Microinvasion: A Clinical Dilemma

Regmee P,[1] Rimal J,[1] Maharjan IK,[1] Shrestha A,[2] Niroula D,[1] Luitel A,[1] Chaudhary SK[3]

[1]Department of Oral Medicine and Radiology,

[2]Department of Oral Pathology,

[3]Department of Periodontology and Oral Implantology,

College of Dental Surgery,

BP Koirala Institute of Health Sciences,

Dharan, Nepal.

Corresponding Author

Pragya Regmee

Department of Oral Medicine and Radiology,

College of Dental Surgery,

BP Koirala Institute of Health Sciences,

Dharan, Nepal.

E-mail: mailpragyareg@gmail.com

Citation

Regmee P, Rimal J, Maharjan IK, Shrestha A, Niroula D, Luitel A et al. Microinvasion: A Clinical Dilemma. *Kathmandu Univ Med J.* 2019;65(1):70-2.

ABSTRACT

Microinvasive oral squamous cell carcinoma (MIOSCC) is an early stage malignant tumour,showing invasion of the epithelial cells confined to the superficial lamina propria. This is matter of debate in respect to the clinical presentation, metastasis, therapeutic intervention and prognosis.

A 32-year female reported to the department with chief complaint of wound and burning sensation in her left back region of lower gums. Clinical diagnosis of erosive oral lichen planus was made and topical steroid was started. The lesion clinically healed with the use of topical medicine. After stopping the medication the lesion recurred, following which, excisional biopsy was done. On histopathological evaluation diagnosis of microinvasive oral squamous cell carcinoma was made. Recurrence of similar symptom in the same site was seen 10 weeks later, which now showed features of moderate dysplasia.

Clinical features of microinvasive oral squamous cell carcinoma resembles premalignant lesion, leading to difficulty in diagnosis, treatment and prognostic assessment. Thus, adequate representation of this entity is necessary.

KEY WORDS

Microinvasive oral squamous cell carcinoma, Oral lichen planus, Oral potentially malignant disorder

INTRODUCTION

American Joint Committee on Cancer (AJCC) and Union for International Cancer Control (UICC) defines Microinvasive carcinoma as a lesion that is predominantly intraepithelial with a focus of invasion of microscopic dimensions confined to superficial stroma or lamina propia.[1] These kinds of lesions generally create confusion in respect to their clinical presentation, metastatic ability, therapeutic outcome and short or long term prognosis. The two most important characteristics of any malignancy of epithelial origin for their local invasion are, the thickness of tumor and the depth of invasion.[2]

Because of the aforementioned reasons, the diagnosis of microinvasive carcinoma is primarily histopathologic and represents a real challenge for clinicians.[2]

CASE REPORT

We present here a case of 32-year-old female who reported to the Department of Oral Medicine and Radiology on February, 2016 with a chief complain of wound and burning sensation in her left back region of lower gums for 2 months (fig. 1). On extraoral examination, she had single left submandibular lymph node palpable, nontender, soft to firm in consistency, mobile, measured about 1 cm X 1 cm in maximum dimension, oval with no changes in overlying skin. In intraoral examination, marginal and attached gingiva with respect to 36 revealed, localized and ill-defined erythematous erosive area about 10mmx7mm in maximum dimension. On palpation, it was tender with rough overlying texture, peripheral induration was absent and the surrounding mucosa appeared clinically normal. A clinical diagnosis of Erosive form of Oral lichen planus was made and topical steroid was prescribed, to be locally

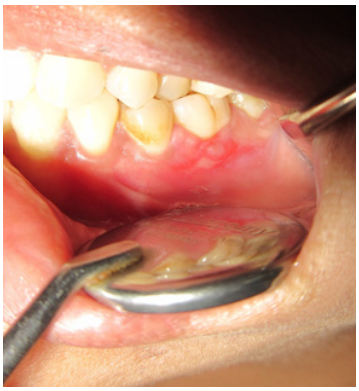

Figure 1. Initial Presentation of the patient with ulcer in buccal aspect of gingiva in relation to 36

applied, three times a day for 14 days. The patient was kept under follow-up and the lesion was clinically healing during the time of use of medication. After the patient discontinued the medicationfollowing the completion of 14 days course, the lesion recurred completely within the next 2 weeks. Following this, excisional biopsy was done and the histopathological diagnosis of Microinvasive Oral Squamous Cell Carcinoma (MIOSCC) was made (fig. 2). When evaluating the biopsy site 2 weeks after the excisional biopsy, it had healed normally (fig. 3). Following this diagnosis, to evaluate for bony invasion and local metastasis, Computed Tomography (CT) of maxilla, mandible, neck and ultrasonography (USG) guided fine needle aspiration cytology (FNAC) was advised. CT showed no bony involvement but revealed multiple neck nodes, maximum of size 2 cm. USG guided FNAC revealed no evidence of nodal metastasis.

