Medical News & Perspectives

Melanoma Diagnoses Rise While Mortality Stays Fairly Flat, Raising Concerns About Overdiagnosis

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May happens to be Melanoma Awareness Month, but some skeptics believe many people are *too* aware of melanoma.

They're the people who want to be screened for melanoma—it's much simpler than a colonoscopy and doesn't necessarily require a physician's office visit—but have no risk factors for the disease. They have few moles, no history of sunburn, and no family members who've ever been diagnosed with melanoma.

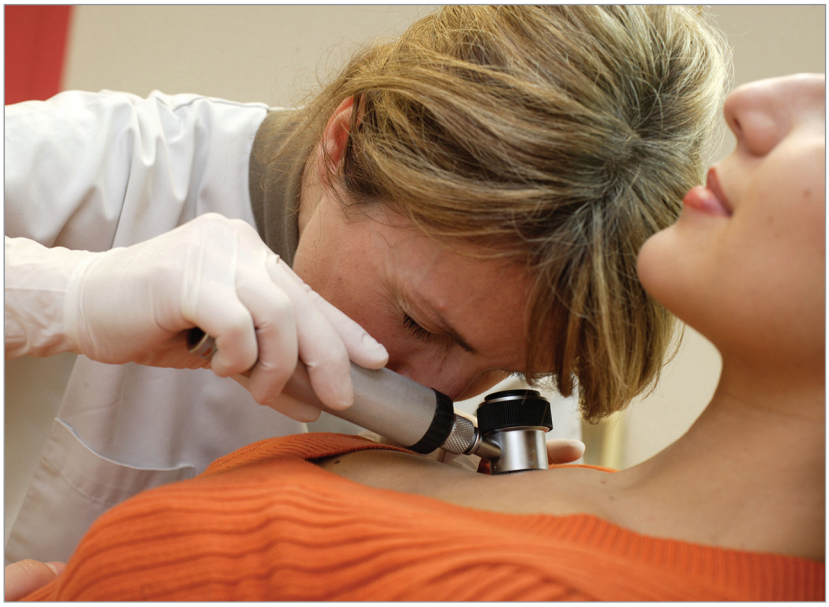
But if you go looking for melanomas, even among low-risk people, you're going to find some. The question is whether detecting those cancers does more harm than good.

"The consequences of cutting out a [melanoma] that's never going to kill you are minor," said medical epidemiologist David Whiteman, MD, PhD, of QIMR Berghofer Medical Research Institute in Herston, Queensland, Australia. "But even so, it's not zero. People do have psychological anxiety. They face insurance premium changes."

A Cochrane review published last summer concluded that there was insufficient evidence to assess the benefits and harms of screening adults in the general population for melanoma. The authors found only 2 studies that met their inclusion criteria, and neither had information about the effects of screening on total deaths, overdiagnosis from screening, or participants' quality of life—leaving unanswered the question of whether the harms of screening outweigh any possible benefits.

And a recent study estimated that in Australia, where skin cancer screening is widely available, more than half of melanoma cases are overdiagnosed, meaning that the cancers never would have caused harm if they'd been left undetected and untreated. Only thyroid cancers are more overdiagnosed than melanomas, according to the authors.

"Screening rests upon the assumption that we can find things early and intervene on them in such a way it will prevent somebody from dying," said dermatologist Ade Adamson, MD, MPP, who runs a melanoma and pigmented lesions clinic at the University of Texas at Austin Dell Medical School. But early intervention makes no difference as far as indolent tumors such as melanomas are concerned, said Adamson, a *JAMA Dermatology* editor who was not involved with the Australian study.



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Melanoma is the fifth most commonly diagnosed cancer in the United States, but it's not even in the top 10 when it comes to cancer deaths, according to the American Cancer Society. And, according to the National Cancer Institute's Surveillance, Epidemiology, and End Results Program (SEER), although the annual rate of melanoma diagnoses has risen nearly every year for more than 4 decades, the death rate has remained flat until it began to fall only a few years ago. The discordance between the rising incidence of melanoma and the relatively flat mortality rate represents an epidemiologic "signature" of overdiagnosis, Adamson said.

