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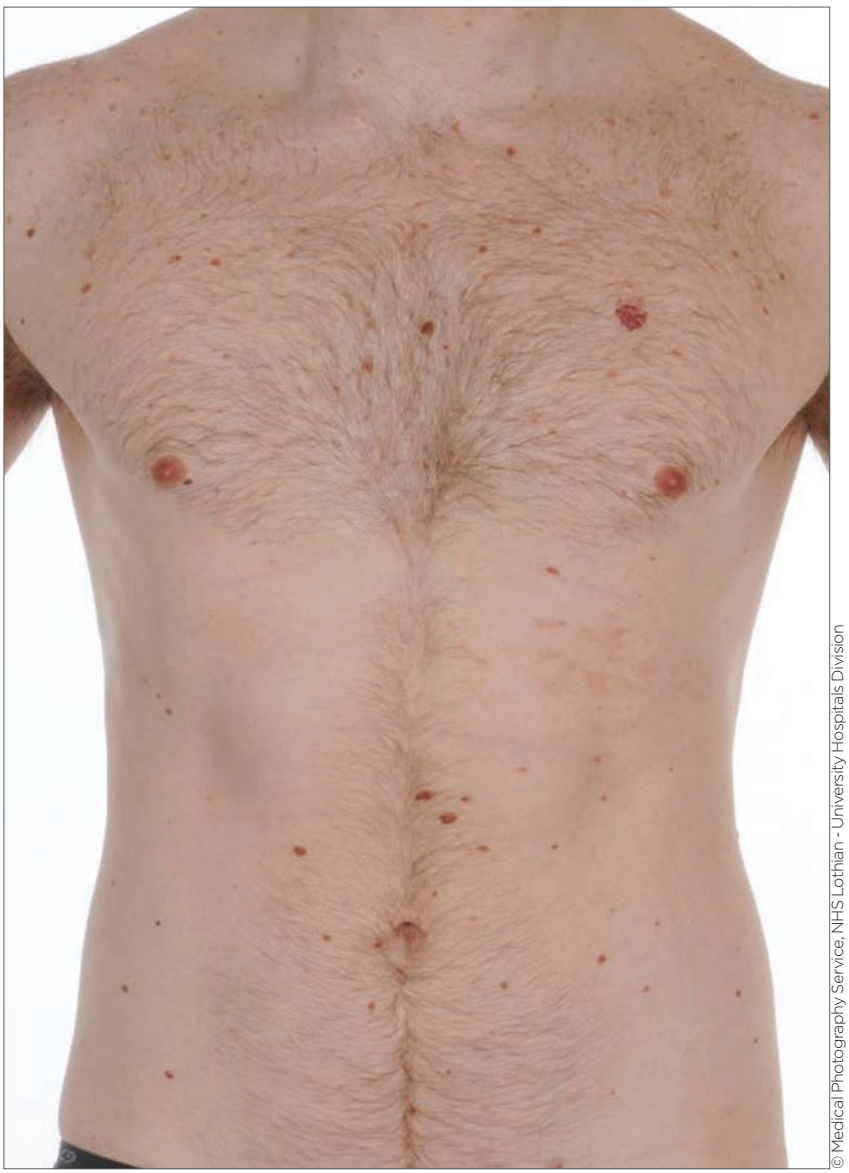

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FIGURE 1
The 'ugly duckling' sign: moles in the same individual tend to resemble one another, and a melanoma often looks different. This man has a melanoma on his left anterior chest

What are the risk factors for malignant melanoma?

How should suspicious lesions be assessed?

Which patients should be referred?

MALIGNANT MELANOMA IS A POTENTIALLY FATAL SKIN CANCER THAT ARISES FROM THE MELANOCYTE pigment cells in the skin. Normal melanocytes are found in the basal layer of the epidermis and produce the protein melanin, which is taken up by adjacent epidermal keratinoctye cells, and protects the skin by absorbing ultraviolet (UV) radiation.

Production of melanin by melanocytes is increased in response to UV exposure, resulting in a sun tan. Melanocytes are found in equal numbers in black and white skin, but the melanocytes in darker skin produce much more melanin, resulting in increased UV protection.

