**CASE REPORT**

**Oral squamous cell carcinoma with discoid lupus erythematosus**

N.W. Savage, V. Vucicevic Boras *, Z. Mohamad Zaini *

Department of Oral Biology and Pathology, School of Dentistry, University of Queensland, 200 Turbot Street, Qld 4000, Australia

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**Summary** This paper reports an interesting development in a 64 year old female originally referred for evaluation of oral lichenoid lesions. The patient had a previous diagnosis of discoid lupus erythematosus of the skin. The presenting oral clinical appearance varied between lichenoid areas and ectopic erythema migrans. At initial presentation the patient had an exophytic lesion on the vermilion of the lower lip and biopsy confirmed the clinical diagnosis of oral squamous cell carcinoma. She subsequently developed multiple lesions involving isolated oral sites as well as the lip.

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**KEYWORDS**

Oral squamous cell carcinoma; Discoid lupus lesions

**Introduction**

The WHO Collaborating Reference Center for Oral Precancerous lesions defines the oral lesions of discoid lupus erythematosus (DLE) as ‘circumscribed, slightly elevated, white patches that may be surrounded by a (red) telangiectatic halo. A radiating pattern of very delicate white lines is usually observed’. Furthermore, classic discoid lesions are frequently seen as a central atrophic area with small white papules surrounded by a border with radiating parallel white striae. Lesions may also appear as irregular red patches without a keratotic component and there may or may not be coincident skin lesions. It is frequently difficult to differentiate both clinically and histologically lesions of DLE from those of lichen planus or leukoplakia. The majority of oral DLE lesions are found on the buccal mucosa, followed by gingival mucosa, labial mucosa and vermilion border of the lip. The precancerous potential of DLE has not been clearly defined. In the literature there are reports of squamous cell carcinoma appearing on the skin within DLE lesions as well as evidence of multiple carcinomas at the involved site. The literature regarding oral carcinoma development at the sites affected with oral DLE lesions is limited to a number of isolated case reports. However, due to its

* Corresponding authors. Tel.: +61 4 34131247; fax: +61 7 33658199.
E-mail addresses: vvboras@hotmail.com, borasvanja@yahoo.com (V.V. Boras).

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precancerous potential and documentation which is inadequate and inconclusive as suggested by Hille et al.4, this topic deserves our attention. To date there has not been a report of multiple carcinomas developing in the same patient with oral DLE.

Case report

The patient, a 64 year female, was referred to the Oral Medicine Clinic at the University of Queensland, School of Dentistry by her clinical immunologist for assessment of a lesion on the vermilion of the lower lip. Her previous medical history included untreated hypertension, jaundice of indeterminate type, arthritis and discoid lupus erythematosus of the skin for the past 16 years that was being managed jointly by her dermatologist, clinical immunologist and general medical practitioner. Current medications included plaquenil for the DLE, which was withdrawn following a lack of any positive response from skin lesions, and betamethasone dipropionate cream for a facial rash assumed to be related to the DLE. Her routine hematology showed all values within the normal range and she did not present an antibody profile suggestive of systemic lupus erythematosus or another autoimmune condition. On the right buccal mucosa discoid lupus lesions were present (Fig. 1).

The lesion on the vermilion of the lower lip had been present for three months and, whilst it remained asymptomatic and was not causing any functional restriction, there had been a gradual increase in size (Fig. 2). Clinical examination showed a 0.8 cm indurated exophytic lesion with a granular and hyperkeratotic surface occupying the left vermilion of the lower lip. The examination suggested the lesion was limited without significant invasion of the underlying musculature. A clinical diagnosis of squamous cell carcinoma was confirmed with a wedge biopsy designed to be excisional and the wound was closed in layers.

