RESEARCH COMMUNICATION

Risk of the Contralateral Mucosa in Patients with Oral Potentially Malignant Disorders

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Abstract

Background: It is known that abnormal changes may occur in any part of the oral mucous membrane exposed to a carcinogen. Therefore patients with oral potentially malignant disorders (PMDs) are at risk of developing similar lesions at multiple sites. Objectives: To determine the risk of the contralateral mucosa in patients presenting with oral PMDs. Materials and methods: Sixty individuals with PMDs were selected for this study. These comprised 32 (53.3%) Indians, 23 (38.3%) Chinese, four (6.7%) Malays and one (1.7%) Nepalese. All selected cases had histopathological confirmation of their primary existing lesion as inclusion criteria. Cases that subsequently presented with a lesion in the corresponding anatomical site also underwent scalpel incisional biopsy on this second lesion to verify its diagnosis. The remaining cases that presented with unilateral PMDs at the time of study were subjected to a cytobrush biopsy on the normal looking contralateral mucosa. Results: A total of 70 primary PMDs were detected in 60 patients. The most common PMD found was oral lichen planus (n=40, 57.1%). Of the 60 patients studied, 28 (46.6%) exhibited bilateral lesions either synchronously (n=31, 35.0%) or metachronously (n=7, 11.6%). The remaining cases that had undergone cytobrush biopsy on the corresponding anatomical site yielded normal cytological results. Conclusions: Present findings demonstrated that patients presenting with PMDs in the upper aerodigestive tract are at a greater risk of developing a second lesion most probably in the contralateral anatomical site.

Keywords: Oral potentially malignant disorder - oral mucosa - clinical study - screening

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Introduction

In 2005, the World Health Organization Collaborating Centre for Oral Cancer and Precancer Working Group advocated abolishing the distinction between oral potentially malignant lesions and conditions, and proposed the term 'potentially malignant disorder' (PMD) to encompass both these entities (Wannakulaskusriya et al., 2008). PMD was recommended in preference to precancer as it conveys that not all lesions described under this term may transform into cancer. The two most common PMDs are leukoplakia and erythroplakia (van der Waal, 2008). Early detection of PMD is aimed at improving survival rates as carcinogenesis is a multistep process and prevention is possible if these lesions are detected at an early and reversible stage of the disease (Reibel, 2003; Ram and Siar, 2005; Tamamura et al., 2006; Lim et al., 2009; Siar et al., 2009).

The concept of 'field cancerization' was first introduced by Slaughter et al. in 1953. According to this theory, premalignant change may occur in any area of the oral mucosa when exposed to a carcinogen. This in turn would increase the risk for patients with oral cancer in developing multiple primary tumours and secondary tumour recurrence following complete excision of the primary tumour. A recent study has shown that abnormal histological changes could occur in clinically normal looking mucosa of patients with oral cancer and PMDs (Thomson, 2002).

Oral cancer ranked as the sixth most common malignancy worldwide (Silverman 2001). In Malaysia, according to the Third National Cancer Registry Report (Lim et al., 2008), oral cancer ranked twenty-first among cancers in males and sixteenth in females with an incidence being highest among Malaysian Indians. Local retrospective studies based on archival oral pathology tissue records found that oral squamous cell carcinoma (OSCC) accounted for more than 90% of all oral cancers in Malaysia and more than 70% of these cases are diagnosed at an advanced stage, T3 or T4 (Siar et al, 1990; Ng and Siar 1992). However much less is known about PMD locally. One major study based on a nationwide survey of oral mucosal lesions found a low prevalence rate for oral leukoplakia and oral lichen planus (Zain et al., 1997). It is known that most oral cancers arise from long-standing pre-existing PMD including oral leukoplakia (Reibel, 2003). It is also known that PMD may occur as solitary or multifocal lesions. Approximately 3-24% of PMD

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