Non-cancerous proliferation of melanocytes results in moles (benign melanocytic naevi) and freckles (ephelides and lentigines), while cancerous growth of melanocytes results in melanoma.

INCIDENCE

Excluding non-melanoma skin cancer (NMSC), melanoma is the fifth most common cancer in the UK, with around 12,800 new cases annually.[1] It affects more women than men and the incidence is now more than four times higher than it was 30 years ago, and is rising faster than other common cancer types.

Melanoma is rare in childhood, but »

Table 1

The Glasgow seven point checklist

Major feature	Minor feature
Change in size	Diameter > 7mm
Irregular shape	Inflammation
Irregular colour	Oozing
	Change in sensation

Score 2 for each major feature and 1 for each minor feature

Table 2

The ABCDE of melanoma

A Asymmetry in two axes
B Border irregularity
C Colour variation > 2 colours
D Diameter > 6 mm
E Evolving/enlarging/elevation

from the teens onwards the incidence steadily rises with age. Although the highest melanoma incidence is in people over 80, the relatively low incidence of other cancers in young adults results in melanoma being one of the most common cancer types between the ages of 15 and 34.

RISK FACTORS

Exposure to UV radiation is the main risk factor for developing melanoma. In most individuals the common sources are sunlight or artificial sources such as sunbeds. Pale-skinned individuals have a higher risk of melanoma, with the highest reported rates in Australia,[1] where predominantly white-skinned populations live close to the equator. There, it is the third most common cancer, accounting for 10% of all cancer diagnoses (excluding NMSC).

Other risk factors for superficial spreading melanoma, the most common type, include:

- Increasing age
- Previous melanoma or melanoma in situ (precancerous melanoma)
- Previous NMSC
- Many melanocytic naevi
- Multiple (> 5) atypical naevi (irregular-looking moles or histologically dysplastic moles)
- Strong family history of melanoma with two or more first-degree relatives affected
- Fair skin that burns easily
- Residence abroad, particularly as a child below the age of 12 years
- Higher socioeconomic class
- Immunosuppression

SUSPICIOUS LESIONS

The first sign of a melanoma is usually an unusual looking freckle or mole, see figure 1, p 27. It may have a variety of colours including tan, dark brown, black, blue, red, light grey, or occasionally may lack pigment (amelanotic melanoma).

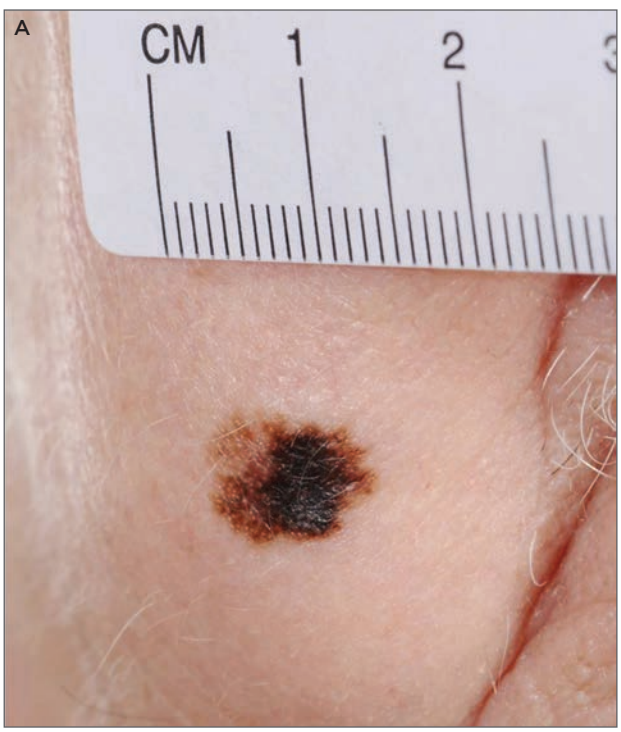
GPs should check the patient's pigmented lesion to assess if it has any of the characteristics described by the Glasgow seven point checklist, see table 1, above, or the ABCDE of melanoma, see table 2, above, and figure 2, below. Overall these checklists tend to be more sensitive than specific, overestimating risk.

