Research Letters

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# Characteristics and malignancy transformation rate of 17 patients with oral erosive lichen planus: A case series

**Keywords:** autoimmune, lichen planus, malignant transformation, oral erosive, squamous cell carcinoma

*To the editor:*

Oral lichen planus is an inflammatory disorder of the oral mucosa that can affect up to 2% of the middle-aged population.[1] It can present in atrophic, bullous, plaque-like, reticular, and erosive forms, with the latter two being the most common.[2] Oral erosive lichen planus (OELP) manifests chronically and is especially tedious to treat. Among patients with oral lichen planus, there is an average malignant transformation of 1.1%, and 1.7% for the erosive form.[3] To study this further, and with the University of Nebraska Medical Center's IRB approval, we identified all OELP cases diagnosed clinically or via tissue biopsy between 2012 and 2022, yielding a total of 17 cases.

In our case series, females comprised 52.9%, non-Hispanic white patients 94.1%, and 5.8% were non-Hispanic black patients. The average age of presentation to clinic was 63 years. Many patients had symptoms for years prior to our evaluation, suggesting average age of onset may be lower. Of our patients, 47.1% had a positive history of tobacco use. Seven cases were tested for infectious hepatitis; all were negative. The most common OELP lesion locations were the buccal mucosa, lips, gingiva, tongue, and palate, each comprising 33.3%, 28.6%, 23.8%, 9.5%, and 4.8%, respectively. The most common physical examination findings were erosion/ulceration seen in 58.8%, white plaques in 47.1%, and Wickham striae in 35.3%. Other body areas also involved included cutaneous, genital, or cutaneous with nail involvement, comprising 17.6%, 11.8%, and 5.9%, respectively. Biopsy-confirmed cases constituted 70.5% of our cohort. Autoimmune blistering disease workup was performed on six subjects, all yielding negative results. The most common pathological findings were lichenoid changes (Fig. 1) seen in 100%, dysplasia in 23.1%, and colloid bodies on DIF in 23.1%. Almost one quarter, 23.5%, of cases developed squamous cell carcinoma (SCC), with SCC diagnosis preceding OELP diagnosis in 11.7% and 50% being prior tobacco users.

Histopathology of all specimens revealed lichenoid mucositis characterized by bandlike lymphocytic inflammation, vacuolar interface changes, and hypergranulosis. Additionally, in cases with malignant transformation, well-differentiated SCC with atypical endophytic lobules of glassy keratinocytes amidst background inflammation was identified (Fig. 2).

In our case series, OELP predominantly affected non-Hispanic white patients. Although there have been conflicting findings, our study supported no gender predilection for this disease.[4] Notably, our cohort showed a transformation rate of 23.5%, which is higher than previously noted for OELP, potentially due to most coming from rural areas where access to care is limited and patients not receiving treatment promptly when symptoms originally developed, as evidenced by 76.5% of patients referred with advanced disease by oral and maxillofacial surgery, otorhinolaryngology, or a dentist, and 30.8% of these already with diagnosed SCC. Conclusions from this cohort are limited by our academic institution serving as a referral center, leading to a potential referral bias and overestimation of the malignancy transformation rate, and due to special investigations not being done throughout the cohort. Nevertheless, it is of utmost importance to thoroughly survey OELP lesions regularly and collaborate with other specialties, as early management is imperative to reducing the risk of malignant transformation.

## Conflicts of interest

None.

## Funding

None.

## Study approval

The authors confirm that any aspect of the work covered in this manuscript that has involved human patients has been conducted with the ethical approval of all relevant bodies: reviewed and approved by UNMC IRB; approval #0432-22-EP.

**What is known about this subject in regard to women and their families?**

- Oral erosive lichen planus has been noted in the literature to affect women at a higher rate than men, but there have been conflicting reports.

**What is new from this article as messages for women and their families?**

- We address this gender predilection in our cohort to provide a better understanding of this potential tendency.



