Keratinised nodules

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The two cases presented here serve to remind clinicians of the particular features that help when discriminating squamous cell carcinoma and keratoacanthoma from other papulonodules.

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CASE PRESENTATIONS

Case 1

A 78-year-old woman presented with an enlarging pink nodule on her left shin that had appeared 12 months previously. It had started as a pink plaque and had progressively thickened. The patient had a past history of chronic sun exposure and multiple squamous cell carcinomas (SCCs).

Examination revealed a firm and pale pink nodule measuring 9 x 10 mm on the pretibial leg (Figure 1a). There was focal hyperkeratosis and the surrounding skin displayed evidence of solar damage. Polarised dermoscopy, performed using alcohol gel for immersion, revealed focal areas of keratinisation and diffusely distributed glomerular vessels (Figure 1b). Perivascular white halos were visible at the periphery. There were no pigmented structures.

The nodule was excised and histopathology confirmed a well differentiated invasive SCC.

Case 2

A 73-year-old man presented for assessment of a scaly pink nodule on his right forearm. It had appeared rapidly and had been growing for the past two months. There was a history of significant occupational sun exposure and of melanoma.

Examination revealed a 12 x 12 mm pink nodule with a central hyperkeratotic plug (Figure 2a). Polarised dermoscopy was performed using alcohol gel for immersion (Figure 2b). Central hyperkeratosis was visible, along with white structureless areas and multiple white halos. Peripheral and radially orientated hairpin vessels were observed in a striking pattern with a few microhaemorrhages towards the central plug.

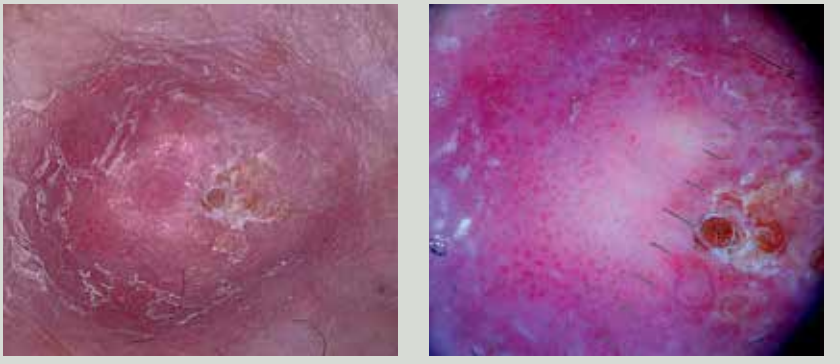
An excisional biopsy was performed and histopathology confirmed a keratoacanthoma (KA).

DISCUSSION

SCC is the second most common skin cancer after basal cell carcinoma (BCC). It may present in a variety of ways – as a hyperkeratotic plaque, a non-healing ulcer or a variably scaly and pink nodule. Although the diagnosis is typically possible on clinical grounds, nodular SCC may be mistaken for a range of other malignant and benign nodules. SCC is usually nonpigmented; however, it may occasionally be pigmented similar to the precursor lesions, actinic keratosis and Bowen's disease.

Dermoscopy is a valuable diagnostic aid because it allows visualisation of features that are not visible with the naked eye. In addition to improving diagnostic accuracy for pigmented skin lesions, it is useful in diagnosing a range of nonpigmented

CASE 1



Figures 1a and b. a (left). An enlarging pink nodule on the shin of a 78-year-old woman. b (right). Dermoscopy of the lesion reveals focal keratinatisation and diffusely arranged glomerular vessels.

