

## Perils of Youth

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For many years, we have been aware of an alarming increase in the overall incidence of melanoma in the United States. Most of this increase in the past few decades has been ascribed to the increase in older adults. In 1999, Hall et al<sup>1</sup> presented an update on the US incidence and mortality rates for melanoma. They noted that melanoma incidence and mortality rates increased dramatically from 1973 to 1994 by 120.5% (from 6.4 to 14.0 per 100,000) and 38.9% (from 1.8 to 2.5 per 100,000), respectively. However, they reported that from 1990 to 1994, mortality rates for most age-sex groups appeared to stabilize or even decrease.<sup>1</sup>

In an analysis of melanoma trends between 1973 and 1997 in the Surveillance, Epidemiology, and End Results (SEER) Program, Jemal et al<sup>2</sup> noted an increase among women born after 1960. Since this analysis was performed, an additional 7 years of SEER data have been collected. To better understand recent trends in melanoma incidence among young adults, Purdue et al<sup>3</sup> performed a reanalysis of SEER data extended through 2004. Their analysis was restricted to white individuals from 9 particular registries that had provided information to the SEER Program since 1973 (Atlanta, Georgia; Connecticut; Detroit, Michigan; Hawaii; Iowa; New Mexico; San Francisco-Oakland, California; Seattle, Washington; Utah). The authors calculated annual age-adjusted incidence and mortality rates of invasive cutaneous melanoma among males and females aged 15 to 39 years, standardized to the 2000 US population.<sup>3</sup>

The findings were certainly alarming. Overall, the age-adjusted annual incidence of melanoma among young males increased from 4.7 cases per 100,000 persons (95% confidence limits: 3.8, 5.7) in 1973 to 7.7 per 100,000 persons (95% confidence limits: 6.8, 8.7) in 2004.<sup>3</sup> Among females, age-adjusted annual incidence per 100,000 persons increased from 5.5 (95% confidence limits: 4.5, 6.6) in 1973 to 13.9 (95% confidence limits: 12.7, 15.2) in 2004. One of the overall trends found during the period of analysis was that melanoma incidence increased among young males and females during the 1970s. This pattern changed early in 1980. For males, melanoma incidence

leveled off between 1980 and 2004. For females, the rate of increase in incidence decreased from 1978 to 1987 and then stabilized from 1987 to 1992. After 1992, the incidence began increasing again. In addition, incidence of both thinner and thicker melanomas among females increased from the 1990s onward and was greater for regional and distant tumors compared with localized lesions. Finally, melanoma mortality rates for males and females decreased from 1981 to 2004.<sup>3</sup>

As noted by Purdue et al,<sup>3</sup> it is important to consider if these trends may reflect changes in data quality, diagnosis, or surveillance. They concluded that their findings are compatible with a real increase in incidence among young females, but they could not rule out the effects of changes in surveillance. Potential explanations for this increase in incidence include an increased prevalence of sunburn among American adults, increased overall natural UV radiation exposure, and increased tanning bed use (most prevalent among young women). The authors noted that additional studies are needed to clarify if the increasing trends for melanoma result from changes in UV radiation exposure in this population.<sup>3</sup>

This provocative study by Purdue et al<sup>3</sup> reinforces the message we communicate to our patients on a daily basis regarding sun exposure and tanning. In my practice, as in many of yours, young women often are the most recalcitrant to alter their sun exposure and tanning habits. With this new study, we now have a higher level of evidence to use to alter some of this behavior. If we can communicate this bad news of the increase in incidence of melanoma among young women to our patients in an effective manner, hopefully we will be able to contribute to a more positive outcome in future analyses.

## REFERENCES

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