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When There is No Evidence, is it Realistic to Screen for Melanoma in New Zealand?

To Stephen McKernan, Director-General of Health, Ministry of Health
From Ross Lawrenson, Chair, National Screening Advisory Committee

Executive Summary

1. In 2005, melanoma of the skin was the fourth most commonly registered cancer site in New Zealand and the seventh most common cause of cancer deaths with approximately 200 deaths per year. Melanoma rates in New Zealand and Australia are substantially higher than other agencies reporting from registries worldwide. Baseline risk factors for melanoma include aging, being male, or being Caucasian. Risk assessment tools are key for clinicians to identify patients who are at high-risk for disease. Best practice for reducing the burden of melanoma in New Zealand is believed to be the prevention of excessive sun exposure and early detection. Reducing severe sunburn and detecting and diagnosing a greater proportion of melanomas when they are thin could have the greatest impact on the incidence of and mortality from melanoma. However, there is no evidence that population based screening reduces mortality. Some authorities recommend surveillance of high-risk individuals for new melanomas, but there are no studies to show that this approach reduces mortality. We believe that New Zealand should recommend continuing health promotion efforts (i.e. issuing sun protection advice) that address both the risks (i.e. melanoma prevention) and benefits (i.e. vitamin D sufficiency) of sun exposure. At the same time campaigns to encourage earlier detection and diagnosis by raising awareness of the importance of having suspicious lesions reviewed by a general practitioner or dermatologist are recommended.

Background

Epidemiology of melanoma in New Zealand

2. In 2005 (the most recent year data were available), melanoma of the skin was the fourth most commonly registered cancer site in New Zealand (10.8 percent of all registrations), and the third most commonly registered site for

both males (11.5 percent) and females (10.2 percent) (Ministry of Health 2008). Melanoma of the skin was the seventh most common cause of cancer deaths in New Zealand with approximately 200 deaths per year. While melanoma is comparatively infrequent globally, it is an important contributor to the burden of cancer in New Zealand and Australia (Australian Cancer Network Melanoma Guidelines Revision Working Party 2008). In 1997 (the most recent year data were available), New Zealand and Australian cancer registries reporting to the International Agency for Research on Cancer all had melanoma incidence rates in males and females that were substantially higher than other agencies reporting from registries worldwide.

3. Screening for melanoma consists of examining asymptomatic people in order to classify them as likely or unlikely to have the disease. The prevalence of melanoma screening “opportunistically”, or outside a screening programme, in New Zealand is unknown.

Risk factors for melanoma

4. Major risk factors for melanoma include: increasing age, male sex, light skin/eye/hair colour, high counts of common or clinically atypical naevi, Caucasian ethnicity, immunosuppression, history of previous non-melanoma/melanoma skin cancer, family history of melanoma, skin response to sun exposure or low phototype (i.e. burns easily/never tans), or actinic skin damage. It is recommended that this set of risk factors be taken into consideration for clinical assessment of the future risk of melanoma (Australian Cancer Network Melanoma Guidelines Revision Working Party 2008). Furthermore, skin cancers are the most common malignant conditions in transplant recipients (Le Mire et al 2006, Euvrard et al 2003).
5. The use of risk assessment tools by clinicians for patients who present for other reasons is key to distinguishing between individuals who are at high-risk versus average-risk for melanoma. Once high-risk individuals are identified, it is suggested (but not established by research) that they be educated to recognise and document suspicious lesions, and be regularly checked by a clinician with a six-monthly full body examination supported by total body photography and dermoscopy (Grade C)ⁱ (Australian Cancer Network Melanoma Guidelines Revision Working Party (2008).
6. Best practice for reducing the risk of melanoma in New Zealand is believed to be prevention of excessive sun exposure and early detection. Reducing severe sunburn and diagnosing a greater proportion of melanomas when they are thin than when they are thick would have the greatest impact on the incidence of and mortality from melanoma.