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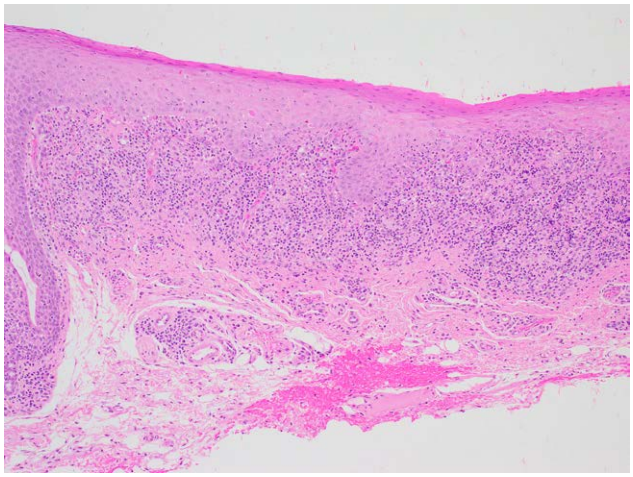

**Fig. 1.** Lichenoid interface mucositis seen in lichen planus (H&E, 4X). H&E, hematoxylin & eosin.

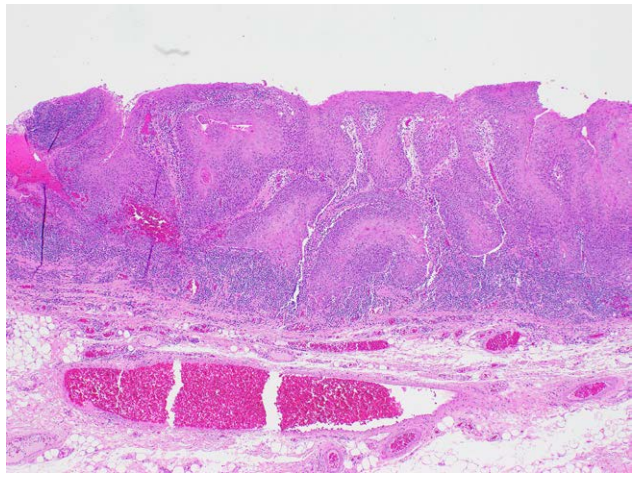

**Fig. 2.** Well-differentiated SCC with atypical endophytic lobules of glassy keratinocytes amidst background inflammation in an OELP patient (H&E 4X). H&E, hematoxylin & eosin; OELP, oral erosive lichen planus; SCC, squamous cell carcinoma.

## Author contributions

All authors contributed to data collection, research design, histopathology imaging, manuscript writing, result analysis, and/or manuscript commenting.

## References

1. Roopashree MR, Gondhalekar RV, Shashikanth MC, George J, Thippeswamy SH, Shukla A. Pathogenesis of oral lichen planus - a review. J Oral Pathol Med 2010;39:729–34.
2. Lajevardi V, Ghodsi SZ, Hallaji Z, Shafiei Z, Aghazadeh N, Akbari Z. Treatment of erosive oral lichen planus with methotrexate. J Dtsch Dermatol Ges 2016;14:286–93.
3. Warnakulasuriya S, Ramos-García P, González-Moles MA. Malignant transformation of oral lichen planus—an umbrella study of systematic reviews. Oral 2023;3:295–306.
4. Ramos-García P, González-Moles MA, Warnakulasuriya S. Oral cancer development in lichen planus and related conditions—30 evidence level: a systematic review of systematic reviews. Oral Dis 2021;27:1919–35.

Priscilla Marie Rosa-Nieves, BS[a]

Molly Antonson, BS[a]

Corey Georgesen, MD[a]

Ashley Wysong, MD, MS[a]

Melodi Javid Whitley, MD, PhD[a,b]

Megan Arthur, MD[a,*]

[a] *Department of Dermatology, University of Nebraska Medical Center, Omaha, Nebraska*

[b] *Department of Dermatology, Duke University School of Medicine, Durham, North Carolina*

* Corresponding author.
*E-mail address:* megan.arthur@unmc.edu (M. Arthur).