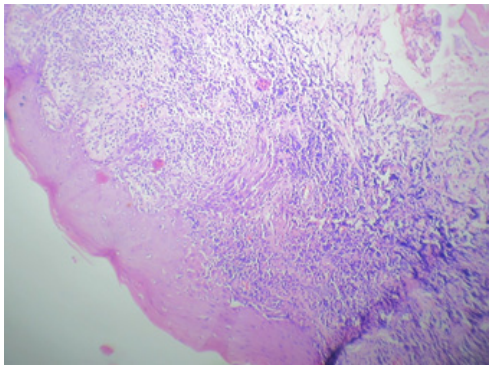

Figure 2. Histopathological section of the biopsy specimen showing breach in epithelium with microinvasion under 4X magnification

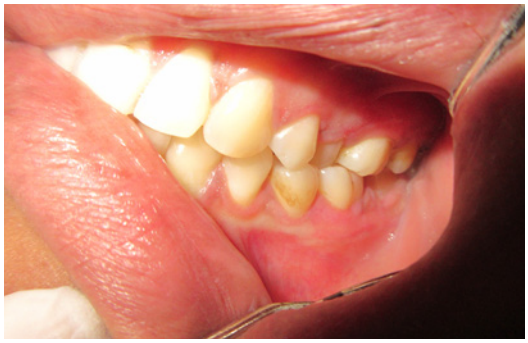

Figure 3. Normal healing of the biopsy site in buccal aspect of gingiva in relation to 36

After about 10 weeks the patient had similar lesion in the same site. On histopathological evaluation of the lesion, it showed moderate dysplasia. The patient is on regular follow up, biopsy site has healed normally and patient has developed no fresh signs or symptoms.

DISCUSSION

MIOSCC generally presents itself clinically as one of the Oral Potentially Malignant Disorders (OPMDs). High degree of caution is essential to prevent misdiagnosis of such lesions. An isolated study has revealed that these lesions present more frequently as patches, plaques or erosion than as ulcers or verrucous lesions.[1]

The depth of invasion of MIOSCC is very less, generally between 0.5 to 2 mm. Conventionally, it is measured from the basement membrane of the adjacent non-neoplastic epithelium because there is greater variations in epithelial thickness.[3] However, the referral points with regard to MIOSCC could vary depending on the site of involvement. Various sites have various depths noted, 5 mm in cervical carcinomas and 1 mm in breast carcinoma.[2] The invasion is not characterized by pushing type expansion of hyperplastic epithelium but as one with an irregular infiltrative border often accompanied by a reactive desmoplasia.[3]

The need for defining MIOSCC is felt since these are the lesions with minimal risk of lymph node metastasis and recurrence and thus can be treated conservatively. A classification system for MIOSCC is difficult and has yet not been established owing to the limited literature, especially for MIOSCC when compared to microinvasive carcinomas in other parts of the body. This could be because of thelate presentation of the patient and inconsistencies in the use of the term. Although with an increase in awareness, the outpatient reporting with OPMDs have increased, accurate timing of patient presentation along with correct diagnosis is needed to state “just the break in basement membrane”. This infact may change the prognosis of these kind of lesions.[3] In the absence of universally accepted treatment protocol for MIOSCC with clinically or cytopathologically negative nodes, surgical treatment aimed at excising the lesions with a 1 to 2 mm margins at the periphery and deep margins is recommended for these lesions.[4] Elective neck dissection is still a controversy and is debatable. However, a thorough examination of the lymphatic drainage of the affected area may be warranted.[3]

One possible reason behind normal mucosal healing in our case could be because of complete excision of the tumor cells with adequate margin of safety. The malignant transformation rate of OLP on the basis of three prospective follow-up studies done at University of California, San Francisco (UCSF) Oral Medicine Clinic is 2.5%, 1.2% and 3.2%. However, the duration between initiation of OLP and appearance of squamous cell carcinoma may vary in a wide range.[5] As in case of other extraoral potentially malignant

disorders, in case of OPMD, there has been reported recurrence of MIOSCC after few months of excision.[1,6] Hence a close monitoring is advised.

Histopathological grading of epithelial dysplasia is very important to assess the risk of malignant transformation of OPMDs. Any form of invasion of dysplastic cells into the underlying stroma through a breach in the basement membrane constitutes malignancy/carcinoma.[3]

Microinvasion is purely a histopathological diagnosis, the hallmark being the breach in basement membrane along with presence of dense inflammatory cell infiltrate.[7] To diagnose this lesion clinically is infact a challenge for oral physicians. To an oral pathologist difficulty in diagnosing this condition is due to the invasive component being very small, which may remain undetected. Sometimes the dense inflammation itself can mask the basement membrane integrity. Further analytical studies are necessary to understand the definite clinical presentations, measures of diagnosis and understand the prognosis of these lesions.

REFERENCES

1. Pentenero M, Navone R, Motta F, Marino R, Gassino L, Broccoletti R, Gandolfo S. Clinical features of microinvasive stage I oral carcinoma. *Oral diseases.* 2011; 17(3): 298-303.
2. Byatnal AA, Natarajan J, Shenoy S, Kamath A, Hunter K, Radhakrishnan R. A 3-dimensional assessment of the depth of tumor invasion in microinvasive tongue squamous cell carcinoma - A case series analysis. *Med Oral Patol Oral Cir Bucal.* 2015; 20(6): e645-650.
3. Shankar AA, Gokul S. The Dilemma of Microinvasion. *Head Neck Oncol.* 2014; 6(3): 30.
4. Carroll WR. Surgery for cancer of the oral cavity. In: Fisher JE, Bland KI. Master of surgery. 5th ed. Lippincott Williams and Wilkins. 2007; 1: 308
5. Silverman S. Oral cancer. Raleigh: PMPH-USA; 2003.
6. Ermertcan AT, Gencoglan G, Eskiizmir G, Temiz P. Microinvasive squamous cell carcinoma arising in discoid lupus erythematosus lesions successfully treated with imiquimod 5% cream. *Indian Journal of Dermatology, Venerology and Leprology.* 2013; 79(1): 115.
7. Bianchi S, Vezzosi V. Microinvasive carcinoma of the breast. P*athol Oncol Res.* 2008; 12: 105-11.