A Reservoir of Silent Disease

The question of whether the "melanoma epidemic" is due to increased surveillance, not an actual increase in prevalence, was raised nearly a quarter-century ago, in 1996, in the journal that's now called *JAMA Dermatology*. "Could this increase [in diagnoses] be in part a product of aggressive surveillance resulting in the identification of 'atypical' pigmented skin tumors of limited or nonexistent potential for malignant behavior?" the authors asked.

The answer to that question would be yes, Whiteman said. With the expansion of population-based screening programs around the world, "we're uncovering a reservoir of silent disease. It's always been there," said Whiteman, who was not involved in the recent Australian study about cancer overdiagnosis.

Compared with most other cancers, "the barriers to screening are quite low in skin cancer and melanoma," noted Whiteman, who leads the QSkin Study, which describes itself as the world's largest prospective study of skin cancer, with more than 45 000 participants.

In Australia, for example, skin cancer screening is widely available on street corners and town centers, he said. And in the United States, the free SPOT me Skin Cancer

Screening Program, launched in 1985, is the American Academy of Dermatology's oldest public health program.

"The greatest fear a doctor will have is missing a melanoma diagnosis," Whiteman said. "These are potentially fatal cancers, and they can be picked up."

SPOT On

The American Academy of Dermatology (AAD) is proud of its SPOT me program, which facilitates free skin cancer screening by dermatologists in their communities, and has no plans to scale it back, AAD Immediate Past President George Hruza, MD, MBA, said.

Over the years, SPOT me has conducted more than 2.7 million free skin cancer screenings and detected more than 31 700 suspected melanomas, said Hruza, a St Louis dermatologist.

"Some of these lesions may have gone undetected without the SPOT me program, which means these free screenings may have helped save patients' lives," he said. "This program is achieving its goal of diagnosing people with melanoma early." Invasive melanoma accounts for only about 1% of all skin cancer cases but virtually all skin cancer deaths, Hruza added.

He pointed to a 2018 study in the *Journal of the American Academy of Dermatology* that analyzed survey data from nearly 2 million people screened during SPOT me's first 30 years. In 2009 and 2010, the study found, about ¾ of those screened and ¾ of those who received a suspected diagnosis of melanoma were high risk: older than 65 years, family history of cancer, personal history of sunburns, and unusual moles or more than 50 moles. Only about a fifth of those screened had a regular dermatologist, and those diagnosed with a skin cancer were more likely to be uninsured that the general screening population, the survey found.

However, Adamson said, the more people are screened, the more biopsies will tap into that reservoir of silent melanoma—the cancers for which early detection won't affect outcomes.

One way to minimize that would be to target high-risk groups for melanoma screening, although no definition of "high risk" has been agreed upon, Whiteman said.

In 2018, he coauthored a study about risk stratification for melanoma, based on information collected upon enrollment from 41 954 QSkin participants, who were aged 40 to 69 years when recruited. After an average 3.4 years of follow-up, 655 (1.6%) of them had been diagnosed with melanoma—257 invasive and 398 in situ.

At baseline, Whiteman and his coauthors found, the strongest predictors of invasive melanoma were older age, male sex, inability to tan deeply, many moles at age 21, and a higher number of skin lesions that had been removed. The researchers noted that their analysis was limited by its relatively short follow-up, resulting in a small number of diagnoses of invasive melanoma, and its dependence on self-reported information about possible risk factors.

Overdiagnosis "is a problem, and it's real," Whiteman said, "but it's not a reason to abandon detection just yet."

Let Sleeping Skin Lesions Lie?

At present, it's difficult, if not impossible to distinguish indolent melanomas from lethal ones.

"Are the melanomas that are found in people who undergo more intense screening the ones that actually will kill people? We don't know," Adamson said.

However, clues to help identify the bad actors among in situ melanomas "is an area of intense research," Whiteman said.

Since physicians lack the ability to accurately predict which melanomas might turn deadly, and since removing them doesn't carry the risk of life-altering complications as seen with prostate cancer, excision remains the primary treatment for all cutaneous melanomas.

For now, the specter of melanoma overdiagnosis, inescapable with widespread screening, "doesn't actually change clinical care," Whiteman noted, acknowledging that "if I had something on my skin, I would have it taken off." ■

Note: Source references are available through embedded hyperlinks in the article text online.