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**ACTINIC CHEILITIS**

Actinic cheilitis is a superficial, incipient precancerous lesion that involves damage to the lip epithelium resulting in scaly and discolored patches on the lips, associated with chronic exposure to Ultraviolet (UV) radiation (Rodríguez-Blanco, I, et al,.2019). It is also called ‘Actinic cheilosis’, ‘Farmer`s lips’, and ‘Sailor`s lips’. Actinic cheilitis is a form of actinic keratosis, which are precancerous macules or papules that can occur anywhere in the body. However, the condition is not considered a serious health condition, but it increases the risk of squamous cell carcinoma. The chances of a malignant transformation are 10-30% (Vasilovici, Alina et al.,2022). Thus, early diagnosis and treatment are essential in preventing this transformation into invasive squamous cell carcinoma.

The word Cheilitis means ‘inflamed lips’. Clinically it represents as a dry, erosive, and indistinctive bordered lesion. The early lesion is a mostly persistent white (milky discoloration). An advanced lesion may appear as erythematous thickening of the skin on the lower lip with persistent ulcerated, cracked, and crusty lips (Rezende, Hudson Dutra, et al.,2022). The vermillion border may also blur in an advanced form of actinic keratoses. It is a painless condition; however, patients may complain of burning, numbness, and pain in the affected area. Microscopically, there is disruption of the stratum corneum, parakeratosis, an atypical honeycomb pattern, solar elastosis, and dilated blood vessels with increased blood flow (Vasilovici, Alina, et al.,2022).

The prevalence of actinic cheilitis is higher among fair-skinned population and those who are closer to the equator due to high UV exposure. Males are affected more than females, but this is linked likely due to their increased exposure to the sun. Men working as farmers and sailors are mostly involved, thus the names Farmer`s lips and Sailor`s lip were given to it. Fair skins have less melanin and lesser protection against UV rays. Moreover, the involvement of the lip area is linked due to its thinner epithelium, lesser sebaceous glands, and lesser melanin Actinic cheilitis can affect both upper and lower lips but mostly lesions appear on the lower lip due to direct sunlight hitting this area (Muse ME, Crane JS.,2022). A retrospective study was done from 1953 to 2018 on 198,706 biopsy specimens. The study concluded that fair-skinned males are at higher risk. Secondly, it was also concluded that more than 90% of cases involved lower lip (Silva, Leni Verônica de Oliveira et al.,2020). Smoking is also linked directly with the clinical Actinic Cheilitis presentation (Rodríguez-Blanco, I, et al.,2019). Previous studies stated that in this condition keratinocytes undergo a molecular and genetic transformation induced by UV light leading to the formation of malignant keratinocytes (Wood, Neil Hamilton, et al.,2011). However, recent studies have shown that chronic exposure to UV light leads to the suppression of gene p53 leading to an uncontrolled replication of damaged cells (Muse ME & Crane JS, 2022).

Actinic Cheilitis is often mistaken for Lichen Planus. Lichen Planus of the lips is an uncommon condition that presents with leukoplakic areas & bloody crusty lips. In such, misdiagnosed cases treatment is not done & can cause morbidity in patients. Other differential diagnoses can include granulomatous cheilitis, contact dermatitis, and chronic lip licking, cheilitis glandularis, lupus erythematosus. An appropriate history can help the clinician to narrow down the diagnoses. Patients should be asked questions about sun exposure, lip balms, and lip-licking habits. The dermatologist can also run tests to rule out other potential causes of lesions on lips such as vitamin deficiency or infections. When actinic cheilitis is suspected, the clinician should perform a biopsy on all suspected cases. Areas of continuous thickening, ulceration, or lesion formation can be indications of a malignant transformation. The apoptotic proteins p53, bax, bcl-2, and the proliferation marker Ki-67 are associated with UV-exposed skin carcinomas. Therefore, to confirm the diagnosis of actinic cheilitis these markers are assessed and compared with a normal lip mucosa. The results in case of actinic cheilitis will show that the DNA damaged cells by UV radiation undergo apoptosis (Martinez, A., et al., 2005).

If left untreated this painless condition can lead to squamous cell carcinoma. Therefore, a biopsy is recommended in these patients to rule out invasive skin cancer. Treatment should be given to the patient to reduce the risk of its transformation into squamous cell carcinoma. Creams such as retinoids, 5-fluorouracil, or imiquimod are prescribed. Cryotherapy can also be done, which uses highly cold temperatures to freeze and destroy abnormal cells. Similarly, Electrocautery uses heat from an electric current to destroy defective cells. In some cases, Vermilionectomy is performed in which the portion involved is surgically removed. However, the most recent Carbon dioxide laser treatment of actinic cheilitis is very effective for extensive lesions and results in minimized recurrence with profound aesthetic results. In 2020 a study was done on biopsy-proven actinic cheilitis patients. It reported that Carbon dioxide laser ablation and vermilionectomy were associated with the most favorable result and least chances of recurrence (Trager, M.H., et al.,2020).

 The most effective way to prevent actinic cheilitis is to protect your lips from sun exposure. A study was conducted in Brazil in 2021 to determine an association between sun protection and modification in actinic cheilitis lesions based on the duration of sun exposure. It concluded that physical and chemical sun protection is linked to a low occurrence of actinic cheilitis in individuals with vast sun exposure (Lucena, Ieda Milani, et al.,2021). A sunscreen-containing lip balm should be applied on the lips when going in sun. If a lesion is formed, then routine checkups should be followed up to detect any changes that could be an early sign of cancer. As oral health care professionals, we should do an extra oral examination of every patient and it should be a significant part of our assessments. If the patient has a suspicious lesion, it should be charted, and the patient should be given a referral. Patients should be educated about pre-cancerous lesions and their outcomes. Skin cancers are rising and the best way to prevent them is through early detection and treatment.

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