ISSN : (Online): 1898-7249, ISSN (Print): 1898-7249
Abbreviation: J Derm Cse Rep

Journal of Dermatological Case Reports

Case Report

Actinic Cheilitis: A Case Report

Dr. Myla Swathi[1], Dr. Malthi Anusri Sai Ramya Geetika[2], Dr. CH. Gnanitha[3], Dr. CH. Sucharitha[4], Dr. B. Sailaja[5]

[1]Reader, Department of Oral Medicine and Radiology, St. Joseph Dental College, Duggirala, Eluru District, Andhra Pradesh, India
[2]Post Graduate, Department of Oral Medicine and Radiology, St. Joseph Dental College, Duggirala, Eluru District, Andhra Pradesh, India
[3,4,5]Intern, St. Joseph Dental College, Duggirala, Eluru District, Andhra Pradesh, India

Corresponding Author

Dr. Malthi Anusri Sai Ramya Geetika

Post Graduate, Department of Oral Medicine and Radiology, St. Joseph Dental College, Duggirala, Eluru District, Andhra Pradesh, India

Email: omrdsjdc@gmail.com

Abstract:

Actinic cheilitis is a chronic potentially malignant disorder of the lip resulting from prolonged exposure to ultraviolet radiation. Clinically, it presents as erythematous, crusted, scaly, or ulcerative lesions affecting the vermilion border, predominantly of the lower lip. The lesion may exhibit keratotic changes, atrophy, fissuring, and loss of the normal vermilion outline. Early recognition and appropriate management are essential because of its risk of progression to squamous cell carcinoma. This report highlights the clinical features and significance of actinic cheilitis as an important premalignant lesion of the lip.

Keywords:

Actinic Cheilitis, Lower Lip, Ultraviolet Radiation, Premalignant Lesion, Squamous Cell Carcinoma

Received: 05-05-2026

Accepted: 12-06-2026

Published: 22-06-2026

Introduction

Actinic cheilitis is a premalignant condition of the lower lip characterized by grayish-white areas of discoloration and blunting of the demarcation between the cutaneous lip and the mucosa. It is associated with heavy or chronic sun exposure.[1,2] The vermillion of the lips is particularly susceptible to UV radiation, especially the lower lip, due to its structural and topographic characteristics as a transitional tissue between skin and oral mucosa. For this reason, the lip vermillion comprises a stratified squamous thin epithelium with few cell layers, which contains less melanin than skin and lacks sweat and sebaceous glands, which play a protective role against UV light.[3,4] The most important risk factor for Actinic Cheilitis is chronic sun exposure. Fair skin, increasing age, occupation, and leisure activities involving intense sun exposure, the geographic latitude of

ISSN : (Online): 1898-7249, ISSN (Print): 1898-7249
Abbreviation: J Derm Cse Rep

residence, male gender, genetic predisposition, and immunosuppression are additional risk factors.[5,6] The Actinic Cheilitis may be similar to the classic form of actinic keratosis with well demarcated, erythematous papules, or plaques with scale; but often there is a diffuse, multifocal, and heterogeneous lesion characterized by xerosis, scales, hyperkeratotic areas, and even atrophy. The atrophy was defined as the depression of the lip that results from the thin epidermis/dermis.[7] At palpation, it feels like sandpaper. The colour of the lip can be changed: erythema (explained by vasodilatation), spotting (change of colour of the normal mucosa without elevation or depression), a mottled appearance (erythema and white patches), or brown spots. The demarcation between the lip and the surrounding skin can be blurred. There can be loss of tissue presenting as vertical fissures (linear clefts extending into the dermis) or ulceration (full thickness loss of the epidermis). A plaque can be found or the entire lip can be indurated.[7] Areas of leukoplakia can be seen.[5] Due to the high rate of transformation into invasive SCC, early diagnosis and treatment are essential for prognosis in Actinic Cheilitis. However, due to the particular anatomical and histological characteristics, as well as the importance of the cosmetic outcome, treatment is difficult, and there is no general consensus regarding the best therapeutic approach.[8] Moreover, an accepted clinical tool for the measurement of the severity and therapeutic response in Actinic cheilitis is lacking. Clearance can be assessed based on clinical, dermoscopic, or histologic criteria, recurrence, or progression rate. Side effects, patient satisfaction, or cosmetic outcome are other important criteria that must be considered. Treatment options include surgical procedures (vermilionectomy, cryotherapy, laser ablation, and Mohs surgery), conservative modalities (topical treatment using imiquimod, 5-fluorouracil, diclofenac, ingenolmebutate), and photodynamic therapy.[9]

