Intradermal and Compound Naevi

See also separate Black and Brown Skin Lesions article.

Intradermal naevus

This is a form of melanocytic naevus but it appears to have the same degree of pigmentation as the surrounding skin. It is the classical skin-coloured 'mole', elevated from the skin's surface, that most people would recognise as such. The melanocytes do not impart their pigmentation to the lesion because they are located deep within the dermis, rather than at the dermo-epidermal junction (as is the case for junctional naevi/compound naevi).

They may appear spontaneously or grow from a pre-existing pigmented mole. They usually develop from the end of childhood onwards and may appear at any stage throughout adulthood, although they are probably quite rare as a new phenomenon after the age of 60. They have the following characteristics:

- Skin-coloured lesion (ie the same degree of pigmentation as the surrounding skin).
- Small (5 mm-1 cm).
- Raised from the surface of the skin (rounded, dome-shaped, pedunculated or warty appearance).
- May be associated with hair growth (particularly in older patients).

Epidemiology

They are extremely common, as are all the melanocytic naevi. Indeed they affect so many people that some consider that they cannot be classed as a pathological entity - rather, a normal variant.

Presentation

- They do not present that often, as most people recognise them as a benign dermatological phenomenon.
- They may be detected coincidentally during a consultation, or brought up as a 'whilst I'm here' phenomenon.
- They are most likely to present if they are newly noticed.

Visual appearance

An intradermal naevus on the face
Differential diagnosis

- Their history and appearance are fairly characteristic and so they are not usually confused with other lesions.
- They may resemble early basal cell carcinoma or a neurofibroma.
- Basal cell carcinoma will usually have a shorter history, be noted to be growing quite quickly and have associated telangiectasia.
- Where there is doubt as to the diagnosis then excision biopsy will resolve the question.

Investigations

- None is usually required.
- If there has been significant recent growth then consider excision biopsy to exclude basal cell carcinoma.
- Where a previously non-pigmented lesion develops pigmentation then excision biopsy should be carried out.

Management

- No treatment is required unless the patient is concerned about the lesion's cosmetic appearance or there are suspicions of an alternative diagnosis.
- Excision biopsy may be used for diagnostic purposes.
- Shave and cautery (dermal electrosurgical shave excision) are a good method for removing them, with apparently better cosmetic results than excision biopsy.[2]
- Injection of local anaesthetic directly into the lesion before shaving may improve the cosmetic result.[3]
- Facial lesions may be best removed for cosmetic purposes by a dermatological surgeon or plastic surgeon, particularly in young patients, due to the high risk of medicolegal claims in this area of practice if there is a poor cosmetic outcome.

Complications and prognosis

- Intradermal naevi have no complications as such and are benign, slow-growing lesions.
- If they occur in the external auditory meatus they can obstruct the auditory canal and impair hearing.[4]
- There are potential complications associated with their removal.

Prognosis is excellent, as it is a benign lesion with no risk of transformation to melanoma.

Compound naevus

This is a form of melanocytic naevus (or mole) that is raised above the surface of the skin and is brown in colour. Melanocytic naevi are considered to be hamartomata if they are congenital. Hamartomata are tumour-like but non-neoplastic overgrowths of structurally disordered tissue. Compound naevi are considered to be benign neoplasms of melanocytes if they arise in later life.[5]
Compound naevi arise from a flat (junctional) naevus that exists earlier in life and may have a raised central portion of deeper pigmentation with surrounding tan-brown macular pigmentation. Pigmentation may be uneven within the naevus but is usually symmetrically distributed. They are usually of a round/oval shape and roughly 2 mm-7 mm in diameter. They may exist with a variable degree of pigmentation and even be the same colour as the surrounding skin. Their name is derived from the fact that they contain junctional melanocytes (responsible for their pigmentation) and intradermal melanocytes (responsible for the elevation of the lesion).

**Epidemiology**

Melanocytic naevi in the general population are exceedingly common in congenital and acquired form. Their prevalence is so high that some believe they cannot even be considered an abnormality or pathological entity, as most people with light-coloured skin will have at least a few. [6] They are much more common in ethnic groups with light skin but they still have an appreciable prevalence in those with more pigmented skin. Congenital melanocytic naevi occur in approximately 1% of newborns at birth. Acquired melanocytic naevi are usually seen from the age of one year, peak in number during the second and third decades of life and disappear between the seventh to ninth decades. [7]

**Presentation**

**Symptoms**

- Establish if the lesion is congenital or acquired (compound naevi are acquired).
- When a lesion presents medically it is important to ascertain whether there have been any associated symptoms such as:
  - Enlargement.
  - Change in shape or size.
  - Change in pigmentation.
  - Itchiness/pain/irritation.
  - Bleeding.

**Signs**

- Examine the lesion in bright light, preferably daylight if available.
- Use drawings or photography to note the site(s), size and pigmentation of the lesion.
- Establish that the lesion has the typical pattern of pigmentation and is raised from the level of the skin.
- Distinguish from other similar raised benign tumours of the skin:
  - Dermatofibromas tend to feel firm or hard on palpation, whereas compound naevi are softer.
  - Seborrhoeic warts tend to have a 'stuck-on' appearance, rather than blending into the surrounding skin.
  - Melanoma tends to be darker, have an irregular border, be asymmetrical and have recently grown.

**Visual appearance**

Typical appearance of a compound naevus on the face
Compound naevus close-up (papular, sometimes wart-like appearance)

A non-pigmented, pedunculated compound naevus

Differential diagnosis

- Malignant melanoma.
- Lentigines.
- Atypical mole (dysplastic naevus).
- Other melanocytic naevi.
- Pyogenic granuloma (usually reddish but may be brown).
- Seborrhoeic keratosis.
- Acanthoma.
- Histiocytoma.
- Skin tag (acrochordon).
- Actinic keratosis.
- Neuroma.
- Squamous cell carcinoma.
- Naevi of Ota and Ito.
Investigations
- No investigations are indicated in the case of a common, acquired compound naevus that has not undergone any recent change.
- Some dermatologists may use dermoscopy to try to distinguish the nature of pigmented lesions. [8]
- If there is any suspicion of malignant melanoma then the investigation of choice is excision biopsy. [9]

Management
- If the diagnosis of compound naevus is clear and there has been no change in a long-standing lesion then reassurance and monitoring of the lesion are all that is usually required.
- Where there is any doubt as to the diagnosis, perform excision biopsy or refer for dermatological advice.
- Perform excision biopsy whenever the lesion has:
  - Grown.
  - Become symptomatic.
  - Developed asymmetry.
  - Developed an irregular border.
  - Altered its degree or pattern of pigmentation.
  - Developed satellite lesions.

Complications and prognosis
Compound naevi are benign lesions. They do not cause complications and they have an excellent prognosis.

Further reading & references
- Improving outcomes for people with skin tumours including melanoma; NICE Guidance (May 2010 update)

1. Intradermal nevus; Libre Pathology, 2014
6. Compound Nevus; Libre Pathology, 2014
9. Compound melanocytic nevus; OnlineDermClinic

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