



Non melanoma skin cancer – the basics

Skin tumours are frequently seen and removed in general practice. This article highlights variants of common skin tumours that may be associated with an increased risk of local recurrence and / or metastasis following removal, as well as less-common aggressive tumours that may be primarily excised.

Basal cell carcinoma

Basal cell carcinoma is the most common malignant skin tumour. There are several variants that are associated with an increased risk of local recurrence owing to their relatively less-well circumscribed outlines. The risk of local recurrence of these variants depends on the clearance as measured histologically. The reported risk of local recurrence related to the subtype and distance from the surgical margin is shown in Table 1.

Basal cell carcinoma rarely metastasises and then usually in large, neglected tumours.

Table 1

BCC type	< 0.38mm	0.38-0.75mm	> 0.75mm
Nodular (Solid)	40%	10%	4%
Superficial multifocal, Sclerosing, Infiltrative (Micronodular)	80%	45%	20%

- The significance of a close margin varies depending on the subtype of BCC.
Dixon AY et al J Cutan Pathol 1993; 20: 137-42

Table 2. Squamous cell carcinoma metastasis

<ul style="list-style-type: none"> Metastasis varies with the subtype and the situation in which the tumour develops
1. Verrucous carcinoma: rarely metastasizes
2. SCC in sun-damaged skin (0.5%)
3. SCC in non sun damaged skin (2-3%)
4. SCC in Bowen's disease (2-5%)
5. Acantholytic SCC (2-19%)
6. Lip (2-16%)
7. External ear (10%)
8. Desmoplastic SCC (20%)
9. SCC in chronic ulcer (10-30%)
10. Vulva, perineum, penis (30-80%)
<ul style="list-style-type: none"> Usually regional lymph node(s) initially
<ul style="list-style-type: none"> Systemic metastasis preterminal

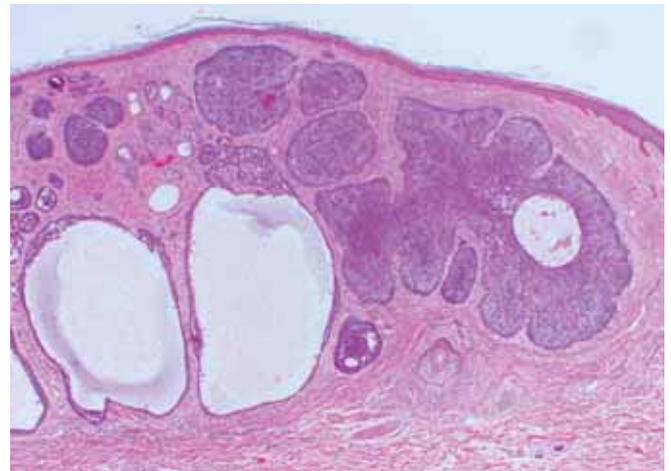


Fig.1 Nodulocystic Basal Cell Carcinoma

Squamous cell carcinoma

Squamous cell carcinoma is associated with a risk of metastasis as well as local recurrence. Recurrence is more common in lesions on the lip and ear, in acantholytic, desmoplastic and poorly differentiated tumours, in tumours that show perineural invasion, and those in which the surgical margin is narrow. The risk of metastasis depends on the type of squamous cell carcinoma, the situation in which the tumour arises and the tumour thickness (Tables 2 and 3).

Acantholytic SCC is characterised by discohesion of the malignant cells that results in a pseudoglandular appearance. Tumours with this appearance have a slightly increased risk of local recurrence and metastasis.

Desmoplastic SCC is an aggressive variant characterised by a prominent desmoplastic stromal reaction and an increased risk of metastasis.

Verrucous carcinoma is a very well-differentiated squamous cell carcinoma that most commonly arises on the skin of the feet, the anogenital region and in the upper aerodigestive tract. It is invasive and can be locally destructive but rarely metastasises.

