatives from each zone (North, South, Central, West and East) to collect data from various institutions in their zone and submit it to the association. The association intends to compile the acquired data and submit it to the Dental Council of India.

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Conflicts of interest
There are no conflicts of interest.

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