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CASE 2

Figures 2a and b. a (left). A growing scaly pink nodule on the forearm of a 73-year-old man. b (right). Dermoscopy of the lesion shows a central keratin plug, white structureless areas and white halos. Marginal hairpin vessels are arranged peripherally in a radial

keratinising lesions, including actinic keratoses, irritated seborrhoeic keratoses, verrucae, Bowen's disease, SCCs and KAs.[1-3]

The two cases described above highlight the typical presentation of nodular SCC and KA, which tend to occur as squamoproliferative lesions on the sun-damaged skin of older patients. Although there is ongoing debate as to whether or not KA is a highly differentiated form of SCC or simply a benign involuting tumour, the two entities share common dermoscopic features.[3] On dermoscopic assessment, there is commonly evidence of squamous proliferation with central hyperkeratosis, white structureless areas and white circles or halos.[3] In our experience, poorly differentiated SCC exhibits less keratinisation compared with well differentiated SCC and KA.

The vascular pattern in SCC usually includes looped hairpin vessels, highly coiled glomerular vessels and serpentine vessels. These coiled glomerular vessels are also found in SCC in situ or Bowen's disease (which may occasionally be pigmented).[2,4] Actinic keratoses may show fine and wavy perifollicular vessels or a diffuse erythema punctuated by follicular openings (the so called 'strawberry pattern').[2] However, compared with actinic keratoses and Bowen's disease, invasive SCCs develop a more polymorphic vascular pattern and have an increased frequency of hairpin and serpentine vessels. With the shift from well differentiated towards poorly differentiated SCC, there is a further increase in vessel polymorphism.[5] In our experience, the more rapid the growth, the more dramatic and convoluted the vessels.

One of the most important diagnostic decisions for the clinician faced with a pink nodule is the distinction between SCC/KA and amelanotic or hypomelanotic nodular melanoma. Although both tumours require excision, the biological aggressivity of nodular melanoma mandates urgent removal. The presence of any pigmented structures is an important dermoscopic clue that might point towards the diagnosis of nodular melanoma. Although a typical hypomelanotic nodular melanoma might appear pink or red to the naked eye, subtle pigment (in the form of globules, blotches or network) may be visualised with dermoscopy. Other important dermoscopic clues in the diagnosis of melanoma include blue white veil, milky pink areas and atypical vascular structures (Figures 3a and b).[6-8]

However, the diagnosis of completely amelanotic nodular melanoma is especially challenging because it lacks both clinical and dermoscopic evidence of pigmentation. Importantly, if any suspicion of nodular melanoma remains, excisional biopsy should be performed without delay.

Nodular BCC may also mimic nodular SCC/KA. Importantly, SCC/KA does not display the typical pearliness, spoke wheel structures, leaf-like areas or crisp superficial arborising vessels that are commonly associated with BCC.[9] Furthermore, nodular BCC does not display the glomerular or hairpin vessels that are frequently present in SCC/KA.

RED NODULE: ALWAYS CONSIDER MELANOMA

Figures 3a and b. a (left). An enlarging pink nodule (5 x 4 mm) on the forearm of a 66-year-old man. Excisional biopsy was performed and histopathology revealed a 2.1 mm thick, amelanotic nodular melanoma. b (right). Dermoscopy of the amelanotic nodular melanoma reveals atypical vascular structures, including linear irregular and corkscrew vessels. Chrysalis structures can be seen but there is notable absence of keratinising

Another differential diagnosis of nodular SCC/KA is seborrhoeic keratosis. Both lesions may share common features of hyperkeratosis and hairpin vessels.[9] However, the presence of milia-like cysts, comedo-like openings and fissures/ridges favours the diagnosis of seborrhoeic keratosis. When seborrhoeic keratoses become inflamed or irritated, the small hairpin vessels predominate throughout the pinkish tumour and are not just radially positioned.

SUMMARY

These cases serve to remind clinicians of the particular features that help when discriminating SCC and KA from other malignant and benign papulonodules such as amelanotic nodular melanoma, nodular BCC and irritated seborrhoeic keratoses. The most useful discriminating features in the diagnosis of SCC and KA are signs of keratinisation, including central hyperkeratosis, white structureless areas and white halos and circles. Vascular features also aid diagnosis, with glomerular, hairpin and serpentine vessels being the most frequently seen. As always, dermoscopy, coupled with the history and gross morphology, aids the decision-making process. MT

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