



ORIGINAL ARTICLE

Oral mucosal lesions and developmental anomalies in dental patients of a teaching hospital in Northern Taiwan



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KEYWORDS

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type

Abstract *Background/purpose:* Oral mucosal lesions and developmental anomalies are frequently observed in dental practice. The purpose of this study was to evaluate the prevalence of oral mucosal lesions and developmental anomalies in dental patients in a teaching hospital in northern Taiwan.

Materials and methods: The study group comprised 2050 consecutive dental patients. From January 2003 to December 2007, the patients received oral examination and treatment in the dental department of the Chang Gung Memorial Hospital (Taipei, Taiwan).

Results: Only 7.17% of dental patients had no oral mucosal lesions or developmental anomalies. Twenty-three different types of oral mucosal lesions or developmental anomalies were diagnosed. The most common lesion was Fordyce granules (82.8%), followed by buccal exostosis (34.1%), torus mandibularis (24.2%), torus palatinus (21.1%), lingual varices (16.2%), and recurrent aphthous ulcerations (4.3%). Fordyce granules, lingual varices, and buccal exostosis were the three most common oral developmental anomalies in elderly patients. Fordyce granules, buccal exostosis, torus mandibularis, lingual varices, and oral submucous fibrosis were more prevalent in men than in women. Fordyce granules occurred more commonly in adults than in children and were more commonly present in the labial and buccal mucosae than

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in any other oral mucosal sites. The anterior region of the jaws frequently contained buccal exostoses. Torus palatinus occurred more frequently in female patients than in male patients. Recurrent aphthous ulcerations were more common in patients under 18 years old.

Conclusion: This study provides important data about the types and prevalence of oral mucosal lesions and developmental anomalies in dental patients in a teaching hospital in northern Taiwan. Copyright © 2013, Association for Dental Sciences of the Republic of China. Published by Elsevier Taiwan LLC. All rights reserved.

Introduction

The presence of oral mucosal lesions and developmental anomalies are relatively common reasons that patients visit dental clinics. Diagnosis of a wide variety of oral mucosal lesions and developmental anomalies is an essential part of a daily dental practice. It is important for every dentist to have a knowledge of the type and prevalence of oral mucosal lesions and developmental anomalies. Only four reports of massive oral mucosa screening have been published.^{1–4} Various studies have also reported the prevalence of oral mucosal lesions and developmental anomalies in a select population or group of patients in Brazil,⁵ Turkey,⁶ Saudi Arabia,⁷ Slovenia,⁸ south India,⁹ Malaysia,¹⁰ Thailand,¹⁰ Jordan,¹¹ and Cambodia.¹²

To date, there has been no studies on the type and prevalence of oral mucosal lesions and developmental anomalies in dental patients residing in northern Taiwan. The aim of this study was to evaluate the type and prevalence of oral mucosal lesions and developmental anomalies in dental patients in a teaching hospital in northern Taiwan.

Materials and methods

The study group comprised 2050 consecutive dental patients who received oral examinations and treatment in the dental department of the Chang Gung Memorial Hospital (Taipei, Taiwan) from January 2003 to December 2007. To record the clinical characteristics of each oral lesion or developmental anomaly of interest, history-taking and a thorough oral examination (which included a radiographic examination of each patient) were performed by a certified oral pathologist in the standard manner.

Twenty-three types of oral mucosal lesions and developmental anomalies were recorded on a special sheet developed for the survey. Recurrent aphthous ulcerations were recorded only if they were present on the day the individual was examined. Finger palpation of the oral mucosal lesions and developmental anomalies such as exostoses or suspected malignancies was performed routinely to confirm the diagnosis. An oral biopsy was obtained for lesions that were suspected of being malignant, if necessary. The diagnosis of oral mucosal lesions and developmental anomalies was based on World Health Organization (WHO) guidelines¹³ and on the characteristic clinical features of oral mucosal lesions and developmental anomalies described in the *Color Atlas of Common Oral Diseases*.¹⁴ The participants were further referred to the appropriate dental department in the Chang Gung Memorial Hospital for treatment in accordance with their requests or needs.

Statistical analyses were performed with SPSS version 15.0 software (SPSS, Chicago, IL, USA). The Chi-square test and Fisher's exact tests were used to analyze the association between variables. For all analyses, $P < 0.05$ was considered statistically significant.

Results

The study group included 912 (44.5%) male dental patients and 1138 (55.5%) female dental patients. The mean age of patients was 45.7 ± 20.2 years (age range, 4–91 years). Of the 2050 patients, 81 patients were younger than 18 years old; 1006 patients were between 18 and 44 years; 486 patients were between 45 and 64 years old; 477 patients were 65 years or older. Table 1 summarizes the distribution of oral mucosal lesions and developmental anomalies, according to the age and gender of the patients. Only 7.17% of the patients had no oral mucosal lesions or developmental anomalies. Twenty-three different oral mucosal lesions or developmental anomalies were diagnosed, the most common of which was Fordyce granules (82.8%; Fig. 1A), followed in descending order by buccal exostosis (34.1%; Fig. 1B), torus mandibularis (24.2%; Fig. 1C), torus palatinus (21.1%; Fig. 1D), lingual varices (16.2%; Fig. 1E), and recurrent aphthous ulcerations (4.3%; Fig. 1F–H).

Fordyce granules

Fordyce granules were more common in adults (83.6%; 1647 of 1969 adults) than in children (63.0%; 51 of 81 children) ($P < 0.001$) (Table 1). Most (56.8%) Fordyce granules occurred at the buccal mucosae and the labial mucosae (Table 2). The labial mucosa was the more common site for Fordyce granules. For the labial mucosal region, the frequency of Fordyce granules on the upper labial mucosa, lower labial mucosa, and buccal mucosa near the mouth angle were nearly equal in adults. However, the buccal mucosa near mouth angle was the most common site for Fordyce granules in children under 18 years old ($P < 0.05$). For the buccal mucosal region, bilateral involvement was more common (at 74.3%, representing 838 of 1128 patients) than unilateral involvement ($P < 0.05$). In 0.4% of cases, Fordyce granules were present in other locations (e.g., the retromolar area or the anterior tonsillar pillar), and when present in these areas, Fordyce granules were also present in the buccal or the labial mucosa. In adults, there was a higher frequency of unilateral involvement (i.e., buccal or labial mucosa only or unilateral buccal mucosa) in females than in males, ($P < 0.05$).

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