Pigmented Lesions

43

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Key Points

There is only one rule when assessing suspicious pigmented (or non pigmented) lesions—"if in doubt, cut it out or refer to a colleague with more experience in skin lesion recognition".

What to Tell the Patient

Most melanomas appear as a new mole or naevus in adults. If you find a new mole and you are more that 40 years old, show it to your doctor.

If a mole (new or existing) is changing in size, shape or colour it should be viewed with suspicion and shown to your doctor.

43.1 Introduction

The word pigment is derived from the Latin word meaning "colour or colouring". A pigmented lesion is any lesion that shows any shades of brown, black, gray or blue (Table 43.1).

Pigmented lesions are further devided into:

- Macular (flat)
- Ulcerated (break in the skin)
- Nodular (solid and raised up off the skin)

Table 43.1 Normal skin pigmentation is influenced by the following

– Degree of vascularity
– Amount and depth of melanin (e.g. black = in epidermis, blue = in dermis)
– Presence of carotene
– Thickness of the horny layer (keratin)

The algorithm (Fig. 43.1) covers common and dangerous skin lesions but does not include rare or unusual lesions. In addition, this chart does not take into consideration the age of the patient. Obviously, certain lesions are more common in certain age groups. For example, children tend to have congenital moles, adults tend to get seborrhoeic keratosis and elderly patents get pigmented actinic keratosis and pigmented non-melanoma skin cancers. Melanomas can occur at any age but are extremely rare before puberty.

Pigmented macular lesions can be further subdivided into melanocytic (i.e. derived from melanocytes) or non-melanocytic, by the use of dermoscopy in trained hands.

43.1.1 Pigmented Macular (Flat) Lesions

Any brown, black, gray or deep blue flat lesion should always be examined carefully to rule out a superficial spreading malignant melanoma or a dysplastic naevus. The suspicion should be even

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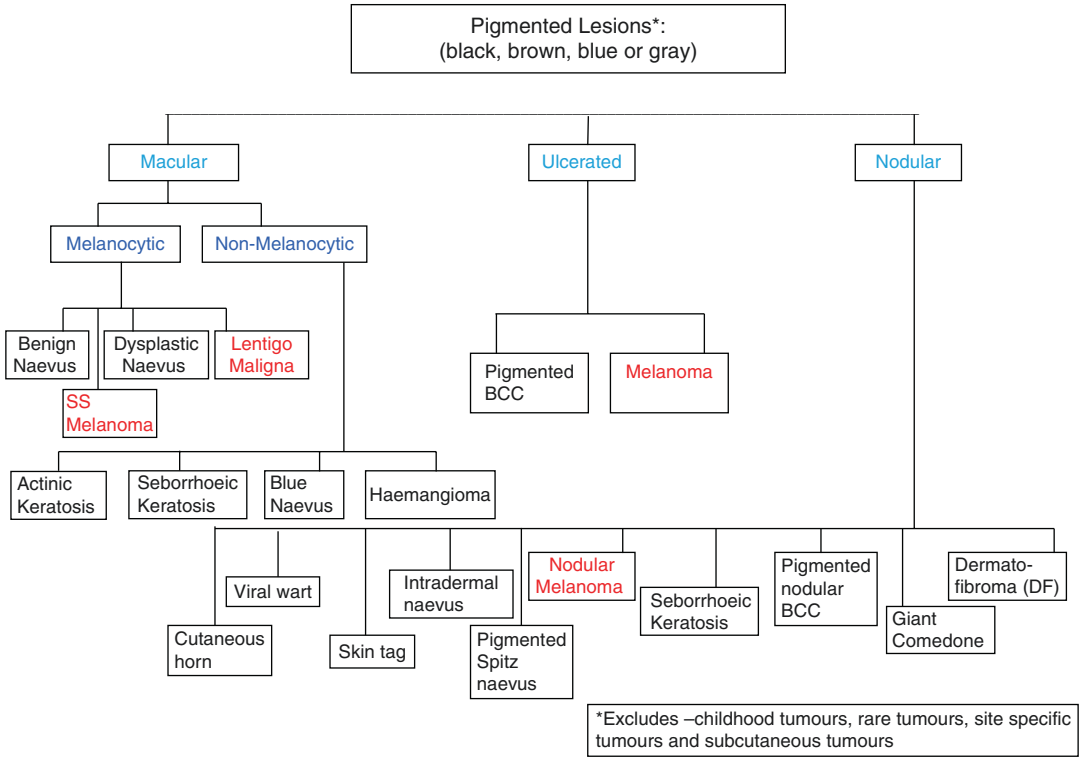