Table 3. Squamous cell carcinoma metastasis

<ul style="list-style-type: none"> The risk of metastasis in cutaneous SCC varies with the tumour thickness. The following has been reported: 		
	SCC nos.	SCC desmoplastic
≤2mm	0%	0%
2-5 mm	3%	20%
>5 mm	15%	45%

Breuninger H et al Cancer 1997 79:915-9

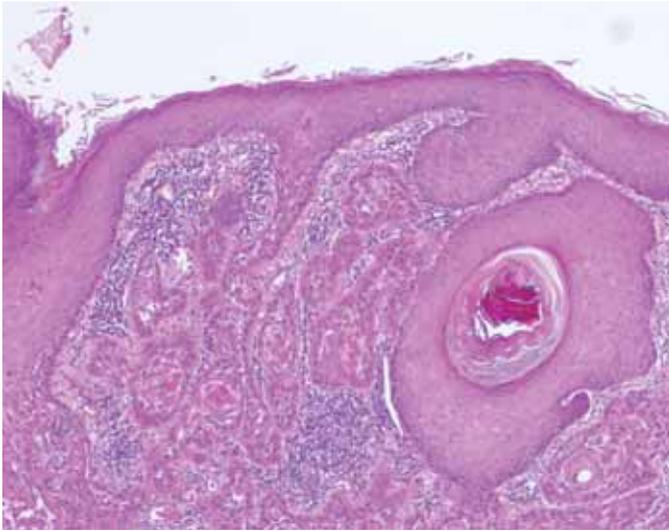


Fig. 2 Squamous Cell Carcinoma

Keratoacanthoma

Keratoacanthoma is a self-limiting well-differentiated squamoproliferative lesion that typically grows rapidly to form a nodule containing a keratin plug. These lesions can be locally destructive before involution necessitating treatment. One variant occurs following local trauma, including tumour excision, and may suggest tumour recurrence clinically. Other variants include keratoacanthoma centrifugum marginatum that presents as an expanding annular lesion with central clearing; multiple keratoacanthomas that can occasionally be a marker for Muir-Torre syndrome; and subungual keratoacanthomas which are frequently more destructive than SCC in this site.

There has been a tendency in the USA to consider these lesions as variants of SCC, but the clinical behaviour is sufficiently distinctive to warrant retention of this diagnosis. Unlike SCC, perineural and lymphovascular invasion are of no prognostic significance in KA.

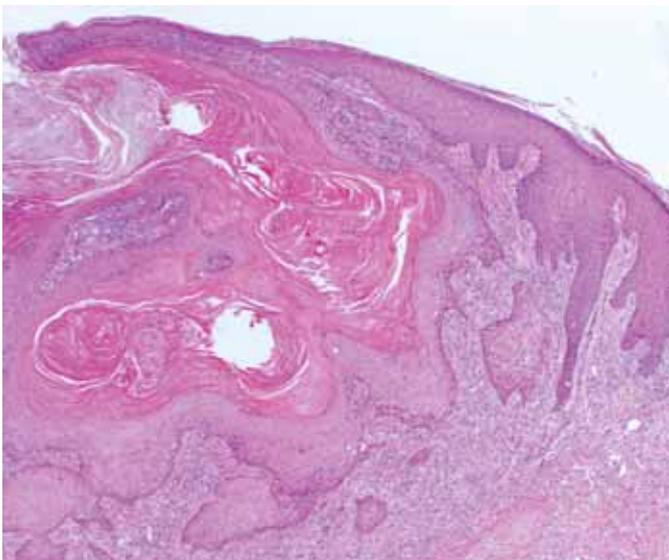


Fig. 3 Keratoacanthoma

Merkel cell carcinoma

This is a highly aggressive clinically non-distinctive tumour that arises in the sun-damaged skin of the elderly. It is a cutaneous neuroendocrine carcinoma and has a high risk of lymph node metastasis (up to 75%) and significant tumour-associated mortality (35%). Recent evidence suggests that the best results are obtained with multimodal treatment including wide local excision, early radiotherapy and, in advanced cases, chemotherapy.

Dermatofibroma

Dermatofibroma is a common lesion that is usually of only cosmetic significance. Dermatofibromas are not infrequently thought to be cysts clinically whilst the aneurysmal form is often rapidly growing and may simulate a melanocytic or vascular tumour. The recurrence rate depends on the subtype with the usual type of DF recurring in less than 2% of cases. A higher recurrence rate is seen in the following types: aneurysmal (approx. 25%); atypical (25%); cellular and deep penetrating (25%); facial lesions (15%), and subcutaneous forms (30%).

Metastasis of dermatofibroma is a very rare occurrence and has been seen only with the more aggressive subtypes noted above. The usual type of DF is a biologically benign lesion.

