



Clinical Study

Prevalence of periodontal disease among dental school patients

Esther S. Rhee, DMD^a, Primal K. Sekhon, DMD^b and Tobias K. Boehm, Ph.D^{c,*}

^a Department of Developmental and Surgical Science, University of Minnesota School of Dentistry, Minneapolis, USA

^b General Practice Residency, Order of Saint Francis Health Care, Peoria, USA

^c College of Dental Medicine, Western University of Health Sciences, Pomona, USA

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المخلص

أهداف البحث: تحديد مدى انتشار أمراض اللثة النادرة في عيادة كلية طب أسنان مماثلة لعيادة كبيرة لطب الأسنان العام.

طرق البحث: تمت مراجعة بيانات جميع المرضى الذين سعوا للحصول على عناية شاملة للأسنان بمركز طب الأسنان التابع للجامعة الغربية للعلوم الصحية من سبتمبر 2010م إلى فبراير 2013م، وتحديد معدلات انتشار حالات أمراض الفم المختلفة ومقارنتها بالبيانات المنشورة باستخدام تحليل مربع كاي.

النتائج: وجدنا أن مرض اللثة هو أكثر أمراض الفم شيوعاً بين المرضى بعيادة كلية طب الأسنان (96%)، ويليه تسوس الأسنان الذي يُحدث تجويف سطح المينا (70%). ثم التهابات اللثة (26%)، ورضوض إطباق الفم كما اتضح بواسطة الطنانة (15%)، وأمراض الفم التي تحتاج فحص نسيج الفم (1%) أو عدم وجود الأسنان (1%). كما وجد لدى حوالي 4% من المرضى أمراض نادرة للثة مثل التهابات اللثة الموضعية العدوانية (0.3%)، وخراجات دواعم السن (0.6%)، وخراجات لثوية (0.09%)، والتهابات المشتركة اللثوية اللبية (2.6%)، والتهاب اللثة الناشئ عن الأجهزة الجسدية الأخرى (0.55%)، والتهابات اللثة غير المرتبطة باللويحات السنوية (0.3%). وكانت أمراض اللثة المزمنة أكثر شيوعاً بقليل (53%)، عن عامة الشعب الأمريكي، مع التهابات اللثة المرتبطة باللويحات السنوية (42.1%)، تشكلن أغلب أمراض اللثة. ولوحظ أن المرضى المراجعين أكبر سناً من متوسط سكان أمريكا وكاليفورنيا بقليل، ولكن كان لهم بنية عرقية مماثلة وصحة معتدلة.

الاستنتاجات: أمراض اللثة شائعة لدى المرضى المتمتعين بصحة عادية، ويجب أن يكون أطباء الأسنان على استعداد لاكتشاف وعلاج أمراض اللثة النادرة لأنها تحدث عند حوالي واحد من كل خمسة وعشرين مريضاً

الكلمات المفتاحية: بيانات المرضى الديموغرافية؛ عيادة كلية طب الأسنان؛ أمراض الفم؛ أمراض اللثة؛ علم الوبائيات

Abstract

Objectives: To determine the prevalence of rare periodontal diseases in a dental school clinic that mimics a large general dentistry practice.

Methods: We reviewed the charts of all patients who sought comprehensive dental care at the Western University of Health Sciences Dental Center, California, USA, between September 2010 and February 2013 to determine the prevalence rates of various oral conditions and compared them with published data by chi-square analysis.

Results: Periodontal disease was the commonest oral condition (96%), followed by caries producing enamel surface cavitation (70%), endodontic infections (26%),

* Corresponding address: College of Dental Medicine, Western University of Health Sciences, 309 E Second Street, Pomona, CA 91766, USA. Tel.: +1 9097063831; fax: +1 9097063800.

E-mail: tboehm@westernu.edu (T.K. Boehm)

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occlusal trauma as evidenced by fremitus (15%), oral lesions requiring biopsy (1%) and edentulism (1%). About 4% of patients had rare periodontal diseases, including localized aggressive periodontitis (0.3%), periodontal abscesses (0.6%), gingival abscesses (0.09%), combined periodontal–endodontic infections (2.6%), gingivitis modified by systemic factors (0.55%) and gingival diseases not associated with plaque (0.3%). Chronic periodontitis was slightly commoner (53.0%) than in the general US population and, with plaque-associated gingivitis (42.1%), constituted most of the periodontal disease. Patients were slightly older than the average for California and the US, but were of similar ethnic composition and average systemic health.