The histology confirmed a moderately well differentiated squamous cell carcinoma which extended beyond the margin the surgical margins. Subsequent treatment involves a further and more extensive wedge excision with a vermilionectomy. The histopathology showed invasion on a broad front into the lamina propria of the lip with a broad column of tumor cells invading the superficial fibres of the muscularis propria. No neurovascular invasion by tumor cells was demonstrable. Significantly there were two separate foci of squamous cell carcinoma separated by a clear zone of dysplasia. The carcinomatous areas had, however been excised with clear margins. The remaining vermilionectomy sections from the right lip showed a broad involvement of the mucosal squamous epithelium by dysplasia varying from mild to severe. A small focus of progression to a well differentiated squamous cell carcinoma was seen but with clear surgical margins. The histopathology summary stated multiple squamous cell carcinomata of the lip. Eight months later the patient developed a further lesion on the left lower lip and biopsy showed a moderately differentiated squamous cell carcinoma invading the lamina propria superficial striated muscle fibers. The local excision of the carcinoma appeared to be complete. Three months later at a follow-up review there was a further
squamous cell carcinoma on the lateral aspect of
the lower lip vermilion. This pattern continued
over the remaining 10 years of the patient’s life
with the development of further primary lesions
involving several oral surfaces including buccal mu-
cosa, alveolar mucosa and the palate. Each was
treated as an independent lesion with wide local
excision. It was not possible to state with any cer-
tainty whether subsequent lesions developed in
areas of intra-oral DLE. The progressive develop-
ment of limited oral access and trismus from sur-
gery made examination extremely difficult.

Discussion

Schiodt et al. reported that in 15% of their pa-
tients with oral DLE, gradual transition to leukopla-
okia-like lesions was noticed. Interestingly, seven
of those lesions were located on the buccal mucosa
and transition time varied from 1.2 to 7.4 years.
Another study from Schiodt et al. showed that
signs of slight dysplasia were present in specimens
obtained from patients with DLE lesions. Lu and Le
reported that the incidence of epithelial dysplasia
in patients with DLE was 13.64%. Scully et al. sug-
gested that DLE lesions on the lip showed a prema-
lignant potential particularly in males. Guo et al.
reported that their retrospective study on 181 lip
carcinoma patients, traced ten cases (5.5%) of con-
comitant DLE on the vermilion border of the lower
lip. Boonen and Voigtlander reported a case of a
female patient suffering from DLE who developed
squamous cell carcinoma on the lower lip. Odell
and Morgan reported that approximately 0.5–2%
of oral DLE lesions have evolved into squamous cell
carcinoma, with the risk being highest for labial mu-
cosa and the vermilion border. Currently the pre-
cancerous potential of the intra-oral lesions of
DLE is uncertain. Development of squamous cell
carcinoma has been described in DLE lesions involv-
ing the vermilion border of the lip and reasonably
actinic radiation is suggested as a contributing fac-
tor. Basal cell and more commonly squamous cell
carcinomas have been reported to develop in DLE
lesions, yet it is unknown whether they might have
been caused by radiation or ultraviolet light used
for treatment of DLE in the early 20th century. On
the other hand, Handlers et al. suggested that
radiation did not play an important role in transi-
tion of DLE lesions into carcinoma. The same
authors through reviewing the literature from
1945 to 1985 found 15 cases of squamous cell
carcinoma from DLE lesions, of which seven oc-
curred in the lips. To our knowledge, this is the first
case representing multiple carcinomata develop-
mant in a patient having DLE intra/extraoral le-
sions. Previously it has been hypothesized that
sun exposure and various therapeutic manage-
ments such as radiation or UV light might lead to
the malignant change of oral DLE lesions. Locker
et al. hypothesized that enhanced metastatic po-
tential may be present when squamous cell carcino-
ma arises in DLE of the lips, based on their
finding of squamous cell carcinomas on the lips
with underlying DLE in two African American. This
may well be the case in epithelium compromised
by DLE but this case report strengthens the sugges-
tion that other factors possibly relating to the tis-
sue changes intrinsic in DLE may be implicated in
malignant transformation. It is clear, however,
that patients with DLE require cautious and ongoing
review of their oral and peri-oral tissues. This iso-
lated case report involving a female patient may
also encourage publication of other similar cases
and allow a definitive statement, based on in-
creased numbers, on the likelihood of dysplasia
and malignant transformation in DLE and the iden-
tification, if any, of possible accessory risk factors.

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