Some melanomas are itchy or tender, and more advanced lesions may bleed easily or crust over. Melanomas can occur anywhere on the body, not only in areas that get a lot of sun: for example, the most common site in men is the back, and in women the leg.

Rarely melanomas can develop at sites other than the skin, such as oral or genital mucosae, under finger and toe nails (see figure 3, p29), and in the mouth, brain, eye or vagina.

REFERRAL

NICE recommends urgent referral of all lesions scoring 3 or more on the seven point checklist, or if there are significant concerns about any one feature.



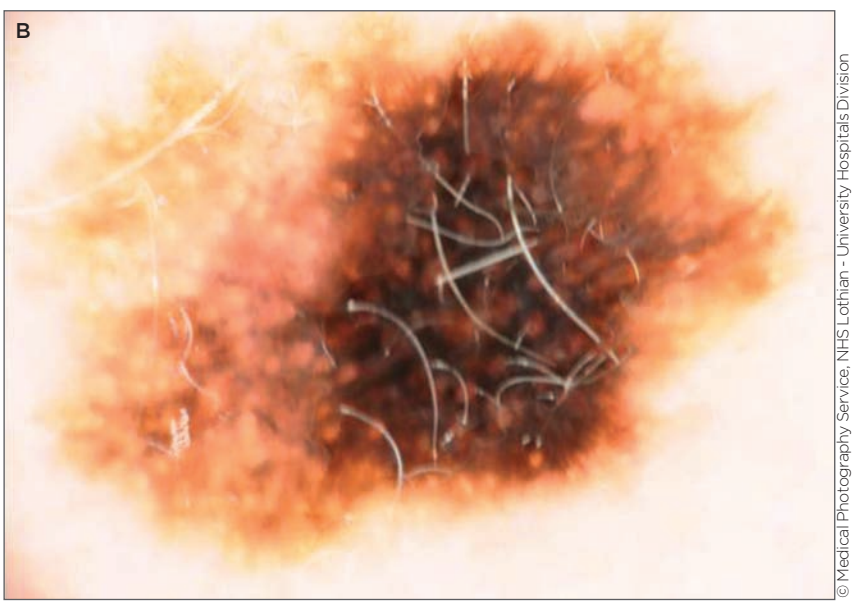


FIGURE 2
A An asymmetric, irregular border, irregularly pigmented macule > 6 mm on a patient's right cheek, clinically in keeping with a melanoma

B The dermatoscopic appearance showing irregular pigment organisation

Box 1

Self-examination and sun protection advice for patients

- Self-examine all areas of skin one to three monthly for changes in moles listed in the ABCDE rules. Photographs of the skin can help as a baseline reference. If there are any changes, patients should seek advice from their GP immediately
- Avoid too much sun exposure particularly sunbathing, sunburn and tanning. Use a combination of clothing, sunscreen and behaviour changes for protection.
- Information about this is available on the CRUK and BAD sites (see Useful information box, p30)
- Do not use sun beds or tanning lamps

The British Association of Dermatologists[2] suggests referring:

- A new mole appearing after the onset of puberty which is changing shape, colour or size
- A long-standing mole which is changing shape, colour or size
- Any mole which has three or more colours or has lost its symmetry
- A mole which is itching or bleeding
- Any new persistent skin lesion especially if growing, pigmented or vascular in appearance, and if the diagnosis is not clear
- A new pigmented line in a nail especially where there is associated damage to the nail
- A lesion growing under a nail

For patients whose lesions are not particularly concerning, it is acceptable to take photographs of the mole against a ruler or a marker scale, and monitor it for eight weeks for any changes.

NICE[3] and SIGN[4] have both published guidelines on the management of melanoma. Lesions which are suspicious for melanoma should not be removed in primary care.

Patients should be referred urgently to secondary care with a history recording the duration of the lesion, change in size, colour, shape and symptoms.

The referral examination should cover the site, size (maximum diameter), elevation (flat, palpable, nodular) and other description such as irregular margins, irregular pigmentation and if ulceration is present.

