

Preventive treatment of sun-damaged skin: Topical treatment of actinic keratosis can prevent surgery in non-melanoma-skin-cancer

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Sun damaged skin sooner or later develops Actinic Keratosis (AK) representing an early stage of non-melanoma skin cancer (NMSC). The lesions appearing as reddish or brownish, rough, and sometimes scaly macules evolve from UV-damaged keratinocytes. They slowly progress to invasive squamous cell carcinoma by the ability to grow in three dimensions: (1) horizontal growth along the basal cell layer, or (2) vertical growth in two directions either “upwards” within the epidermis, or (3) “downwards” invading papillary dermal layers [1,2] (Figure 1). There is no chronological order within these three growing-directions and AK may therefore become invasive at all stages of progression (AK 1, AK 2, or AK3) [3].

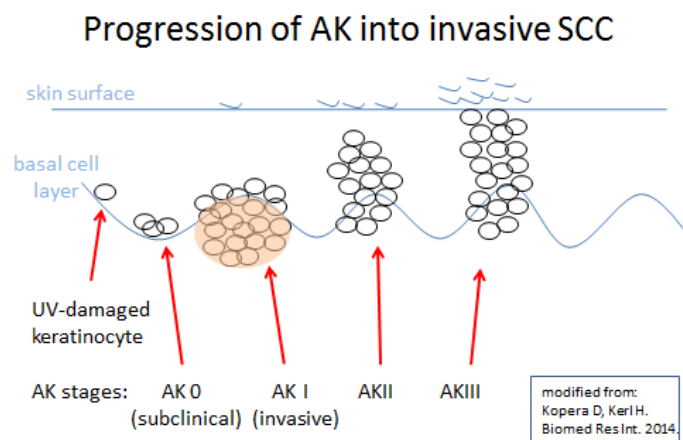


Figure 1. Progression of AK into invasive SCC

Immuno-modulating substances like Imiquimod and Ingenolmebutat have been approved for the topical treatment of AK by the European Medical Agency (EMA) [4]. As AK may grow invasively at all stages, their topical treatment is also indicated at very early stage.

Furthermore these observations give room for discussion regarding preventive treatment of sun-damaged skin with topical immuno-modulators to avoid non-melanoma-skin cancer. This has been suggested by the authors illustrated by a case report and a pilot study [2,5,6].

References

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