Malignant Transformation of Oral Lichen Planus

A Case Report

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ABSTRACT

Lichen planus is a chronic, immunological mucocutaneous disease with a wide range of clinical manifestations. Since oral lichen planus is considered a pre-malignant condition, a recall system has been recommended one to four times annually to facilitate the early diagnosis of malignant transformation. This paper reports the case of a patient with malignant transformation of oral lichen planus and points out the significance of both the recall system and adequate education by dental care providers regarding early detection of transformation into oral cancer.

Transformación Maligna del Líquen Plano Oral Reporte de un Caso

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RESUMEN

El liquen plano es una enfermedad mucocutánea inmunológica crónica con una amplia gama de manifestaciones clínicas. Puesto que el líquen plano oral es considerado una condición premaligna, se ha recomendado un sistema de recordatorio una o cuatro veces al año para facilitar el diagnóstico precoz de la transformación maligna. Este trabajo reporta el caso de un paciente con transformación maligna del líquen plano y señala la importancia tanto del sistema de recordatorio como de la educación adecuada por parte de los proveedores de la atención dental, con respecto a la detección temprana de la transformación en cáncer oral.

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INTRODUCTION

Lichen planus is a chronic, mucocutaneous immunological disease with a wide range of clinical manifestations. Often, the oral mucosa is involved and may be the only site of involvement. Oral lichen planus rarely goes into remission without administration of necessary medicaments (1).

A large number of clinical studies and case reports have reported that oral lichen planus has the potential for malignant development (2-11).

It is important to have a definitive diagnosis of oral lichen planus confirmed based on established clinical and histological criteria (12, 13). Cytology, with DNA-cytometry, is a highly sensitive, specific and non-invasive method which can be used for periodic follow-up of oral lichen planus lesions in order to detect early or exclude malignancy

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(14). Oral cytology is a simple, value-based and inexpensive tool for early diagnosis of oral squamous cell carcinoma arising from oral lichen planus and lichen planus itself. Biopsy and histopathological examination remains the gold standard for definitive diagnosis (15).

Several studies have documented a relationship between oral lichen planus and oral cancer (7–10). Despite the differences in experimental designs, the majority of studies have reported a rate of malignant transformation of oral lichen planus between 0.5 and 2% over a five-year period (16). Recall systems have been proposed to include professional examination one to four times annually (17). Several authors have also advocated that other dental care workers should play a role in detecting oral cancers and it is therefore important that appropriate dental care workers should be properly instructed in the clinical criteria for diagnosis of oral lichen planus (18).

Case report

Patient MM, a 50-year old female reported to the Department of Oral Medicine and Periodontology of Niš Dental Clinic, Serbia. The patient complained of severe pain during masti-

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cation and drinking, which significantly affected quality of life. Medical history revealed that the patient had uterine cancer 10 years ago, which was successfully treated by surgery and radiotherapy. She also reported that she was taking antihypertensive drugs and antidepressants. The recent physical examinations were within normal limits. She had never smoked nor used tobacco in any form. Family history did not reveal any relatives who had oral lichen planus. Clinical examination revealed ulcers bilaterally on the buccal mucosa (Fig. 1). In order to reduce the severity of symptoms and



Fig. 1: Ulcerative lesion surrounded with reticular white striations, on the right buccal mucosa.

accelerate the healing of the ulcers, the patient was treated with an initial short course of systemic corticosteroids (60 milligrams of prednisone, once a day, in the morning). After 14 days, the ulcers healed and topical corticosteroids were administered for another two weeks in order to prevent the relapse of the ulcers.

Post-treatment, the patient was reviewed for two weeks. Biopsy was taken because of the atrophic appearance of the buccal mucosa. It showed pathognomonic microscopic changes for oral lichen planus.

After the histological diagnosis of oral lichen planus, the patient attended scheduled follow-up appointments (four times annually) to the Dental Clinic. During the four yearly follow-up period, the buccal mucosa was atrophic at the site of the former ulcers. When ulcers appeared on the atrophic buccal mucosa, the patient was treated with systemic and topical corticosteroids.

Four years later, the oral lichen planus on the left buccal mucosa progressed and the ulcer did not respond to systemic corticosteroid therapy. Fast growing polypoid lesions were noticed on such areas (Fig. 2).

Further biopsies were taken and histology revealed the development of oral verrucous carcinoma (Fig. 3). After surgery, the patient had radiotherapy in order to minimize the risk of remnant malignant cells. Ice cubes, antimycotic agents (Solution Nystatin) and oral butter were also administered to decrease postoperative morbidity.



Fig. 2: Fast growing polypoid lesion on the left buccal mucosa.



Fig. 3: Verrucous carcinoma, homogenous proliferation of maturing squamous epithelium; HE, x 40.

After the healing period, the patient was scheduled for regular follow-up appointments. Buccal mucosa at the site of the former carcinoma was atrophic with reticular white striations. During two years of follow-up, the patient was treated with systemic and topical corticosteroids when ulcers appeared. The response to treatment was good in reducing symptoms and healing ulcers.

DISCUSSION

The malignant potential of oral lichen planus has been confirmed by several authors and a recall system for patients with oral lichen planus has been recommended to facilitate the early diagnosis of oral cancer with the aim of reducing morbidity and mortality (3–7). Patients with oral lichen planus should have regular follow-up examinations (four times annually) (5–9). In this way, it would be easier to identify patients at an increased risk of cancer development and thus reduce cancer morbidity and/or mortality (17, 18).

