How not to miss the mole that kills

By Ralph George, MD, FRCSC

In this article:

The mole that Wilma had

Wilma, 65, was noted, during the course of a breast exam, to have a pigmented lesion on the outer aspect of her left arm (Figure 1). It was 1.2 cm in diameter and flat, with irregular margins. The colour varied with regions of black, brown, and pink. She said it was a mole that had been present for "several years."

Is its presence for several years reassuring? What should be done?

Follow Wilma's progress on page 127.

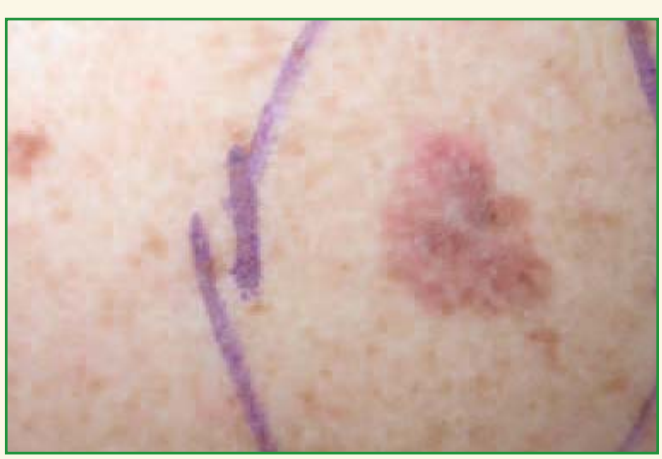

Figure 1. A 1.2 cm lesion on the outer aspect of the upper arm.

The increasing incidence of melanoma is a concern to all practitioners. Pigmented lesions may be discovered during any portion of a physical exam, and appropriate attention to a suspicious lesion may be life saving.

While uncommon in past decades, the lifetime risk in North American Caucasians is now estimated at 1 in 68.[1] Melanoma is the most common cancer in young adults age 25 to 29, and the fifth most common cancer overall.[2] Half of our new patients are in their fifth or earlier decade of life, and over 90% of cases could be cured if diagnosed early, before reaching a depth of 1 mm.[3]

Who is at risk?

Although it can occur in anybody, melanoma is more common in Caucasians, and relatively rare in people of colour.[4] Although not

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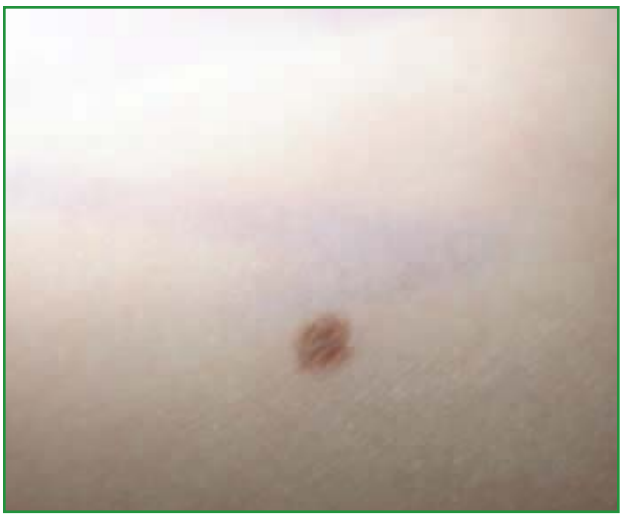

Figure 2. A 3 mm junctional nevus on the forearm.

impossible, melanoma is unusual before puberty and increases in incidence with age.

Among Caucasians, a variety of risk factors have been identified. The most consistent association is sun exposure, with investigations implicating ultraviolet radiation. Fair complexion, red or blond hair, childhood exposure, a history of sunburns as a youth, and a personal history of non-melanoma skin cancer all increase risk.[5-7]

A family history of melanoma is present in 5% to 10% of new cases and a rare autosomal dominant form (familial melanoma-dyplastic nevus syndrome) is associated with a near 100% lifetime incidence of melanoma for those inheriting the atypical nevus phenotype.[8] These individuals may have over 100 moles, and specialized followup with photography is recommended.

Even outside of the setting of familial melanoma, the number of moles (> 50) and the presence of atypical nevi are correlated with increasing risks for melanoma. While just one clinically recognized atypical or dysplastic nevus confers a risk, people with 10 or more such lesions may have up to a 12-fold increased risk![9,10]

Practice Pointer

Among Caucasians, a variety of risk factors have been identified:

- Sun exposure, with investigations implicating ultraviolet radiation
- Fair complexion
- Red or blond hair
- Childhood exposure
- History of sunburns as a youth
- Personal history of non-melanoma skin cancer

How do you identify a mole?

