Study Uncovers a Surprising Detail about Skin Cancer

UNM Cancer Center researcher and team find the number of primary tumors important to survival

FOR IMMEDIATE RELEASE:

July 11, 2013 — Albuquerque, NM (UNM Cancer Center) — We've heard the warning many times before: wear sunscreen or cover up before going out into the sun. It's an alert worth paying attention to; the American Cancer Society expects 460 new cases to be diagnosed in 2013 in New Mexico alone. Now Marianne Berwick, PhD, and her international team of melanoma researchers support these warnings with some interesting discoveries about skin cancer. Their findings confirmed that the chances of dying from skin cancer depend strongly upon how thick the primary tumor is. But — unexpectedly — the team also found that those having more than one primary tumor have better survival odds. The Journal of the American Medical Association Dermatology recently published their study on its online site.

"First, we wanted to know if people with a single primary tumor were more likely to die from melanoma than people with multiple primary tumors," says Dr. Berwick. "They're not. But, if you match the thickness of the tumor, people with multiple primary tumors survive better." Dr. Berwick is a University of New Mexico Distinguished Professor of Epidemiology at the UNM Cancer Center.

The team included researchers in Australia, Italy, Canada and elsewhere in the United States. For this study, they asked 3,578 participants, newly-diagnosed with skin cancer, to answer a lengthy set of questions about their personal history, family history and lifestyle. The team also fully analyzed tissue and DNA samples from each person to obtain information about how many tumors and what mutations each person had, how thick the tumors were, how actively each tumor was growing, and whether or not the tumor surface had broken. Because of the large number of people, Dr. Berwick and her team could draw meaningful relationships between tumor qualities and people's health.

"Usually, we try to match a person who's just been diagnosed with a healthy person from the general population," says Dr. Berwick. "But that's impossible to do anymore." She explains that to find healthy people to participate in a study, researchers used to randomly dial phone numbers. "Do you answer the phone?" Dr. Berwick asks with a sly grin. So, the researchers chose instead to look at how different aspects of skin cancer affect survival and made some compelling discoveries.

The team evaluated several different factors, including the age and sex of the person, where the skin cancer was on the body, and whether they had only one tumor or more than one tumor when initially diagnosed. Most of the factors weren't statistically significant. But if the tumor created an ulcer in the

inner layer of skin, called the dermis, or if the tissue sample analysis showed that the tumor was rapidly growing, surviving melanoma was a little less likely. The most significant factor was tumor thickness. People whose tumors had grown 4 millimeters or more into the dermis, were 7.7 times more likely to die than someone whose tumor had penetrated only 1 millimeter into their dermis.

The research team then compared tumor thickness with the number of tumors at initial diagnosis. They got a surprise. They found that for people with multiple primary tumors, those whose tumors were 4 millimeters or deeper were almost three times more likely to die than those whose tumors were only 1 millimeter. But for people who had a single primary tumor, those whose tumor was 4 millimeters or deeper were 13.6 times more likely to die than those whose single tumor was only 1 millimeter. “Many people would think the opposite,” says Dr. Berwick, “because they think having more tumors is worse. It seems that those people with multiple melanoma have some sort of native immune factor that’s helping them. It’s keeping the melanoma in check.”

To learn more about why people with single primary tumors die at a much higher rate, Dr. Berwick and her international team are planning more studies to search for important immune biomarkers and to analyze how sun exposure affects skin cancer survival, an area in which Dr. Berwick is particularly interested. They will also examine tumors in more detail. “You can’t tell by looking [at a tumor] how thick it is,” she says. Dr. Berwick strongly recommends visiting a dermatologist if a blemish looks amiss or if a mole is growing.

“It’s very exciting work,” she explains enthusiastically, “because there has been no cure for people who have deep melanomas. We’re just at that point where we can start to make a difference and that’s very motivating.”

Paper reference

“Survival for Patients With Single and Multiple Primary Melanomas” was published online on the June 19 at *JAMA Dermatology* (http://jamadermatology.com). Authors include Anne Kricker, PhD; Bruce K. Armstrong, MD, DPhil; Chris Goumas, MPH; Nancy E. Thomas, MD, PhD; Lynn From, MD, PhD; Klaus Busam, MD; Peter A. Kanetsky, PhD; Richard P. Gallagher, MA; Loraine D. Marrett, PhD; Pamela A. Groben, MD; Stephen B. Gruber, MD, PhD; Hoda Anton-Culver, PhD; Stefano Rosso, PhD; Terence Dwyer, MD, PhD; Marianne Berwick, PhD; for the GEM Study Group. See the paper for author affliations. Read the study at: http://archderm.jamanetwork.com/article.aspx?articleid=1698444.

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About the UNM Cancer Center

The UNM Cancer Center is the Official Cancer Center of New Mexico and the only National Cancer Institute-designated Cancer Center in the state. One of just 67 premier NCI-Designated Cancer Centers nationwide, the UNM Cancer Center is recognized for its scientific excellence, contributions to cancer research, the delivery of high quality, state of the art cancer diagnosis and treatment to all New Mexicans, and its community outreach programs statewide. Annual federal and private funding of over $72 million supports the UNM Cancer Center's research programs. The UNM Cancer Center treats more than 60 percent of the adults and virtually all of the children in New Mexico affected by cancer, from every county in the state. It is home to New Mexico's largest team of board-certified oncology physicians and research scientists, representing every cancer specialty and hailing from prestigious institutions such as M.D. Anderson Cancer Center, Johns Hopkins University, and the Mayo Clinic. Through its partnership with Memorial Medical Center in Las Cruces, the UNM Cancer Center brings world-class cancer care to the southern part of the state; its collaborative clinical programs in Santa Fe and Farmington serve northern New Mexico and it is developing new collaborative programs in Alamogordo and in Roswell/Carlsbad. The UNM Cancer Center also supports several community outreach programs to make cancer screening, diagnosis and treatment available to every New Mexican. Learn more at www.cancer.unm.edu.

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