Managing skin cancer below the knee

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

Case study

Mr RR, 74 years of age, developed a nodule on his lower right leg in mid 2005. He was offered the option of excision, skin graft and 10 days bed stay with elevation at a private hospital, but declined due to the cost. He was then referred to a major urban cancer institute for opinion. He was advised that the nodule would most likely fall off and that a 'watch and wait' approach was indicated. Presumably there was a clinical diagnosis of keratoacanthoma.

The nodule continued to grow and he became disillusioned. He asked for referral for a third opinion. I then saw him some 3 months after his first assessment. He demonstrated a large friable lesion 27 mm across at its maximum diameter (*Figure 1*). There had been no biopsy taken up to this point. I aggressively debulked the lesion including all apparent pathologic tissue. Histology confirmed squamous cell carcinoma (SCC) (*Figure 2*).

He had ipsilateral inguinal nodes on presentation. Fortunately these were reactive and settled with antibiotics.

Being a keen amateur photographer, Mr RR had captured the tumour at various stages in its growth. *Figure 3* and *4* show the tumour 8 weeks and 2 weeks before my assessment.

Following histologic confirmation, the SCC was widely excised. There was no residual tumour on histology. The defect was closed with a reducing opposed multilobed (ROM) flap repair (*Figure 5*). This closure technique produces better outcomes than traditional flaps and grafts for medium sized defects below the knee.[1] As is usual following ROM flap repair, Mr RR was mobilising the same day. He was advised to elevate his legs when seated. Two months postsurgery the flap repair has healed well and there is no evidence of metastatic disease (*Figure 6*).

Summary of important points

- Always obtain histology to confirm a clinical diagnosis of keratoacanthoma (KA). Studies have shown that clinical KAs are just as likely to be SCCs. The converse is also true. Early histology is always required and will guide future management.
- Histology of a KA can also be difficult. Dermatopathologists frequently debate whether a lesion is KA or SCC. The histologic differences can be subtle. You may choose to have uncertain reports reviewed by an experienced dermatopathologist.
- The KA/SCC dilemma is best managed by treating all KAs as if they were well differentiated SCCs. Most authorities now regard a KA as a malignancy; although with slim metastatic potential.[2] These lesions can be removed by excision or curettage. This overcomes any clinical dilemma and eliminates the risk of a SCC developing a metastasis while it is 'watched'.
- SCCs at higher risk of developing metastases are recurrent tumours, those over 2 cm, and those on the ear, lip, eyelid or scalp. Transplant and immunosuppressed patients are also at increased risk of metastatic spread from their cutaneous SCC.
- One should not be avoiding excision because the defect would be too large to close. If the tumour needs excision, it needs excision. Delaying excision because defect closure is problematic is not acceptable. Consider referral either before or after biopsy as appropriate.

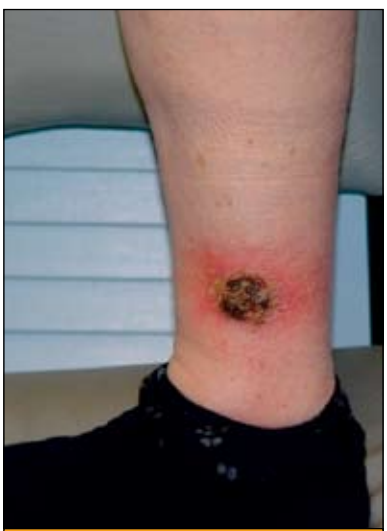

Figure 1. Tumour before debulking procedure

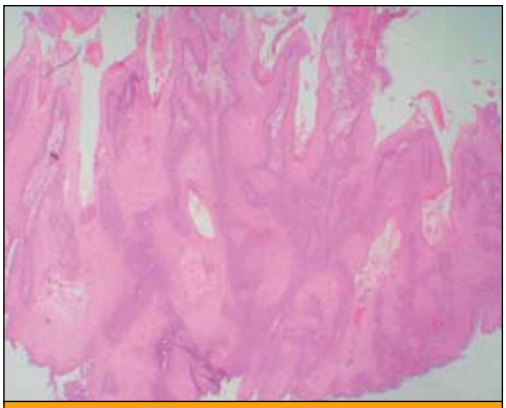

Figure 2. Papillary proliferation of mildly atypical squamous epithelium in this well differentiated invasive squamous cell carcinoma
Photo courtesy Melbourne Skin Pathology