Fig. 43.1 Algorithm of pigmented skin lesions

higher if there is a history of a change in the lesion such as change in size, shape or colour. Benign moles are stable and do not change and so the history is very important when assessing moles. Sometimes there may be no history available as the mole may be on a part of the body that is not easily visible to the patient (on the back, on the calf or on the sole of the feet). There is only one rule when assessing suspicious pigmented (or non pigmented) lesions—"if in doubt, cut it out or refer to a colleague with more experience in skin lesion recognition".

A useful diagnostic test is the revised 7-point checklist (Table 43.2). This test was found to have a high sensitivity, but low specificity. This means, they are good at catching up the bad guys (melanomas) but they also come with a fairly high numbers of false positives (excisions of lesions suspected as melanomas that were not), leading to possibly unnecessary biopsies and increased patient anxiety [1–3].

Table 43.2 Revised 7-point checklist for assessing risk of melanoma

Suspect melanoma if there are 1 or more **major signs** in a mole: 1. Change in **size** (diameter or height getting bigger) 2. Change in **shape** (notched or ragged border) 3. Change in **colour** (2 or more irregular colours including white)
3 or 4 **minor signs** without a major sign can also indicate a need to biopsy suspicious moles: 1. Inflammation 2. Crusting or bleeding 3. Sensory change (itch or soreness) 4. Diameter (≥7 mm) (but melanomas can be as small as 3 mm)

If in doubt, it is definitively better to have a suspicious lesion cut out and get the result showing it was benign than leaving a melanoma undiagnosed.

Another useful sign of **melanoma** is "the ugly duckling sign". This is where there is a mole that looks completely different from all the other moles on the patient's body. Unless there is a very definite history that the ugly duckling mole is not changing, it is safer to remove it for histological diagnosis.

71% of melanomas arise as brand new lesions while only 29% arise from within an existing mole or freckle which starts to grow larger or change in shape or colour [4].

Patients who have had a previous melanoma or a non-melanoma skin cancer or patients with a family history of these lesions or pancreatic cancer are more at risk of developing melanomas. Other high risk patients are those with fair skin that burn easily (Fitzpatrick skin type 1 and 2), patients with multiple moles (>100), particularly if they are large and have an irregular edge or colour (dysplastic naevi).

Older patients can develop **lentigo maligna**, which is considered a melanoma in situ. These are usually slow growing, flat lesions with irregular colour and edges that usually occur on the face or other exposed areas of the body. In the elderly they can grow to quite a large size and they are often mistaken for simple lentigos (sunspots) or seborrhoeic keratosis. Even though they grow slowly, these in situ melanomas may eventually progress into a nodular melanoma (lentigo maligna melanoma).

Lentigo maligna present a unique challenge, as they are often large, mostly on the face and usually occur in elderly patients with significant comorbidities and limited life expectancy. All lentigo maligna patients should be offered surgical excision, but some refuse. Imiquimod 5% cream ("Aldara®") and cryosurgery have shown some success in patients who refuse surgery.

Other lesions that may be pigmented and flat are pigmented actinic keratosis (they are usually flesh coloured and slightly rough to the feel), a flat seborrhoeic keratosis (they are usually nodular and scaly), a blue naevus or a haemangioma. The last two lesions are normally easily diagnosed with dermoscopy for those with training and experience in this technique.