Conclusion: Periodontal disease is common in patients of average health, and dentists should be ready to recognize and manage rare periodontal disease, as it occurs in about one of every 25 patients.

Keywords: Dental school clinics; Patient demographics; Periodontal disease; Oral disease

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Introduction

Periodontal diseases are inflammatory disorders most commonly initiated by microorganisms; if untreated, they reduce a patient's quality of life.¹ Some periodontal diseases, such as chronic periodontitis and gingivitis, are common in patient populations throughout the world.² Other diseases defined by the 1999 International Workshop for a Classification of Periodontal Diseases and Conditions² appear to be rare, but data on their prevalence are limited or do not exist. These rare periodontal diseases include aggressive forms of periodontitis, autoimmune gingival diseases and combined endodontic–periodontic infections. As they are rarely encountered, general dentists are often uncomfortable in treating these conditions and refer the patients to specialists.

As the proportion of rare periodontal diseases among common oral diseases in patients of average health is unknown, we determined the prevalence of periodontal diseases and of other oral conditions in a cross-sectional study of patients attending a dental school clinic, which mimics a large, general dentistry group practice.

Materials and Methods

Setting

The study was conducted at the main dental clinic of the Western University of Health Sciences College of Dental Medicine in Pomona, California, USA, which was set up to imitate a large group practice for general dentistry. Small teams of junior and senior dental students provide basic dental care similar to that provided by associate dentists in group practices, with licensed general dentists supervising and managing several student teams.

Data collection and statistical analysis

The charts of all 2867 patients seen at the dental clinic between 24 September 2010 and 8 February 2013 were reviewed. We excluded the records of emergency patients, patients referred for specific procedures and edentulous patients, as no periodontal data were available for them. We also excluded patients who did not grant permission for use of their records for research.

For the remaining 2137 patients, we collected demographic data, periodontal diagnosis, disease severity, presence of other oral conditions and presence of systemic conditions associated with periodontal disease. Descriptive statistics were performed to obtain the prevalence of types of periodontal disease and other oral conditions. In order to determine whether our patient population had disease patterns different from those reported in the literature, we used chi-square analysis with Yates' correction for continuity to compare our data with those published previously. If fewer than five patients had a given condition, the Fisher exact test was used. We compared the median age of our patient population with that of the California population in a two-tailed Student *t* test. We determined that we had collected enough data when the mean of American Academy of Periodontology disease categories for all patients varied by less than 0.01 over the course of 6 months. Diagnostic agreement and inter-examiner reliability were measured by correlating the disease categories assigned by the general dentist and student teams and those assigned independently by the periodontist. For all statistical calculations, we used GraphPad Prism software.

The study was approved by the Western University of Health Sciences Institutional Review Board (IRB#12/IRB/019) and was carried out in accordance with the code of ethics in the Declaration of Helsinki.

Disease definitions

Periodontal diseases were diagnosed with the 1999 International Workshop definitions and additional diagnostic criteria as outlined in Table 1. Caries was defined as any area of clinically detectable enamel breakdown. Endodontic infections were defined as any sign of endodontic infection, such as abnormal pulp test results indicating irreversible pulpitis or pulpal necrosis, the presence of periapical radiolucency or signs of infection. Fremitus was used as an indicator of occlusal trauma, and significant oral pathology was defined as any instance in which an oral pathologist recommended biopsy of a lesion.

Calibration

All dental care providers used periodontal probes with a pressure of 20 g on a letter scale (Escali, Minneapolis, USA) and received instructions on probing before entering the clinic. Supervising dentists received additional calibration once a year in 2011 and 2012. The sole periodontist (TB) randomly calibrated other dentists throughout the year to keep the diagnostic methods uniform. All care providers used the diagnostic criteria outlined above.

Results

We determined the prevalence of the periodontal diseases listed in Table 2. That of chronic periodontitis was slightly

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