Case Report

A 52-year-old female patient reported to the Department of Oral Medicine and Radiology, St. Joseph Dental College, with a chief complaint of an ulcerated lesion on the lower lip of one year's duration. The patient had no relevant medical history or systemic illness. She reported a previous occurrence of a similar lesion one year earlier, for which she had received medication, resulting in temporary relief. The lesion reappeared approximately 20 days before coming to our department. The patient gave a history of prolonged sun exposure for the past two years due to her occupation as a farmer. She complained of discomfort, pain, and occasional bleeding from the lesion during mastication. On clinical examination, an erythematous crusted lesion was observed on the lower lip. The lesion extended mediolaterally from the midline approximately 1 cm toward both the right and left sides and involved the vermilion border of the lower lip. Multiple bleeding points were evident on the surface. The surrounding skin appeared dry and scaly, with areas of white keratotic change (Figure 1). Palpation confirmed all clinical findings. The lesion was tender on palpation, rough in texture, and firm in consistency. Based on the patient's history of chronic sun exposure and the characteristic clinical features, a provisional diagnosis of Actinic Cheilitis involving the lower lip was made. Differential diagnoses considered included traumatic ulcer of the lower lip and recurrent angular cheilitis. The patient was prescribed topical hydrocortisone cream once daily, topical tretinoin cream once daily, an antioxidant supplement once daily, and fexofenadine once daily for 15 days. The patient was advised regarding sun-protective measures and scheduled for follow-up evaluation.

Figure 1: Erythematous lesions on Lower

Discussion

Actinic cheilitis is a premalignant condition affecting the lower lip. It is considered a chronic condition that typically develops in response to longstanding ultraviolet radiation exposure. The reported risk of malignant transformation ranges between 10% and 30%, making early detection and treatment essential.[10,11] SCC of the lip is more aggressive than

ISSN : (Online): 1898-7249, ISSN (Print): 1898-7249
Abbreviation: J Derm Cse Rep

cutaneous SCC, with a high risk for metastasis.[12] The probability of metastasis from cutaneous SCC is 1% compared to 11% for cutaneous SCC of the lower lip. Therefore, it is important to treat actinic cheilitis early to reduce this risk for malignant transformation. Current follow-up recommendations after actinic cheilitis treatment include twice yearly visits for 2 years followed by annual skin checks after this.[13] Actinic cheilitis can vary widely in its presentation, ranging from dryness to frank ulceration and crusting. Overt atrophy may be present, and the vermilion border can be poorly defined. There may also be regions of focal hyperkeratosis. Traditionally, actinic cheilitis has been recognized as a clinical diagnosis. It has been recommended that patients who display exam findings consistent with classic actiniccheilitis should not undergo a biopsy to confirm the diagnosis. In contrast, persistent and suspicious lesions should undergo biopsy with hematoxylin and eosin staining to rule out malignancy. de Santana Sarmento et al recommended biopsy in the presence of ulcerations/ atrophy/nodules, after failure of conservative treatment, or if the area is small and amenable to complete surgical resection.[14] Basic histopathologic features for actinic cheilitis include hyperkeratosis, solar elastosis, mild to moderate epithelial dysplasia, and perivascular inflammation.[15] Interestingly, some studies have also suggested a role for biopsy in assessing treatment response. Sotiriou et al report a complete clinical response in 90% of cases with complete histological clearance in only 80%.[16] The goal of treatment for actinic cheilitis is to reduce the risk of malignant transformation while maintaining lip function and cosmesis. Both medical and surgical options are available. Surgical/ablative techniques include excisional vermilionectomy, electrocautery, laser therapy, or cryotherapy. Although these options achieve high remission rates (92.8%) with a low risk of recurrence (8.4%),[17] they do come with the associated risk of adverse events including pain, swelling, infection, bleeding, scarring, prolonged healing time, paresthesia, and poorcosmesis. Because of this, surgical vermilionectomy is typically reserved for severe or refractory cases. Topical treatment is the preferred treatment for patients whohavelarge areas of sun damage in the absence of high-risk clinical features. Many treatments, such as imiquimod and 5-fluorouracil, require repeated applications over a period of weeks.[18] Unfortunately, this prolonged application period, combined with the expected local side effects, decreases patient compliance.

Conclusion

Actinic cheilitis is a potentially malignant disorder of the lip that commonly results from chronic exposure to ultraviolet radiation. Early diagnosis through careful clinical examination and recognition of occupational risk factors is essential to prevent progression to lip squamous cell carcinoma. This case highlights the importance of identifying characteristic clinical features in individuals with prolonged sun exposure and initiating appropriate medical management along with preventive measures, including protection from further ultraviolet radiation.