Common acquired nevi are symmetrical, less than 6 mm, and have smooth defined borders. They are classified as the flatter junctional nevi (Figure 2), or the raised intradermal and compound nevi. These lesions can be found anywhere on the body. A few of these lesions are present in childhood, and more appear with the onset of puberty. The number of acquired nevi level off in the second and third decade of life, and the new appearance of one of these lesions is rare beyond the age of 40. The average white person will have 15 to 20 acquired nevi.

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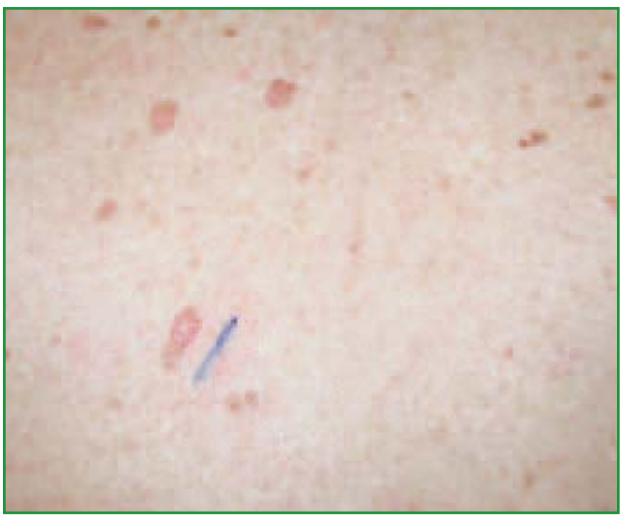

Figure 3. Multiple atypical nevi on the back. Blue line marks 1 cm.

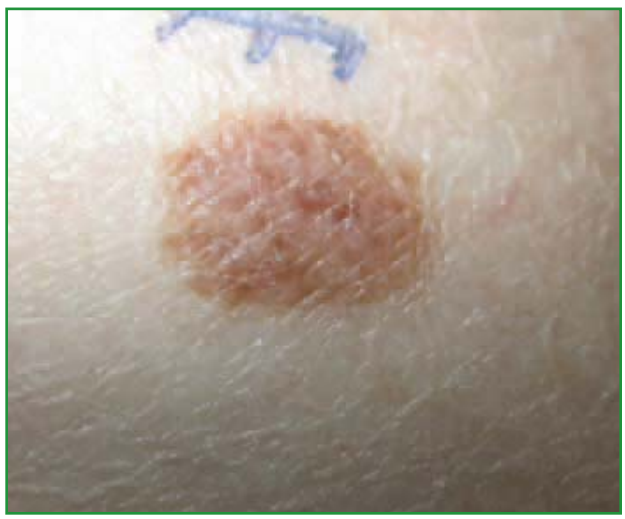

Figure 4. Small congenital nevus on the thigh. Blue line marks 1 cm.

Patients will often confuse moles with seborrhoeic keratosis, a greasy, well-demarcated lesion, with follicular plugs, and a stuck-on appearance.

Atypical or dysplastic nevi are clinically and pathologically diagnosed. The terminology is confused with these lesions being referred to as Clark's nevi and large acquired nevi. Atypical or dysplastic nevi are a marker for an increased risk, and may themselves progress to melanoma. They are often seen on the trunk, are large, usually < 6 mm with irregular borders and variegated colour (Figure 3). Differentiation from superficial spreading melanoma can be difficult. Followup, biopsy, or specialist referral may be necessary to avoid missing the diagnosis of an early melanoma. In patients with multiple lesions or familial melanoma syndromes, photography can help clinical followup.

Congenital nevi are present at birth or noted in the first two years of life. They may be hairy, and are often speckled. Although even small congenital nevi (< 1.5 cm) can be associated with progression to melanoma, the most appar-

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Table 1
Clinical diagnosis of melanoma

ABCD System	Glasgow 7-point list
A asymmetry	**1.** Change in size
B border	**2.** Change in shape
C colour	**3.** Change in colour
D diameter	**4.** Inflammation
	5. Crusting or bleeding
	6. Sensory change
	7. Diameter

Table 2
Mole assessment results

- Reassure
- Remove
- Re-evaluate
- Refer

ent risk comes from large lesions greater than 20 cm, with a 10% lifetime risk of progression. Conversion to melanoma can occur even in childhood. When possible, surgical resection of large lesions is recommended (Figure 4).

