

ACTINIC CHEILITIS

Malignant transformation of actinic cheilitis



BACKGROUND

Actinic cheilitis (AC) is a chronic inflammation of the lip, usually the lower lip, caused by excessive exposure to solar or artificial ultraviolet (UV) radiation. The UV radiation directly and indirectly damages the DNA in skin epithelial cells, causing genetic aberrations and immunosuppression. AC is therefore considered to have malignant transformation potential, although the risk of such transformation remains undefined. Globally, the prevalence of AC is between 0.45% and 2.4%, but tends to be significantly higher among populations who participate in outdoor activities, rising to as much as 43.2%. A large percentage of the lower lip carcinomas reported shows links to pre-existing AC lesions, which indicates the malignant transformation potential of this disorder. A review of the literature was undertaken to determine the malignant transformation rate of AC.

METHODS

Review of the Medline/PubMed, Cumulative Index of Nursing and Allied Health Literature, Scopus, OvidSP, and Google Scholar databases identified 34 full-text articles for assessment. Just 1 article met the inclusion criteria, which focused on the malignant transformation of AC. The single study included 65 patients in Thessaloniki, Greece.

RESULTS

Nine of the patients were diagnosed with squamous cell carcinoma (SCC) of the lip at baseline. By the end of the 10-year study, 2 more had developed SCC from their AC lesion, yielding a transformation rate of 3.07%. These 2 patients developed SCC over periods of 2.4 and 2.8 years of follow-up.

DISCUSSION

The single study identified in this literature review suffered from a small sample size that imposed narrow demographic information and was not representative of the majority of the population being investigated for AC's malignant transformation to SCC. In addition, the goal of the study was to determine the clinical and histopathologic characteristics of AC. The study lacked statistical

analysis of the results and suffered from a lack of tests of statistical significance. It also included the 9 patients diagnosed with SCC at the beginning of the study with the 2 who had malignant transformation over the course of the study and reported a rate of malignant transformation of 16.9%, which was inaccurate.

Clinical Significance

A lack of research concerning the malignant transformation from AC to SCC is evident in the findings of this review. In addition, flaws in the single study identified make it an unreliable guide to the potential malignant transformation of AC. Many factors enter into the transformation process and influence whether it will occur and what its speed of progression will be. These factors affect the exposure to UV radiation and include the latitude and altitude of the patient's location, the time of the day, the time of the year, the presence of clouds, and reflection off surfaces. Occupations that are known to have a higher risk for AC include farming, fishing, and other pursuits with high exposures to the sun. Some medications can also increase photosensitization and raise the risk for AC. Individuals with AC should be identified, noting that it is different from other head, scalp, and neck disorders and from forms of intraoral cancer. The malignant potential of AC remains to be determined, but clinicians should consider AC as a clinically important and often neglected condition that may progress to SCC.

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