43.1.2 Pigmented Ulcerated Lesions

Ulcerating pigmented lesions could be a melanoma (always ask: is it changing in size, shape or colour?) or a pigmented ulcerating BCC. These lesions should be excised completely for histological diagnosis or referred to a colleague with more experience in skin lesion recognition.

43.1.3 Pigmented Nodular (Raised Up) Lesions

Nodular-pigmented lesions can be further subdivided into:

- scaly/warty nodules
- smooth dome shaped nodules
- fleshy ulcerating nodules

43.1.4 Pigmented, Scaly/Warty Nodules

The most common lesion to present in this way is a **seborrhoeic keratosis (SK)** (also called a seborrhoeic wart or basal cell papilloma). These usually have a raised, scaly, waxy surface and a "stuck-on" appearance with a sharply demarcated border on the skin and are common in people over the age of 40 years old. They can be solitary or multiple, may be small or can grow up to 1–2 cm in diameter and can occur on any part of the body apart from the palms and soles but are most common on the trunk and face. They are usually brown but can be flesh coloured, yellow, brown, gray or black. (Figs. 43.2, 43.3 and

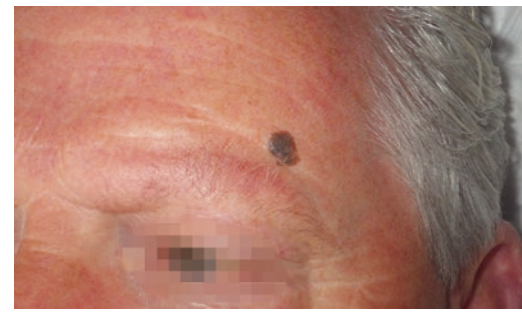

Fig. 43.2 Seborrhoeic keratosis

43.4a, b). On the face they can be flat (macular) and can be difficult to distinguish from an actinic keratosis, Bowen's disease, melanoma or lentigo maligna (Fig. 43.5). A sudden eruption of multiple new SKs may be associated with underlying adenocarcenoma of the breast, stomach, ovaries or uterus. This is known as the sign of Leser-Trélat.

Dermoscopy can be very helpful in making the diagnosis as SKs have a number of typical dermoscopy features such as milia-like cysts, comedo-like openings, cerebriform ("brain-like") surface and hairpin vessels (see Fig. 43.6).

There are a number of clinical variants of SK and some can be only diagnosed with histology (see Table 43.3).

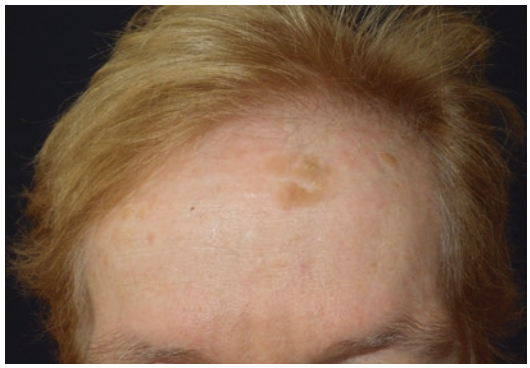

Fig. 43.3 Seborrhoeic keratosis

SKs are harmless and benign but are sometimes removed if they are unsightly or uncomfortable or if the clinical and dermoscopy diagnosis is not clear. When a SK becomes itchy, bleeds, becomes red or inflamed or if it looks completely different than all the others, it should be biopsied (Table 43.4).

They can be easily removed by curettage or shave biopsy under local anaesthetic or by cryobiopsy (freezing, shaving and applying a haemostatic solution). The way they easily separate from the underlying skin and lack of any underlying skin abnormality apart from light capillary bleeding, further supports the diagnosis of a seborrhoeic keratosis. Always send removed tissue for histology. Haemostasis can be easily achieved with 20% aluminium chloride on a cotton bud (Fig. 43.4a, b). When removed by curettage, it is recommended to freeze the base with light cryosurgery (5 second freeze with one freeze-thaw cycle), as otherwise they will recur.

