

Commentary

Are We Overemphasizing Sun Avoidance in Protection from Melanoma?

David Wartman and Martin Weinstock

Rhode Island Hospital, VA Medical Center, and Brown University, Providence, Rhode Island

Abstract

The public health effect of melanoma in the United States is undeniable as ~60,000 diagnoses of invasive melanoma and 8,000 deaths from melanoma are expected in 2007. Due to the poor outcomes associated with treating advanced cases of melanoma, substantial public health resources have been devoted to prevention efforts. Of the various factors involved in the pathogenesis of melanoma, including genetic predisposition, immunosuppression, and UV radiation, decreasing UV exposure has attracted the most attention for decreasing the public health effect of melanoma. Although sun avoidance may be an important measure for reducing

the public health effect of melanocytic and keratinocytic malignancies, educational and media campaigns to encourage sun avoidance have failed to achieve the desired behavior changes in young people, have had limited effect on elderly patients who have already experienced decades of damaging sun exposure, and most importantly have failed to decrease the incidence of melanoma. We believe the best method to reduce deaths from melanoma is to emphasize early detection and treatment of suspicious lesions through combined efforts of both patients and providers. (Cancer Epidemiol Biomarkers Prev 2008;17(3):469–70)

The public health effect of melanoma is undeniable as ~60,000 diagnoses of invasive melanoma and 8,000 deaths from melanoma are expected in 2007 (1). Due to the poor outcomes associated with treating advanced cases of melanoma, substantial public health resources have been devoted to prevention efforts. Of the various factors involved in the pathogenesis of melanoma, including genetic predisposition, immunosuppression, and UV radiation, decreasing UV exposure has attracted the most attention for decreasing the public health effect of melanoma.

Although sun avoidance may be an important measure for reducing the public health effect of melanocytic and keratinocytic malignancies, educational and media campaigns to reduce sun exposure have failed to achieve the desired behavior changes in young people, have had limited effect on elderly patients who have already experienced decades of damaging sun exposure, and most importantly have failed to decrease the incidence of melanoma. In examining the recent trends in and attitudes toward sun exposure and sun protection in U.S. adolescents, Cokkinides et al. (2) found that between 1998 and 2004, despite widespread sun protection campaigns, there was only a small nonsignificant reduction in the high baseline sunburn frequency and at best modest changes in sun protection practices. Furthermore, a

recent analysis of the Behavioral Risk Factor Surveillance System has documented an increased prevalence of sunburns in the United States in adults (3). This does not suggest that we are about to see a major decrease in melanoma incidence. Even in places such as Australia, where primary prevention through sun avoidance has been widely embraced for many years, and sophisticated campaigns mounted, sunburn rates and melanoma incidence are still increasing (4). Furthermore, success in reducing UV exposure, were it to occur, is unlikely to have an effect on melanoma risk in the highest risk group, the elderly, for many decades. Finally, advocacy of sun avoidance in particular may have the potential to decrease outdoor activity and therefore have a negative effect on obesity prevention and on the many other health benefits associated with being physically active.

Melanoma incidence is increasing in young and old, but overall melanoma mortality is not climbing, and indeed it is declining among younger adults despite continued increases among the elderly (see Fig. 1). Because melanoma therapy has not become markedly more effective in recent decades, nor do efforts to reduce UV exposure seem to have had a substantial effect on melanoma incidence, which continues to increase even in younger age groups (see Fig. 2), it seems that early detection followed by excision of localized melanomas is the most likely explanation of the observed improved survival and stabilization of overall mortality. More than 80% of melanomas are now diagnosed at a localized stage, when the cure rate is high.

The two key facts are that melanomas that are diagnosed at a localized stage are amenable to effective treatment and that most melanomas are visible

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Requests for reprints: David Wartman, Department of Dermatology, Rhode Island Hospital, 593 Eddy Street, Providence, RI 02903. Phone: 978-758-8572.

E-mail: david.wartman@gmail.com, maw@brown.edu

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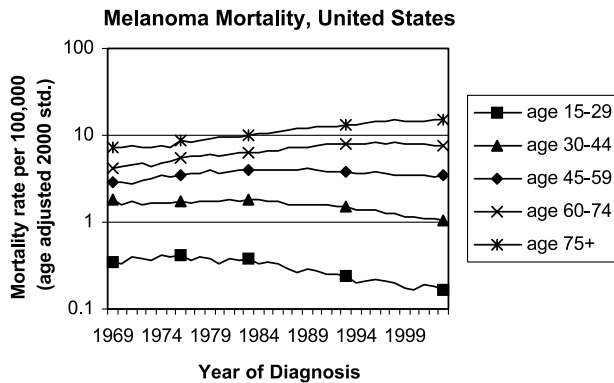


Figure 1. Melanoma mortality. Data were from the SEER database (11).

and hence at least in theory detectable at this early stage. Detecting early-stage melanomas and teaching physicians and patients to diagnose these lesions has the potential to have both an immediate and long-lasting effect on melanoma mortality (5). Early detection efforts are likely to be cost-effective as well (6).

We believe the best method to reduce deaths from melanoma is to "look" and "see" (7). This would mean patients (or their partners) and clinicians look at the skin regularly and thoroughly; few presently do so (8). Furthermore, it would mean patients and clinicians would be trained to see (recognize) when a warning sign for possible malignancy exists so they can appropriately deal with the suspect lesion. The existing evidence regarding early detection of melanoma is limited but suggestive of a potentially potent effect on mortality (9); we need to rigorously assess our efforts to qualify their effects, including possible negative consequences (10). Efforts at early detection seem to be responsible for most of our progress to date in melanoma, limited as it may be, and to have the potential to substantially reduce melanoma mortality in the future.

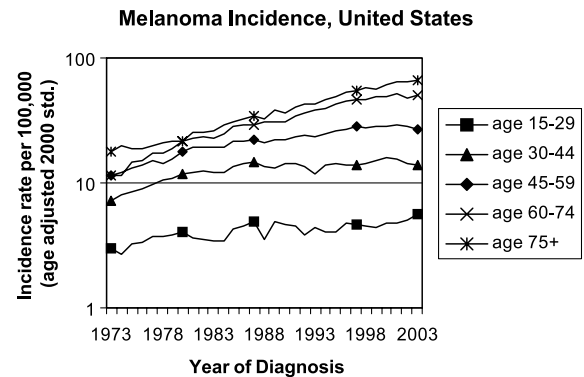


Figure 2. Melanoma incidence. Data were from the SEER database (11).

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