Whilst biopsy will remain as the gold standard for diagnosis, it is likely that brush cytology will be increasingly used for screening, surveillance and for the detection of biomarkers and prognosis in established head and neck cancers (19). Appropriate diagnostic procedures (ie biopsy of the lesion) must be implemented as a matter of course in the evaluation of any lesion that does not respond to usual therapy in 7 to 14 days (20). The survival of patients with oral cancer remains poor despite recent surgical advances. About 30-40% of all patients with intra-oral cancers will survive five years. The short survival time is caused, largely, by late detection. It is important that dentists as well as dental hygienists be properly educated to detect oral cancers early. Patients with oral lichen planus should be instructed to report clinical changes in the lesions and to keep regular follow-up appointments (21). Also, interdisciplinary cooperation between dental and medical healthcare providers is of significance in the follow-up of these patients.

In summary, oral lichen planus is a chronic disease with no known cure. Although the risk for oral cancer development at the site of oral lichen planus is small, it must not be forgotten. A recall system for oral lichen planus patients (two to four times annually) has been recommended to facilitate the early diagnosis of oral cancer with the aim of reducing morbidity and mortality from oral cancer.

REFERENCES

- Scully C, Porter S. ABC of oral health: Swellings and red, white and pigmented lesions. BMJ 2000; 321: 225–8.
- Fulling HJ. Cancer development in oral lichen planus: A follow-up study of 327 patients. Arch Dermatol 1973; 108: 667–9.
- Gupta PC, Bhonsle RB, Murti PR, Daftary DK, Mehta FS, Pindborg JJ. An epidemiologic assessment of cancer risk in oral precancerous lesions in India with special reference to nodular leukoplakia. Cancer 2006; 63: 2247–52.
- Barnard NA, Scully C, Eveson JW, Cunningham S, Porter SR. Oral cancer development in patients with oral lichen planus. J Oral Pathol Med 2006; 22: 421–4.
- Holmstrup P, Thorn JJ, Rindum J, Pindborg JJ. Malignant development of lichen planus-affected oral mucosa. J Oral Pathol Med 2006; 17: 219–25.

- Murti PR, Daftary DK, Bhonsle RB, Gupta PC, Mehta FS, Pindborg JJ. Malignant potential of oral lichen planus: observations in 722 patients from India. J Oral Pathol Med 2006; 15: 71–7.
- Meij van der EH, Schepman KP, Smeele LE, Wal van der JE, Bezemer PD, Waal van der I. A review of the recent literature regarding malignant transformation of oral lichen planus. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1999; 88: 3–4.
- Lozada-Nur F. Oral lichen planus and oral cancer: Is there enough epidemiologic evidence? Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2000; 89: 3–4.
- Silverman S, Bahl S. Oral lichen planus update: clinical characteristics, treatment responses, and malignant transformation. Am J Dent 1997; 10: 259–63.
- Rajentheran R, McLean NR, Kelly CG, Reed MF, Nolan A. Malignant transformation of oral lichen planus. Eur J Surg Oncol 1999; 25: 520–3.
- Sugerman PB, Savage NW, Walsh LJ, Zhao ZZ, Zhou XJ, Khan A et al. The pathogenesis of oral lichen planus. Crit Rev Oral Biol Med 2002; 13: 350–65.
- Meij van der EH, Waal van der I. Lack of clinicopathologic correlation in the diagnosis of oral lichen planus based on the presently available diagnostic criteria and suggestions for modifications. J Oral Pathol Med 2003; 32: 507–12.
- Meij EH, Reibel J, Slootweg PJ, Wal van der JE, Jong WFB, Waal van der I. Interobserver and intraobserver variability in the histologic assessment of oral lichen planus. J Oral Pathol Med 2007; 28: 274–7.
- Maraki D, Yalcinkaya S, Pomjanski N, Megahed M, Boecking A, Becker J. Cytologic and DNA-cytometric examination of oral lesions in lichen planus. J Oral Pathol Med 2006; 35: 227–32.
- Driemel O, Kunkel M, Hullmann M, von Eggeling F, Müller-Richter U, Kosmehl H et al. Diagnosis of oral squamous cell carcinoma and its precursor lesions. JDDG 2007; 5: 1095–1100.
- Ingafou M, Leao JC, Porter SR, Scully C. Oral lichen planus: a retrospective study of 690 British patients. Oral Dis 2006; 12: 463–8.
- Scully C, Beyli M, Ferreiro MC, Ficcara G, Gill Y, Griffiths M et al. Update on oral lichen planus: etiopathogenesis and management. Crit Rev Oral Biol Med 1998; 9: 86–122.
- Horowitz AM, Goodman HS, Yellowitz JA, Nourjah PA. The need for health promotion in oral cancer prevention and early detection. J Public Health Dent 1996; 56: 319–30.
- 19. Sloan P. Oral cancer screening. Cytopathology 2007; 18: 12-12.
- Huber MA. A review of premalignant oral conditions. Tex Dent J 2006; 123: 502–9.
- Mattsson U, Jontell M, Holmstrup P. Oral lichen planus and malignant transformation: Is a recall of patients justified? Crit Rev Oral Biol 2002; 13: 390–6.