Other lesions that present as a scaly, warty, pigmented nodule are viral warts, pigmented skin tags (fibro-epithelial polyps), hyperkeratotic actinic keratosis, lichenoid keratosis (a regressing seborrhoeic keratosis) or solar lentigo, inverted follicular keratosis, SCC, BCC or melanoma (Figs. 43.7, 43.8, and 43.9a, b). Some of these lesions can be diagnosed clinically but if there is any doubt about the diagnosis they should be removed for histology (Fig. 43.10).

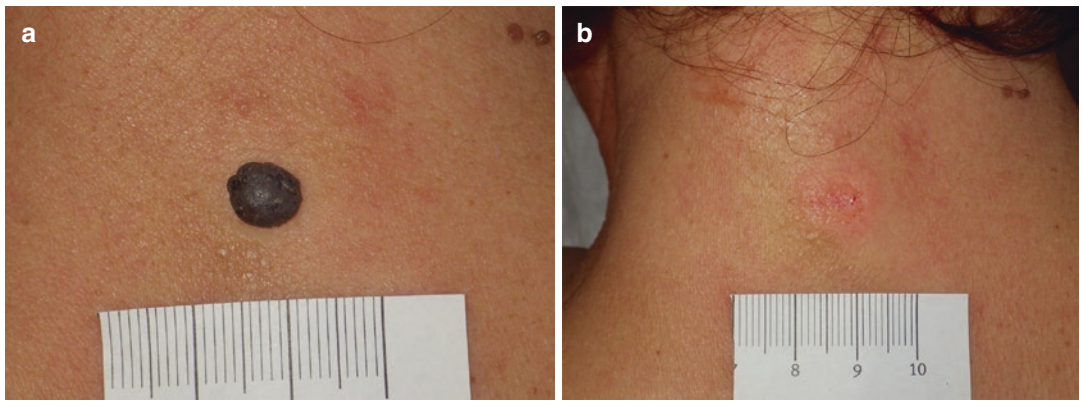

Fig. 43.4 (**a**) Seborrhoeic keratosis posterior neck. (**b**) Same seborrhoeic keratosis immediately post-shave biopsy and aluminum chloride for haemostasis

