



Anthony Dixon

MBBS, FACRRM, is dermatologist and Director of Research, Skin Alert Skin Cancer Clinics and Skincanceronly, Belmont, Victoria. anthony@skincanceronly.com

Treating actinic keratoses with imiquimod

Case study

Mr KC, 61 years of age, has extensive actinic damage including squamous cell carcinomas (SCCs) and actinic keratoses (AKs) on his face and forehead. He has had cryotherapy for many years with limited success. Lesions have generally resolved with cryotherapy but he finds the treatment very uncomfortable and can only tolerate a small number of lesions being treated on each visit. He develops lesions faster than lesions are treated.

- There are many options for managing actinic keratoses. Percentage complete clearance of lesions with cryotherapy is in the order of 80%, topical imiquimod 70% and 5 fluorouracil 50%.²⁻⁵
- Some patients will find some of the options more tolerable than others. Consider trying alternative approaches for patients with

Mr KC now presents with numerous hyperkeratotic lesions on his face (Figure 1). Biopsies were taken of the clinically most suspicious actinic lesions. This is done to identify which, if any, lesions are SCCs. (These are surgically excised.) Numerous actinic keratoses still covered most of his face including most of his left forehead.



Figure 1. The patient's face is covered with actinic lesions, especially the forehead. The lesions marked with pen are all SCCs and were surgically excised. There was further SCC on the right eyebrow, also surgically excised

He was keen to try imiquimod for his residual actinic keratoses. We divided his face up into regions about the size of a playing card. In turn he treated each region with an application of imiquimod three times per week for 6 weeks. This is the recommended protocol for usage of imiquimod for actinic keratoses.

The final section of face skin to be treated was the right forehead. Mid treatment the area was red and angry looking, as part of the expected immune response induced by the imiquimod¹ (Figure 2). This erythema and irritation was never disturbing to the patient. If imiquimod causes excess irritation, the clinician can advise the patient to leave out a dose or two. Upon completion Mr KC had no apparent actinic lesions on his face or forehead (Figure 3).



Figure 2. The skin is typically red and angry looking for the duration of imiquimod management of actinic keratoses. Imiquimod was only commenced following all surgical excisions

Summary of important points

- Treat malignant lesions before benign lesions. It is the SCCs that can metastasise and potentially kill patients. Once the SCCs are excised, the focus can turn to the premalignant lesions.

Numerous actinic keratoses

There are five characters of an actinic keratosis that should be considered upon examination:

- **Hyperkeratosis:** to what extent does the keratosis extend above the skin surface?
- **Full thickness:** when the lesion is manipulated with your fingers upon examination, does it appear to be deeply into the skin or very much a surface structure?
- **Surrounding induration:** is there enhanced thickness in the tissue adjacent to the keratosis?
- **Surrounding erythema:** is the immediate adjacent skin clearly redder than the background skin colour?
- **Tenderness:** is the lesion causing the patient any degree of discomfort? Does the patient withdraw when you touch one or more lesions in the field of lesions you examine?

The more of these characteristics an individual lesion has, the more likely the lesion is to be a malignant SCC rather than a premalignant lesion. In patients with large numbers of keratoses, consider biopsy of the lesions that have the greatest number of these features.

Regardless of the number of keratoses a patient suffers, lesions with three or more of these five features should be biopsied.

If any lesion demonstrating several of these features does not respond to cryotherapy, biopsy rather than treating repeatedly with cryotherapy or imiquimod or 5 fluorouracil.



Figure 3. Following treatment there is no apparent residual actinic lesions

numerous AKs. Allow the patient to discover with you which management option works best for them.

- Imiquimod is approved in Australia for field actinic keratoses only on the face and forehead. The patient applies a full sachet three times per week to an area of skin equivalent to the forehead on one side. One sachet will cover a field about this size. Once one region has completed management, a new region may be commenced.

References

1. Vidal D. Topical imiquimod: mechanism of action and clinical applications. *Mini Rev Med Chem* 2006;6:499–503.
2. Tutrone WD, Saini R, Caglar S, Weinberg JM, Crespo J. Topical therapy for actinic keratoses, I: 5-fluorouracil and imiquimod. *Cutis* 2003;71:365–70.
3. Del Rosso JQ. New and emerging topical approaches for actinic keratoses. *Cutis* 2003;72:273–6, 279.
4. Falagas ME, Angelousi AG, Peppas G. Imiquimod for the treatment of actinic keratosis: a meta-analysis of randomised controlled trials. *J Am Acad Dermatol* 2006;55:537–8.
5. Gupta AK, Davey V, McPhail H. Evaluation of the effectiveness of imiquimod and 5-fluorouracil for the treatment of actinic keratosis: Critical review and meta-analysis of efficacy studies. *J Cutan Med Surg* 2005;9:209–14.
6. Dixon AJ. Multiple superficial basal cell carcinomata: topical imiquimod versus curette and cryotherapy. *Aust Fam Physician* 2005;34:49–52.

Conflict of interest: none declared.

afp CORRESPONDENCE email: afp@racgp.org.au