

Addressing the Challenges of Treating Actinic Keratosis

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Actinic keratosis (AK) represents one of the most common diagnoses in our dermatology practices. The incidence of AK lesions continues to rise, along with that of non-melanoma skin cancers. Numerous risk factors have now been implicated, including chronic sun exposure, history of sunburns, fair skin, advanced age, male gender, and immunosuppression. Although an individual lesion's likelihood of progression to malignancy remains very low, AKs seldom occur in isolation. Indeed, the condition can most accurately be described as a "field disease", with a mix of clinical and subclinical lesions present in the same region. Studies have shown that the majority of squamous cell carcinomas arise in sites of pre-existing AKs, highlighting the importance of diagnosis and appropriate management.

The selection of treatment depends on several factors including the number of AK lesions, patient adherence, tolerability of side effects, treatment availability, and cost. Although procedural techniques—such as cryosurgery—remain the mainstay of treatment for individual lesions, the popularity of field-directed therapies has increased in recent years. Such medications aim to address the entire disease burden of an area, treating multiple AKs and subclinical lesions under the same regimen. Options include topical therapies (5-fluorouracil, imiquimod, ingenol mebutate) as well as light-based therapies (photodynamic therapy). Observation and careful monitoring may also be appropriate, although this approach can be burdensome for the patient and physician. Individual AKs can regress spontaneously, although there is a high risk of recurrence, with data showing 15-53% recurrence rates for single lesions 1 year after regression.[1]

Despite the advantages of field-directed therapies, agents often carry the limitations of prolonged treatment courses and high incidences of local skin reactions. The severity of these cutaneous effects may range from mild erythema and pruritus to erosions and even ulceration. The healing time of sequelae can last up to several weeks, and some therapies, such as topical imiquimod, also carry the risk of systemic flu-like symptoms.

Novel topical therapies aim to reduce treatment time and improve tolerability. Light-based therapies have now expanded to the use of natural daylight, which may prove more time-efficient and cost-efficient, as well as more comfortable. In addition, investigational therapies remain an area of active clinical research. By using novel mechanisms of action, these agents may allow for circumvention of the inevitable skin irritation tied to classic modalities. The success of these agents can significantly impact treatment algorithms in the future.

The management of AKs remains a long-term undertaking between patient and clinician. Importantly, an emphasis on prevention and further progression is not to be overlooked, as routine counseling (use of broad-based sunscreens, wide-brimmed hats, avoidance of exposure during peak hours) remains an integral component to the treatment algorithm.

With an increasing array of treatment modalities, dermatology providers who are engaged and educated in the development of therapies for AKs will have an exciting opportunity to tailor treatments to specific patient requirements for optimal efficacy and tolerability.

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REFERENCES

1. Werner RN, Sammain A, Erdmann R, Hartmann V, Stockfleth E, Nast A. The natural history of actinic keratosis: a systematic review. *Br J Dermatol.* 2013;169(3):502-18.