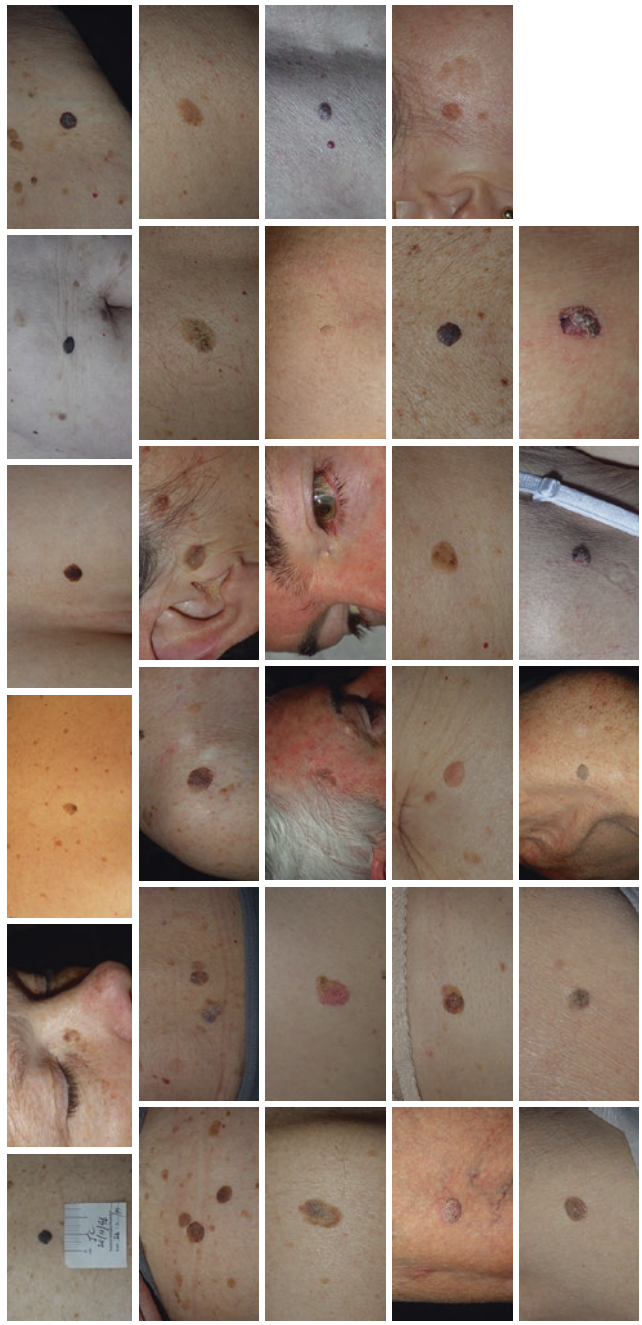

Fig. 43.5 Examples of various types of seborrhoeic keratosis

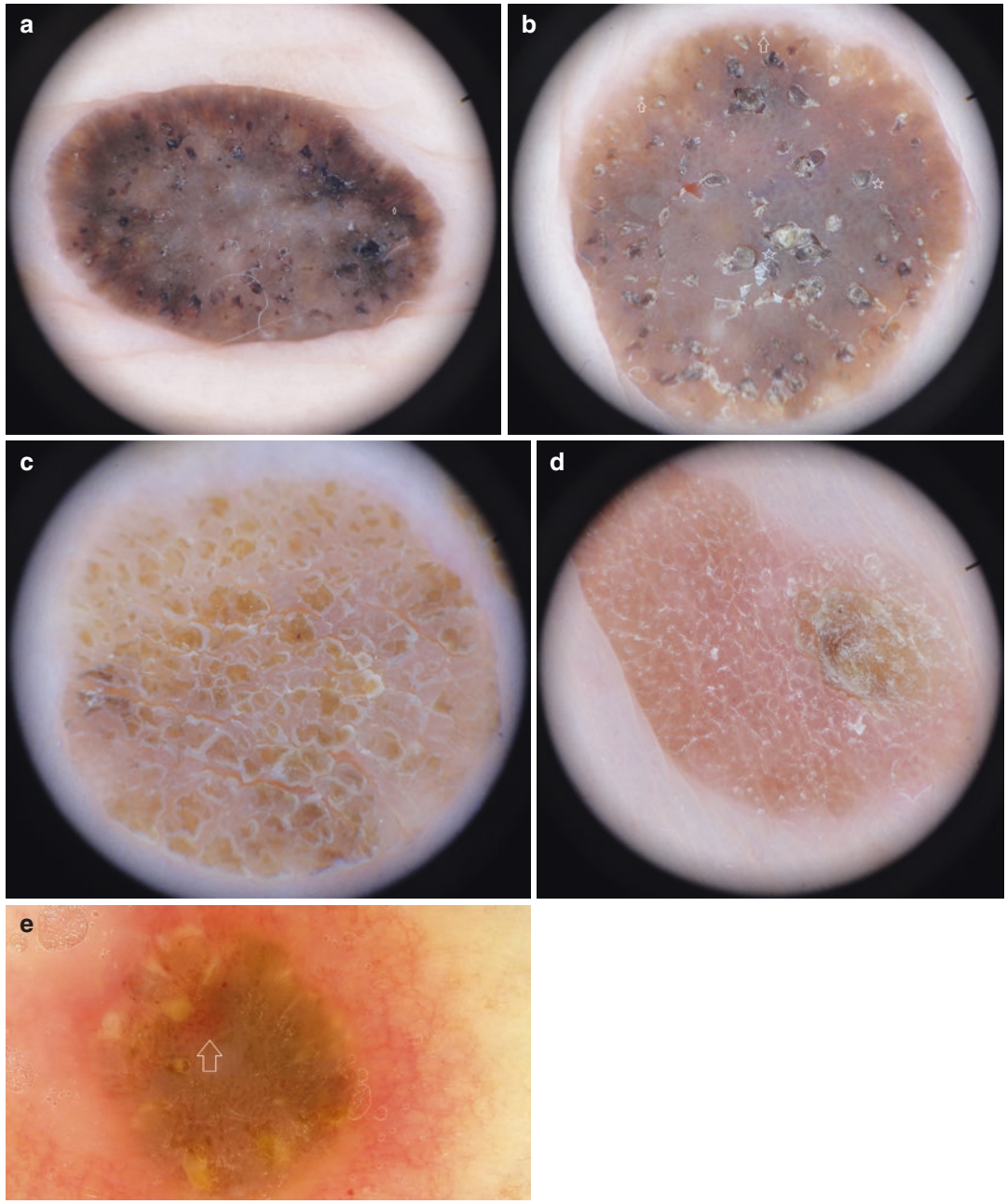

Fig. 43.6 Dermoscopy features of SK. (**a**) SK showing fingerprint like structures, (**b**) SK showing milia-like cysts and comedo-like openings, (**c**) SK showing fissures and ridges, (**d**) SK showing network like structures, (**e**) SK showing hairpin vessels

43.1.5 Pigmented, Nodular, Smooth, Dome Shaped Lesions

There are a number of lesions that can present like this. The most common would be intradermal naevi (Fig. 43.11) and skin tags. The most serious is a nodular melanoma. Nodular melanomas can spread rapidly beyond the skin and generally have a much worse prognosis than superficial spreading melanomas. Any lesions

Table 43.3 Clinical variants of SK

Clinical Subtypes	Typical Location	Diagnostic Features
Stucco keratosis	Lower extremities, particulary on ankles	Dry surface, rough; hard, opaque papules; gray-white; easily scrapes off
Dermatosis papulosa nigra	Face	Common on dark-skinned individuals; small hyperpigmented papules; dark brown to black
Inverted follicular keratosis	Face, especially on check and upper lip	Firm white-tan to pink papules; usually solitary
