Prevalence of bilateral ‘mirror-image’ lesions in patients with oral potentially malignant epithelial lesions

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Abstract Early detection of oral potentially malignant epithelial lesions (PMELs) 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. A prospective clinical study aimed at determining the prevalence of bilateral ‘mirror-image’ oral PMELs was carried out. Sample consisted of 32 (53.3%) Indians, 23 (38.3%) Chinese, 4 (6.7%) Malays and one (1.7%) Nepalese. All had histopathological confirmation of their primary existing PMEL as inclusion criteria. A total of 70 primary lesions were detected. The most common PMEL found was oral lichen planus. Of these, 28 (46.7%) patients exhibited bilateral ‘mirror-image’ lesions (n = 42) either synchronously (n = 32/42) or metachronously (n = 10/42). The remaining 32 (53.3%) patients had normal-looking contralateral mucosa. Present findings suggest that patients presenting with oral PMELs are at greater risk of developing a second lesion, most probably in the contralateral ‘mirror-image’ site.

Keywords Oral potentially malignant epithelial lesions · Oral mucosa · Clinical study · Screening

Introduction

Oral potentially malignant epithelial lesions (PMELs) are defined as lesions of the oral mucosa that are dysplastic but not frankly malignant [1]. This term is used in preference to precancer as it conveys that not all lesions described under this term may transform into cancer [1]. Early detection of PMEL 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 [3–5].

The concept of ‘field cancerization’ suggests that premalignant change may occur in any area of the oral mucosa when exposed to a carcinogen (namely tobacco and alcohol ingestion) [6, 7]. This in turn increases the risk of patients with oral cancer in developing multiple primary tumors and secondary tumor recurrence following complete excision of the primary tumor [6–8]. A recent study has shown that abnormal histological changes could occur in clinically normal-looking mucosa of patients with oral cancer and PMEL [8].

Malaysia, geographically located in the South-East Asian archipelago, is a multicultural and multiracial nation with a population of approximately 28 million. The three major ethnic groups are the Malays (65.0%), Chinese (26.0%) and Indians (8.0%) (Department of Statistics, Malaysia). The Klang Valley area refers to the capital city, Kuala Lumpur and its suburbs as well as adjoining cities and towns in the state of Selangor. It has a population of approximately 6 million people (Department of Statistics, Malaysia). The Oral Medicine Clinic in the Department of Oral Pathology, Oral Medicine and Periodontology, Faculty of Dentistry, University of Malaya, is located in the Kuala Lumpur metropolitan area and easily accessible to residents living in the Klang Valley. Daily Oral Medicine...