

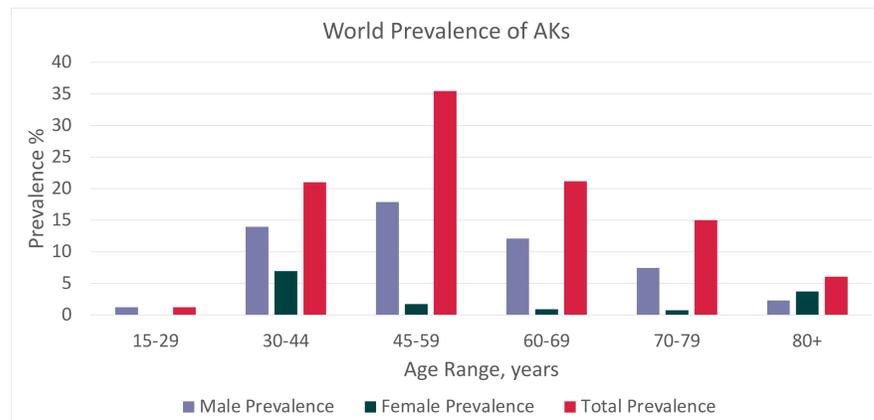
Challenging Clinical Cases and Practical Approaches: Actinic Keratosis to Squamous Cell Carcinoma Progression

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Background

Actinic Keratoses (AKs) Clinical Presentation

AKs are rough, erythematous, scaly skin lesions commonly found on the face, scalp, forearms, dorsal hands, and anterior legs that pose a risk for progressing to invasive squamous cell carcinoma (iSCC). Lesions present as either single, isolated lesions or as multiple lesions in a field of sun-damaged skin. Risk factors include male gender, advanced age, fair skin, prolonged UV exposure, and immunocompromise.



Current U.S. Treatment Guidelines and Shortcoming

U.S. treatment guidelines, published April, 2021, provide important insights into currently available treatment methods for actinic keratoses, however, the non-specific recommendations to answer 5 broad clinical questions do not encompass the challenges associated with real-world treatment decision-making.

Aim

In the current study, we address the shortcomings of current treatment guidelines. Using 7 challenging clinical cases, we attempt to simulate real-world clinical decision-making dilemmas and provide recommendations based on the best currently available treatment options.

Methods

Using a systematic literature review, we analyzed data from clinical studies on currently available treatment options to determine the best treatment course depending on various treatment outcome goals. Inclusion criteria for treatment consideration was limited to current FDA-approved interventions to best mimic real-world clinical decision-making. Treatments included surgical therapies (cryosurgery, curettage, dermabrasion, electrosurgery), topical agents (5-Fluorouracil, Imiquimod, Tirbanibulin, Diclofenac), energy devices (ALA-PDT), and combination therapies.

The seven clinical scenarios were selected based on variations in AK lesion presentation and patient-specific factors that present unique challenges to treatment decision-making.

Results

Challenging Clinical Cases



Single, Isolated AK



Field Therapy on Face



Field Therapy on Forearms



Grade III Lesions



Recurring AKs



History of SCC



Immunocompromise

Results (cont.)

Clinical Scenario	Treatment Challenge	1 st Line Treatment	2 nd Line Treatment*
Single, Isolated Lesion	n/a	Cryosurgery	n/a
Multiple Lesions on Face/Scalp	Adverse events and aesthetic outcomes can impact compliance	1% Tirbanibulin	Cryosurgery 5% 5-FU
Multiple Lesions on Extremities	Large treatment area (field pattern)	5-FU Chemowraps	ALA-PDT 5% Imiquimod
Severe, Grade III Lesions	Increased dermal involvement	Curettage with electrosurgery	5-FU Chemowraps Cryosurgery
Multiple Recurring AKs	Long-term clearance	Cryosurgery + 5% 5-FU Cryosurgery + 5% Imiquimod	ALA-PDT + 5% 5-FU/Imiquimod
History of SCC	Increased risk for SCC progression	5% Imiquimod + 500mg Nicotinamide	5% 5-FU + Calcipotriene
Immunocompromised	Increased SCC risk and serious adverse events	Dermabrasion + 500mg Nicotinamide	Cryosurgery ALA-PDT

Conclusions

Treating AKs is highly personalized and the optimal treatment option changes depending on the specific goal. The clinical scenarios addressed above have unique challenges associated with the lesion presentation and patient-specific factors. Grade III lesions, recurring AKs, risk of SCC progression, and immunocompromised patients present with even more challenges due to limited data. Based on the current evidence, our recommendations depict the best currently available treatment option that can achieve treatment success for the given scenario. This analysis is based on the best available evidence at the time it was conducted, thus recommendations are bound by limited data of real-world treatment outcomes and long-term follow-up data. Despite these limitations, we simulate true clinical decision-making dilemmas associated with challenging cases and current FDA-approved treatment options. Future studies may include expanded long-term follow up studies, related to pivotal Phase III trials, population-based research, and registries capable of capturing clinical parameters in real time.

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