Large cell acanthoma	Face or neck, including eyelids	Sharply demarcated papule or plaque; skin-colored to hypopighmented or hyperpigmented; solitary lesion
Lichenoid keratosis	Upper chest or forearms	Often scaly; nonscaly papule or plaque are usually pearly; pink to pink-brown
Macular SK	Sun-exposed ares	Flat, oval, tan-brown patches; increase with age

Noile K, et al. *J Cutan Med Surg.* 2008;12:203-210

Table 43.4 Differential diagnosis of a SK

Melanoma
BCC
Bowen's/SCC
Actinic keratosis
Wart (commonly on palms and soles, and have pinpoint dots = thrombosed vessels)
Melanocytic naevus
Skin tag/fibroepithelial polyp
Eccrine poroma (benign sweat gland tumour)

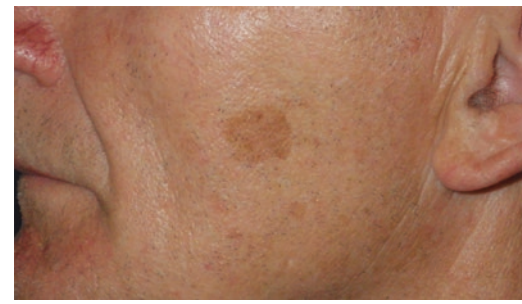

Fig. 43.7 Solar lentigo

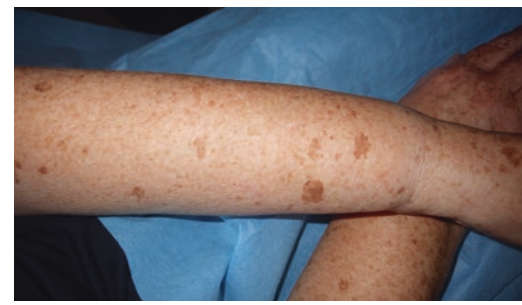

Fig. 43.8 Solar lentigo on a 73 year old

suspicious of a nodular melanoma should be dealt with like a breast lump (i.e. they should be either biopsied or referred and seen by a more experienced colleague within 1–2 weeks of presentation). Other less serious lesions that can present like this are haemangiomas, blue naevus, spitz naevus, and dermatofibromas.