MANAGEMENT

Surgery

As surgery is the only curative treatment for melanoma, suspected lesions should be photographed, excised completely with a 2 mm margin of skin and a cuff of fat, and sent to a pathology laboratory for histological examination.

The pathologist's report should include a macroscopic description of the specimen and a microscopic description including the Breslow tumour thickness (from the granular cell layer of the epidermis, to the nearest 0.1 mm), the single most important prognostic variable.

Metastases are rare for melanomas < 0.75 mm, the risk for tumours 0.75–1 mm thick is about 5%, rising to about 40% for melanomas > 4 mm.

There appears to be a survival benefit in having a second wide local excision of normal skin around the scar of a confirmed melanoma excision, perhaps through ensuring removal of all the melanoma including micrometastases.

The size of this normal skin margin is usually determined by the Breslow thickness of the melanoma, but may be influenced by discussion within the skin cancer multidisciplinary team (SCMDT) and with the patient.

A staging technique, sentinel lymph node biopsy, to diagnose subclinical regional lymph node involvement is sometimes undertaken at the same time as the wide local excision, but it has no proven therapeutic value.

Other routine investigations including blood tests and radiological imaging are not required for asymptomatic patients with primary melanoma.

All patients with a new diagnosis of melanoma should be discussed at a SCMDT meeting to enable planning of investigations, and palliative surgical and non-surgical treatments for stage III and IV melanoma.

Metastatic disease

There is no evidence of a survival benefit for adjuvant radiotherapy in patients with melanoma, although local control of metastatic disease may be improved. Standard chemotherapy also appears not to confer a significant survival advantage.

Newly introduced human monoclonal antibodies which upregulate cytotoxic T-cell-mediated cancer cell death, and agents which block the BRAF gene mutation (present in about half of melanoma cases) may offer limited survival advantage. In December 2012, NICE issued technology appraisals on the use of ipilimumab as a possible treatment for patients with previously treated stage III or IV (unresectable or metastatic) melanoma,[5] and also on vemurafenib for locally advanced or metastatic BRAF V600 mutation-positive melanoma.[6]

Premalignant lentigo maligna/in situ melanomas

These lesions have no potential for metastatic spread and the aim should be to excise the lesion completely with a clear histological margin. No further treatment or follow-up is then required.

FOLLOW-UP

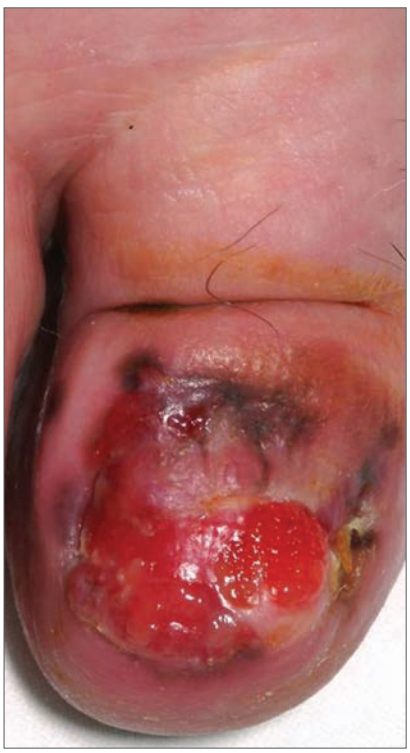
Depending on the Breslow depth, standard UK practice is for melanoma patients to be followed up for between one and five years after treatment of primary cutaneous melanoma. The three main reasons for follow-up are to:

- Detect recurrence when further treatment can improve the prognosis
- Detect further primary melanomas
- Provide support, information and education

Most first relapses occur in the five years following diagnosis, but there is a significant risk of later first relapse, and both patients and their doctors should be aware of this. »

FIGURE 3

Melanomas can occur at sites other than sun-exposed skin. Here a lentigo maligna melanoma of the right great toe has involved the nail folds, Hutchinson's sign



SPECIAL REPORT
MALIGNANT MELANOMA

key points

SELECTED BY
Dr Peter Saul
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Malignant melanoma arises from the melanocyte pigment cells in the skin. Non-cancerous proliferation of melanocytes results in moles and freckles, while cancerous growth of melanocytes results in melanoma. Melanoma is rare in childhood, but from the teens onwards, the incidence steadily rises with age. Exposure to ultraviolet light radiation is the main risk factor for developing melanoma.