Atypical fibroxanthoma

This is an uncommon lesion that occurs on the sun-damaged skin of the elderly. The clinical appearance is often of an ulcerated nodule. When strict criteria are used to make the diagnosis the risk of recurrence is low following local excision and metastasis is very rare.

Other cutaneous carcinomas

There are a seemingly bewildering array of adnexal carcinomas that vary in their propensity for both local recurrence and metastasis. These tumours show differentiation towards adnexal epithelium (hair follicle, sebaceous, apocrine and eccrine).

Sebaceous carcinomas are most common around the eyes and diagnosis is not infrequently delayed as they may mimic a chalazion or chronic conjunctivitis like other sebaceous tumours they can occur in Muir Torre Syndrome. These tumours are prone to local recurrence and there is a 20% tumour-associated mortality. In general, eccrine and apocrine carcinomas are locally invasive, necessitating wide local excision. Perineural invasion is particularly common with some eccrine carcinomas. The metastatic risk varies from negligible (e.g. microcystic adnexal carcinoma / sclerosing sweat duct tumour) to high (e.g. porocarcinoma, ductal type carcinomas). Some of the tumours can be subclassified as low and high grade, with corresponding differences in metastatic potential (e.g. hidradenocarcinoma). Information regarding this will usually be provided in the histology report.



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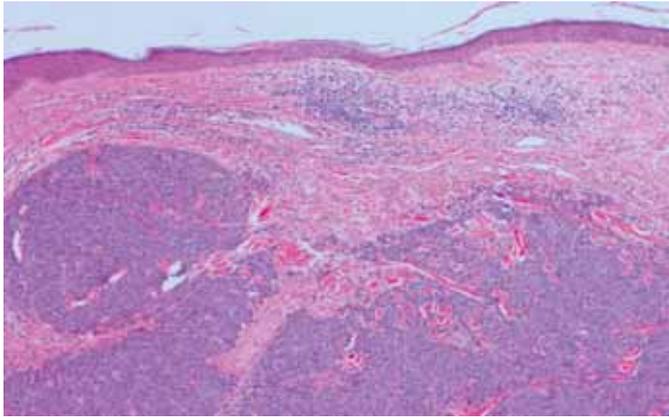


Fig. 4 Merkel Cell Carcinoma

Metastatic carcinoma in the skin either may be the first manifestation of an occult tumour or occur in the setting of known disease. The differentiation from a primary cutaneous tumour can be difficult in some cases and may require correlation with the clinical and radiological findings. Providing the history, when known, is extremely helpful.

Superficial sarcomas

Various sarcomas can occur in the skin and subcutaneous tissue. The diagnosis is made histologically by identifying the direction of tumour cell differentiation. These tumours usually have infiltrative margins and therefore a propensity for local recurrence. Myxofibrosarcoma ("myxoid MFH"), the commonest superficial sarcoma arising in the extremities of elderly patients, is often unexpectedly extensive at the time of diagnosis and therefore at particular risk for local recurrence unless widely excised.

The risk of metastasis of superficial sarcomas depends on the tumour type (e.g. epithelioid sarcoma ultimately metastasises in approx. 50%, whilst dermato-fibrosarcoma protuberans does so in only approx. 3%); the grade of the tumour in some cases (e.g. myxofibrosarcoma: superficial grade 1 lesions do not metastasise, whereas superficial grade 2 and 3 tumours do so in 25% of cases); and the depth at which the tumour arises. In general, sarcomas confined to the dermis have a very low risk of metastasis, whilst similar tumours arising primarily in the subcutaneous fat tend to be more aggressive. For leiomyosarcoma the risk is < 10% for dermal and 30% for subcutaneous primaries.

Cutaneous lymphoma

Cutaneous lymphoid infiltrates can resemble rashes, cysts or tumours and are often unsuspected clinically. The differentiation of reactive lymphoid hyperplasia from lymphoma can be difficult and frequently involves the use of ancillary techniques such as immunostaining, flow cytometry and studies for clonality (gene rearrangement testing). Once the diagnosis has been established, classification of cutaneous lymphoma involves ancillary testing, correlation with the clinical findings and staging.

Further reading: Weedon D. Skin Pathology (2nd Ed)
Churchill Livingstone 2002.

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