Spitz naevi are typically dome-shaped, red, reddish-brown (classic Spitz) or darker nodules (pigmented Spitz) and may be up to one or two centimetres in diameter. It usually appears on the face or limbs of children and grows rapidly for a few months. They are benign but can be confused with a melanoma and are usually excised for histological diagnosis.

A blue naevus is a dark blue colour because the pigment cells (melanocytes) are deeper in the skin than in commoner brown moles and freckles. They are harmless, benign and do not need biopsy if stable (Fig. 43.12).

Dermatofibromas are usually flesh coloured but may be pigmented or may have a pigmented rim around the outside. Dermatofibromas have a

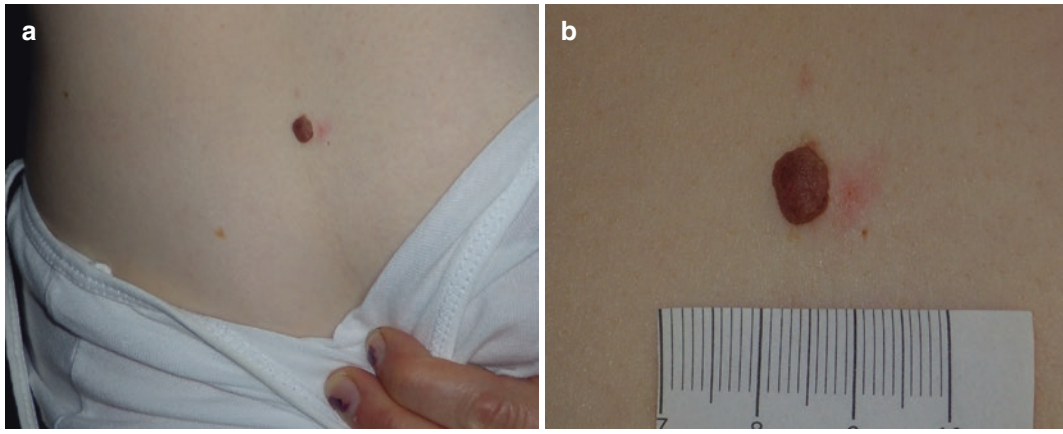

Fig. 43.9 (**a**) Fibro epithelial polyp, (**b**) Same fibro epithelial polyp close up