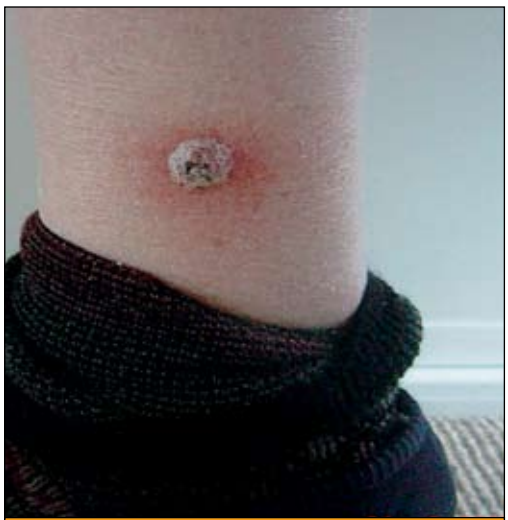

Figure 3. Tumour 8 weeks before debulking procedure

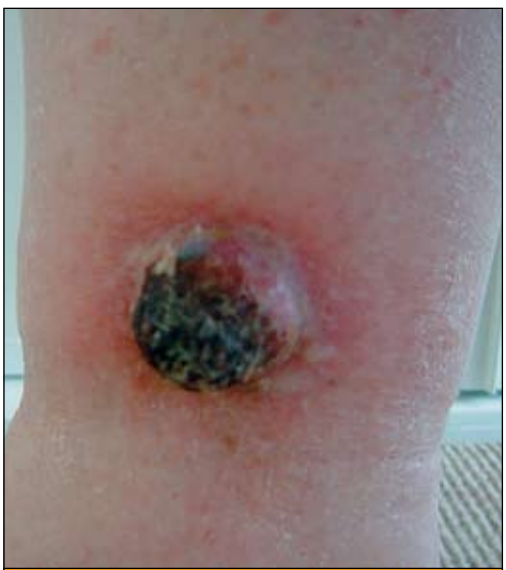

Figure 4. Tumour 2 weeks before debulking procedure

The challenge below the knee

Defects below the knee are a challenge for the clinician. All treatments have higher complication rates compared with other sites on the body. For example, we have demonstrated an infection rate below the knee of 7% compared with less than 1.5% above the knee.[3] All sites below the knee are subject to greater infection risk including the calf, shin, foot, and the toes. Even less 'invasive' measures such as cryotherapy and topical imiquimod can result in chronic ulceration in these sites.

We have demonstrated that the ROM flap reduces the risk of wound dehiscence, flap necrosis and overall complications when managing defects 11–45 mm below the knee.[4] We no longer use skin grafts unless the defect is greater than 45 mm in diameter.

Due to the increased infection risk below the knee, there is an argument for prophylactic antibiotics before surgery in these sites. We recommend 2 g oral dicloxacillin 1 hour before surgery. Above the knee, there are very few indications for antibiotic prophylaxis. Patients at high risk of endocarditis and patients with recent joint prosthetic surgery are special considerations.

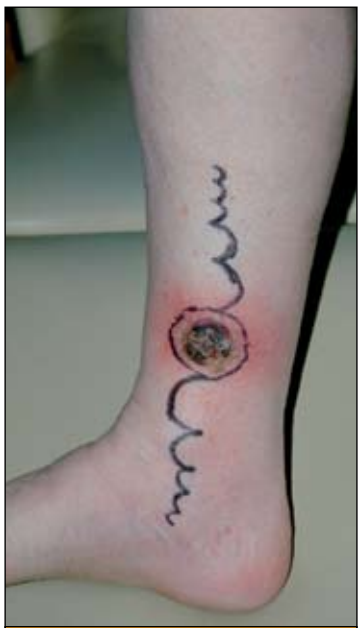

Figure 5. Layout for excision and ROM flap repair

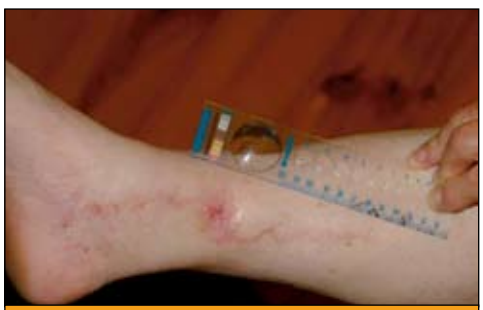

Figure 6. Wound healing 2 months postsurgery

Conflict of interest: none.

References

1. Dixon AJ, Dixon MP. Reducing opposed multilobed flap repair, a new technique for managing medium sized low leg defects following skin cancer surgery. Dermatol Surg 2004;30:1406–11.
2. Schwartz RA. Keratoacanthoma: a clinico-pathologic enigma. Dermatol Surg 2004;30(2 Pt 2):326–33; discussion 333.
3. Dixon A, Dixon MP, Askew D, Wilkinson D. Prospective study of wound infections in dermatologic surgery in the absence of prophylactic antibiotics. Dermatologic Surgery 2006;32:819.
4. Dixon A, Dixon JB, Dixon MP. Reducing opposed multilobed flaps results in fewer complications than traditional repair techniques when closing medium sized defects on the leg after excision of skin tumor. Dermatol Surg 2006;32:935–42.

afp CORRESPONDENCE email: afp@racgp.org.au