The first sign of a melanoma is usually an unusual looking freckle or mole. It may have a variety of colours including tan, dark brown, black, blue, red, light grey, or occasionally may lack pigment. Some melanomas are itchy or tender, and more advanced lesions may bleed easily or crust over.

The British Association of Dermatologists suggests referring: a new mole appearing after the onset of puberty, or a long-standing mole, which is changing shape, colour or size; any mole which has three or more colours or has lost its symmetry; a mole which is itching or bleeding; or any new persistent skin lesion especially if it is growing, pigmented or vascular in appearance, and if the diagnosis is not clear. A new pigmented line in a nail, especially where there is associated damage to the nail, or a lesion growing under a nail should also be referred.

Lesions which have a high index of suspicion for melanoma should not be removed in primary care. Patients should be referred urgently to secondary care with a history recording the duration of the lesion, change in size, colour, shape and symptoms. Surgery is the only curative treatment for melanoma, suspected lesions should be photographed, excised completely with a 2 mm margin of skin and a cuff of fat. There appears to be a survival benefit in having a second wide local excision of normal skin around the scar of a confirmed melanoma excision, perhaps through ensuring removal of all the melanoma including micrometastases.

There is no evidence of a survival benefit for adjuvant radiotherapy in patients with melanoma, although local control of metastatic disease may be improved. Once the melanoma has been treated, patients should be able to return to a normal lifestyle, taking a few sensible precautions to minimise the risk of developing a further melanoma.

Newly introduced human monoclonal antibodies which upregulate cytotoxic T-cell-mediated cancer cell death, and agents which block the BRAF gene mutation (present in about half of melanoma cases) may offer limited survival advantage. NICE has issued technology appraisals on the use of ipilimumab as a possible treatment for patients with previously treated stage III or IV (unresectable or metastatic) melanoma, and also on vemurafenib for locally advanced or metastatic BRAF V600 mutation-positive melanoma.

ADVICE TO PATIENTS

Having a melanoma can make it difficult to obtain life or health insurance, or a mortgage, particularly for the first five years after diagnosis. There is no evidence that melanoma at or near the time of pregnancy adversely affects prognosis. Once the melanoma has been treated, patients should be able to return to a normal lifestyle, taking a few sensible precautions to minimise the risk of developing another melanoma, see box 1, p29.

Sun protection and self-examination advice should be shared with blood relatives as they may be at increased risk of developing melanoma. It is especially important to protect children from the sun, as exposure during childhood seems to be particularly damaging.

CONCLUSIONS

Melanoma is a cancer which is becoming increasingly prevalent. The primary care team is vital in the rapid detection and urgent referral of all patients in whom melanoma is a strong possibility (rather than carrying out a biopsy in primary care), as complete surgical excision offers the best chance of cure.

REFERENCES

1 www.cancerresearch.uk.org
2 www.bad.org.uk
3 National Institute for Health and Clinical Excellence. (CSGSTIM). Skin tumours including melanoma. NICE. London. 2010
4 Scottish Intercollegiate Guidelines Network. SIGN 72. Cutaneous melanoma. Edinburgh July 2003, updated February 2004. ISBN 1899893 88 1. SIGN. Edinburgh. 2004
5 National Institute for Health and Clinical Excellence. TA 268. Ipilimumab for previously treated advanced (unresectable or metastatic) melanoma. NICE. London. 2012
6 National Institute for Health and Clinical Excellence. TA 269. Vemurafenib for treating locally advanced or metastatic BRAF V600 mutation-positive malignant melanoma. NICE. London. 2012

Useful information

The British Association of Dermatologists
www.bad.org.uk//site/574/default.aspx

Cancer Research UK
www.cancerresearchuk.org/cancer-help/type/melanoma/

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