Population-based melanoma screening vs. surveillance of high-risk individuals

7. There is no evidence that population-based screening for melanoma reduces mortality, therefore it is not recommended either nationally (Australian

ⁱ Where Grade C means that the “body of evidence provides some support for recommendation(s) but care should be taken in its application”.

Cancer Network Melanoma Guidelines Revision Working Party 2008; Cancer Society of New Zealand 2006) or internationally (Wolff, Tai, Miller 2008; Feightner 1994). A high standard of evidence is essential as screening is actively promoted to healthy populations and has the potential to cause harm (Welch, Woloshin, Schwartz 2005).

8. Some health authorities recommend clinical surveillance or monitoring of a defined group of high-risk individuals for new melanomas (Australian Cancer Network Melanoma Guidelines Revision Working Party 2008; Cancer Society of New Zealand 2006; Whitaker and Sinclair 2004; Feightner 1994), but similar to population screening, there is no evidence that this approach reduces mortality.
9. If it is implemented, melanoma surveillance may potentially impact the downstream utilisation of health care resources, including increasing diagnoses of and treatment for the disease. Additionally, predicted higher uptake by the “worried well” may redirect resources away from more urgent health services.

New technologies for diagnosing melanoma: Dermoscopy and ‘Mole mapping’

10. Dermoscopy is a technique which uses a magnifying device to allow visualisation of diagnostic features of pigmented skin lesions not seen by the naked eye. Evidence suggests that dermoscopy is more sensitive than eye examination for diagnosing melanoma.
11. Training and utilisation of dermoscopy for clinicians who routinely examine pigmented skin lesions is recommended (Grade A)ⁱⁱ (Australian Cancer Network Melanoma Guidelines Revision Working Party 2008).
12. ‘Mole mapping’ refers to a combination of technologies including: dermoscopy, total body photography, and digital serial monitoring which may be used for melanoma surveillance.
13. The use of dermoscopy or mole mapping to screen for melanoma, however, is not justified as there is no evidence that it reduces mortality.

Melanoma prevention

14. Informing high-risk individuals about sun protection measures concurrently with offering melanoma surveillance is recommended nationally (Cancer Society of New Zealand 2006). Avoiding sunburn and adopting sun protection behaviours during high ultra violet radiation (UVR) periods (September to March, especially between 11am and 4pm) is advised to reduce the risk of melanoma (Cancer Society of New Zealand 2008).
15. It is also recommended that high risk individuals may benefit from seeing their medical practitioner regularly for surveillance of new melanomas and for

ⁱⁱ Where Grade A means that the “body of evidence can be trusted to guide practice”.

education regarding self-screening (Australian Cancer Network Melanoma Guidelines Revision Working Party 2008).

16. It should be noted that any health promotion messages address both the risks (i.e. melanoma prevention) and the benefits (i.e. vitamin D sufficiency) of sun exposure. The main source of vitamin D in New Zealand is sun exposure to the skin.

17. It is recommended that primary care practitioners and dermatologists encourage early diagnosis of melanoma to their patients by raising their awareness of the importance of attending medical visits to address concerns over any suspicious skin lesions.

Recommendations

The National Screening Advisory Committee recommends that you:

a)	note melanoma incidence rates in both New Zealand and Australia are substantially higher than those from all other reporting registries worldwide	Yes / No
b)	note there is no evidence to support population-based screening for melanoma	Yes / No
c)	note in order to facilitate appropriate screening of high-risk individuals, development of a risk assessment tool is essential	Yes / No
d)	note offering dermoscopy to high-risk individuals for the purposes of diagnoses and surveillance of melanoma is supported	Yes / No
e)	note offering dermoscopy and/or 'mole mapping' to screen for melanoma in average-risk individuals is not supported	Yes / No
f)	note health promotion efforts that address both the risks (i.e melanoma prevention) and benefits (i.e. vitamin D sufficiency) of sun exposure should continue and	Yes / No
g)	note campaigns to encourage early diagnosis of melanoma by raising awareness of the importance of having suspicious lesions reviewed by a general practitioner or dermatologist are recommended.	Yes / No

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