What does a melanoma look like?

Melanomas may arise de novo or from a pre-existing mole. Seventy per cent of melanomas present as the superficial spreading variety, usually on places intermittently exposed, such as the trunk of a man or the lower legs of a woman. They are recognized by their size, irregular borders, and variety of colour with black, brown, and pink areas. Regression may be noted within or around the lesion (Figure 1).

Nodular melanomas are less common, accounting for 10% to 15% of cases. Denoted by rapid growth to form the nodule, they can be thick at the time of removal. Nodular areas can evolve within a background of superficial spreading melanoma.

Lentigo maligna melanoma is a slow-growing tumour accounting for only 10% of all cases. These cases are typically on chronically sun-exposed areas, such as the face, and occur in older individuals. Because of their slow progression, these lesions can be present for many years, and achieve circumferences of several centimeters.

Acro-lentiginous and mucosal melanomas are rare and occur in non sun-exposed areas, such as the palms and soles. These melanomas also occur on sites, such as oral or vaginal mucosal surfaces. Of equal incidence in all races, these rare lesions are the predominant presentation in non-white populations.

How do I identify suspicious lesions?

Two systems are used in the triage of moles to identify lesions for biopsy or clinical followup. The ABCD pneumonic[11] popularized by the New York University Melanoma Cooperative Group, and the Glasgow 7-point checklist[12] are helpful.

The clinical ABCDs of melanoma are asymmetry, with one-half of the lesion not matching the other in shape; a border that is irregular or ragged; colour variation within a lesion that may include shades of brown, black, pink, grey, or blue; and a diameter of 6 mm or greater or a progressive change in size. The Glasgow 7-point checklist emphasizes: a change in size, a change in shape, a change in colour, the presence of

What about Wilma?

Wilma was surprised at the interest in her "mole." A few questions revealed:

1. It was something new over the past couple years.
2. Its appearance had changed over that time.
3. This fair skinned woman had been raised on a farm and spent her childhood summers outdoors.

Wilma's complexion and childhood exposure place her at increased risk for melanoma. The appearance of a new "mole", especially in someone over 40 is unusual.

Examination confirms a pigmented lesion, not a seborrhoeic keratosis. The asymmetry, border, colour, and diameter all raise the possibility of melanoma. An incisional full thickness biopsy confirmed the diagnosis of a superficial spreading melanoma, less than 1 mm in depth, with a good prognosis.

inflammation, crusting or bleeding, sensory changes in the lesion, and a diameter of greater than 7 mm (Table 1).

The diameter specifications are arbitrary and borderline lesions need to be regarded with suspicion, as do any changing lesion including regressing nevi, or new lesions appearing in someone over age 40.

What do I do about a suspicious lesion?

There are four possible outcomes of a mole assessment. First, the patient can be completely reassured that the characteristics of the lesion indicate a benign etiology. Second, the lesion is sufficiently suspicious to warrant removal by complete excision (or incisional biopsy for large or cosmetically concerning areas). Third, borderline lesions may be re-evaluated and examined serially for change. Lastly, difficult cases can be referred for a specialist opinion (Table 2).

How do I remove a suspicious lesion?

Moles that are removed for diagnosis are best completely excised with a narrow margin of normal skin. Full thickness is taken, as shaves may interfere with the depth measurement for lesions

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that prove to be a melanoma. Incisional biopsies are only used in lesions whose size precludes full removal, or in cosmetically sensitive areas, and include a small portion of normal skin as well as the most clinically suspicious area of the lesion.

Extremity lesions are excised longitudinally to facilitate later wide excisions if they prove to be melanoma. All specimens are sent for pathologic diagnosis. CME

Take-home message

Diagnosis

- Assessment of skin lesions can be difficult.
- Irregular moles, even in young people, may be atypical or malignant.
- It is best to be cautious by having a low threshold to exise suspicious lesions.

What do you do?

- Get a second opinion if you are really in a quandry, and remember the doctor initially notices less than half of all melanomas.
- More often it is the patient or family who have noticed a change and brought it to our attention.

References

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Web sites

1. www.ccopebc.ca/melcpg.html
   Cancer Care Ontario
   Melanoma Clinical Practice Guidelines

2. www.dermatology.org/molemelanoma/introduction.html
   Mole Melanoma Information Site