References

1. Kuta V, Taylor SM. Trichloroacetic Acid as a Topical Treatment for Actinic Cheilitis. OTO Open. 2025 May 23;9(2):e70132. doi: 10.1002/oto2.70132. PMID: 40416781; PMCID: PMC12100635.
2. Gomes JO, de Vasconcelos Carvalho M, Fonseca FP, Gondak RO, Lopes MA, Vargas PA. CD1a+ and CD83 + Langerhans cells are reduced in lower lip squamous cell carcinoma. J Oral Pathol Med. 2016;45(6):433-439.
3. Jara P. Beneficial Effect of Polydeoxyribonucleotide in the Treatment of Actinic Cheilitis: A Case Report. Cureus. 2025 Dec 8;17(12):e98756. doi: 10.7759/cureus.98756. PMID: 41383864; PMCID: PMC12689472.
4. Shah P, Feng Q, Carey B, et al.: Actinic cheilitis: guidance on monitoring and management in primary care. J Oral Med Oral Surg. 2023, 29:30. 10.1051/mbcb/2023029.
5. Vasilovici A, Ungureanu L, Grigore L, Cojocaru E and ¸Senil˘a S (2022) Actinic Cheilitis—From Risk Factors to Therapy. Front. Med. 9:805425. doi: 10.3389/fmed.2022.805425.
6. Rodriguez-BlancoI,FlorezA,Paredes-SuarezC,Rodriguez-LojoR,Gonzalez Vilas D, Ramirez-Santos A, et al. Actinic cheilitis prevalence and risk factors: a cross-sectional, multicenter study in a population aged 45 years and over in North-west Spain. Acta Derm Venereol. (2018) 98:970–4. doi: 10.2340/00015555-3014.

7. Silva L, de Arruda J, Abreu LG, Ferreira RC, da Silva LP, Pelissari C, et al. Demographic and clinicopathologic features of actinic cheilitis and lip squamous cell carcinoma: a brazilian multicentre study. Head Neck Pathol. (2020) 14:899–908. doi: 10.1007/s12105-020-01142-2
8. Trager MH, Farmer K, Ulrich C, Basset-Seguin N, Herms F, Geskin LJ, et al. Actinic Cheilitis: a systematic review of treatment options. J EurAcad Dermatol Venereol. (2020) 35:815–23. doi: 10.1111/jdv.16995.
9. Varela-Centelles P, Seoane-Romero J, García-Pola MJ, Leira-Feijoo Y, et al. Therapeutic approaches for actinic cheilitis: therapeutic efficacy and malignant transformation after treatment. JMInt J Oral Maxillofac Surg. (2020) 49:1343–50. doi: 10.1016/j.ijom.2020.02.014.
10. Lai M, Pampena R, Cornacchia L, Pellacani G, Peris K, Longo C. Treatments of actinic cheilitis: a systematic review of the literature. J Am Acad Dermatol. (2020) 83:876–87. doi: 10.1016/j.jaad.2019.07.106.
11. Lopes MLDS, Silva Júnior FL, Lima KC, Oliveira PT, Silveira ÉJD. Clinicopathological profile and management of 161 cases of actinic cheilitis. An Bras Dermatol. 2015;90(4): 505-512.
12. Brancaccio G, Fargnoli MC, Briatico G, Pellegrini C, Rocco T, Moscarella E. Risk factors and diagnosis of advanced cutaneous squamous cell carcinoma. Dermatol Pract Concept. 2021;11(suppl 2):e2021166S.
13. Zhang J, Yang Q,WuJ,etal. Trends in cutaneous squamous cell carcinoma on the lip incidence and mortality in the United States, 2000-2019. Front Oncol. 2023;13:1111907.
14. de Santana Sarmento DJ, da Costa Miguel MC, Queiroz LMG, Godoy GP, da Silveira ÉJD. Actinic cheilitis: clinicopathologic profile and association with degree of dysplasia. Int J Dermatol. 2014;53(4):466-472.
15. Muse ME, Crane JS. Actinic cheilitis [updated 2023 Jul 31]. In: StatPearls [Internet]. StatPearls Publishing; 2024.
16. Sotiriou E, Apalla Z, Koussidou-Erremonti T, Ioannides D. Actinic cheilitis treated with one cycle of 5-aminolaevulinic acid-based photodynamic therapy: report of 10 cases. Br J Dermatol. 2008;159:261-262.
17. Carvalho MV, de Moraes SLD, Lemos CAA, Santiago Júnior JF, Vasconcelos BCE, Pellizzer EP. Surgical versus non surgical treatment of actinic cheilitis: a systematic review and meta-analysis. Oral Dis. 2019;25(4):972-981.
18. Smith KJ, Germain M, Yeager J, Skelton H. Topical 5% imiquimod for the therapy of actinic cheilitis. J Am Acad Dermatol. 2002;47(4):497-501.