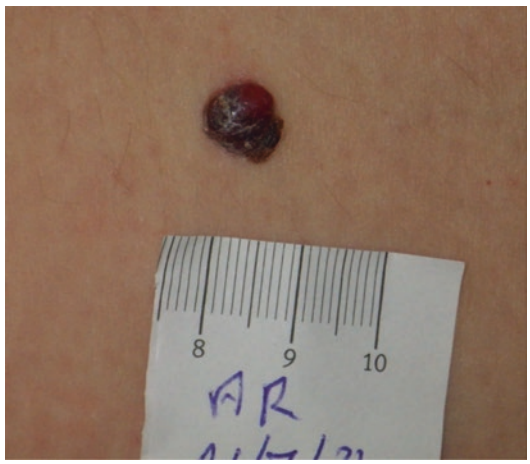

Fig. 43.10 Melanoma 4.5 mm deep on histology

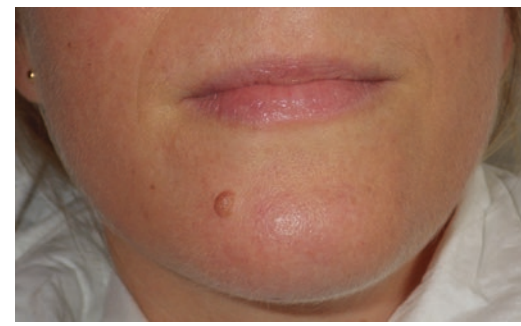

Fig. 43.11 Intradermal naevus chin

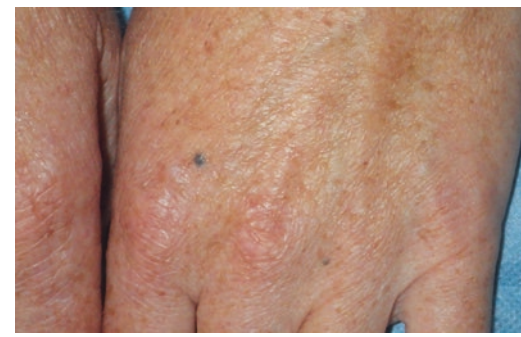

Fig. 43.12 Blue naevus on the dorsum of the hand

very distinctive and unusual feel. When pinched between your fingers they feel like a firm pebble in the skin. They may also show dimpling (*peau d'orange*) of the surrounding skin when squeezed (Fig. 43.13a, b). On dermoscopy they usually show a central white area surrounded by a faint pigment network. Dermatofibromas are common on women's legs and arms. They are benign and some can resolve spontaneously but this may take many years. Most remain for life. Sometimes patients want them removed for cosmetic reasons, because they itch, when they are raised and make shaving difficult (on the legs in women) or if there is any doubt about the diagnosis. The easiest way to remove them is by punch biopsy or elliptical excision to the edge of the lesion.

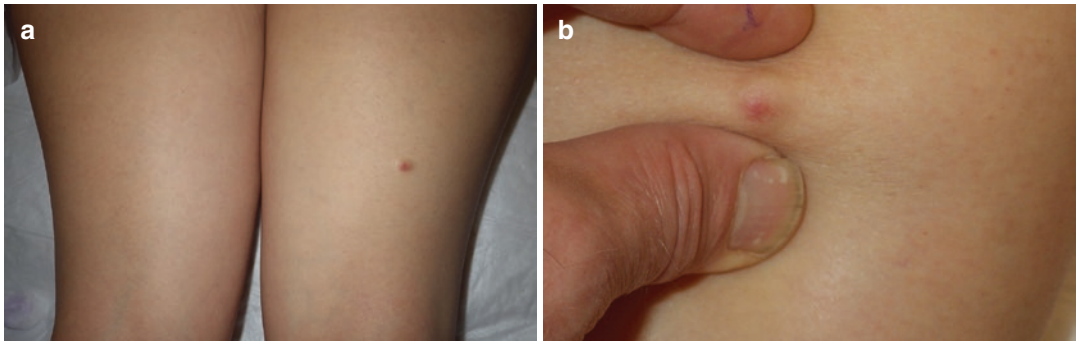

Fig. 43.13 (**a**) Dermatofibroma on the posterior part of the thigh, (**b**) Dermatofibroma showing the dimpling sign when squeezed

43.1.6 Pigmented, Fleshy, Ulcerated, Nodule

The main differential diagnosis here would have to be a nodular melanoma which would be a very worrying sign as these usually have a very poor prognosis. They need to be referred on urgently for histological diagnosis and further management. A pigmented nodular BCC that starts to ulcerate can also present like this.

43.2 Conclusion

Most pigmented lesions on the skin are derived from moles or seborrhoeic keratosis. If there is any suspicion that a pigmented lesion could be a melanoma it should be referred to a colleague with more experience in lesion recognition. Most melanomas emerge as new lesions. If a mole (new or existing) is changing in size, shape or colour it should be viewed with suspicion and biopsied or referred as it could be a melanoma.

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