UNMC Chancellor Jeffrey P. Gold, MD:

Hello, this is Dr. Jeff Gold, and I'm the chancellor of the University of Nebraska Medical Center. And I want to welcome you to “Health Care Heart to Heart,” providing insights into the medical and the scientific issues of the day. As you may know, I am a recovering cardiothoracic surgeon, a longtime medical educator and a firm believer in the ability of science to change lives for the better.

Dr. Ashley Wysong is the founding chair and the William Bruce, MD, Distinguished Chair of the University of Nebraska Medical Center Department of Dermatology. Dr. Wysong is a nationally recognized Mohs micrographic surgeon, and we're going to unpack that in just a few minutes, a translational skin cancer research scientist and a dedicated educator and mentor. She serves as the director of the skin cancer program at the Fred & Pamela Buffett Cancer Center. And today we're going to talk to her about some of the alarming trends -- underscore alarming trends -- about potentially deadly melanoma skin cancer. Dr. Wysong, thanks so much for joining us on this podcast. Before we get into talking about these trends, which I'm sure we will in just a minute, can you tell me and tell our audience, when was that magic moment that you decided you wanted to be a dermatologist? What drove you to that? And I know our audience is always interested in what makes people tick.

Dr. Wysong: Absolutely. Well, thank you so much, Dr. Gold, for having me on today, and I'm so excited to talk about all things skin cancer. And yes, I can absolutely think back to the magic moment when I decided to become a dermatologist. And I have a mentor to thank, which is one of the many reasons why I love to pay it forward every day to all of our students and trainees. I was at Duke Medical School and had spent two years in a research lab with Dr. Marion Couch doing a Howard Hughes Fellowship, studying cancer specifically, and what really causes cancers to grow and to metastasize. And, you know, as I started learning more and more about cancer, I knew that that was something that was going to be a part of me and for the rest of my career. And my mentor said to me, “I really think you should check out dermatology. You know, there are more skin cancers than all the other cancers, and you could really make a huge impact there.” And, and I'll tell you what, Dr. Gold, when I had an opportunity to rotate, I was shocked by how literally everything that happens inside the body manifests on the skin. And not only did I fall in love with skin cancer, but really, all of dermatology, and I'm very biased, but it's the best field in medicine.

Dr. Gold: Well, you clearly have made a difference, and you continue to make a huge difference. So let's get down to this publication that recently came out in the Journal of the American Academy of Dermatology, in which you reported that men, particularly men of color, are more likely to die from melanoma skin cancer than women are. There are many details, of course, in this, but for people that are listening to this podcast who may not even understand what melanoma is, why is this so significant? And most importantly, what do we need to do differently or learn from this groundbreaking research?

Dr. Wysong: So, we know from previous studies published in the literature that men in general are less likely to seek medical care than women. And when it comes to melanoma, the deadliest form of skin cancer, men tend to be diagnosed at later stages and have worse overall survival. So the purpose of our study was to really dive more deeply into the why and understand reasons that we're seeing lower overall survival rates for men diagnosed with melanoma. And I think it's important to note that our study was looking at overall survival, not melanoma-specific survival, which we can talk about more in detail. So, in multivariate analysis, so meaning when we looked at all the variables that could be contributing, we performed an analysis of all men diagnosed with melanoma from 2004 to 2018. And this was a large, population-based study that included 205,000 individuals.

To our knowledge, this is the largest study that's been done in melanoma with men. And so in multivariate analysis, when we looked at multiple different factors, the things that came out in terms of predicting the lowest overall survival for men with melanoma included age of greater than 70 years, advanced stage at diagnosis -- so if what they presented to their doctor or their dermatologist at late stages. Insurance status mattered, the melanoma subtype, and then the patient's race or ethnicity. And this is extremely important, because melanoma is highly curable when we catch it at an early stage. So 99.5% five-year overall survival when patients present to their doctor at early stage one or localized disease. And so that's why it's so important for us to understand those risk factors that might put patients at higher risk for not doing so well in the long run.

Dr. Gold: So, Ashley, there are many different types of skin cancer, of course. You've educated the community, you've educated me on the differences and similarities, but what makes melanoma so deadly? Is it its potential to spread? Is it local invasion? There's something different about it than the routine skin cancer that I'm sure your department sees in practice on a daily basis.

Dr. Wysong: That's right. And so, while I mentioned earlier, skin cancer is the number one cancer that we treat in the United States by far. We treat over 5 million skin cancers every year. We really treat around 100,000 melanomas -- so a very small percentage of the skin cancers we treat overall -- but we call it the deadliest skin cancer, because it has the highest potential to go outside of the skin to other parts of the body and to become life-threatening. Now, you know, we are still learning in the lab why specifically melanocytes, which is a very specific cell in the top layer of the skin, are more likely to hone to blood vessels, lymph channels, nerves that might take those cancer cells outside of the skin to the lymph nodes, to the brain, to the liver, and cause and become life-threatening. In general, melanoma has about a 7 to 10% risk of going outside of the skin to other parts of the body. And as it goes deeper into the skin, the longer it sits on the skin without being diagnosed, the more likely it is to get into lymph channels and go outside of the … outside of the skin and become life threatening. So we're still, we're still really learning why melanoma versus basal cell or squamous cell. So lots more to understand in the lab.

Dr. Gold: Well, and perhaps, part of that research, you turn it around 180 degrees, why doesn't a squamous or basal cell tend to do that? There may be some lessons learned as to some of the basic science that is intrinsic to those much more common skin cancers. So, you know, cutting to the chase. You talked about payer mix, you talked about age, but you talked about race and ethnicity as well. And let's unpack that a bit more, because that's a very important message for the community that's listening to this podcast. In that all men, but particularly certain elements of our racial and ethnic population, our older population and others, need to be particularly aware of this deadly skin cancers.

Dr. Wysong: So in our study, melanoma survival rates and overall survival rates, as we discussed, were highest for white men -- so 75% at five years overall survival. And the overall survival went down as we moved forward with American Indian/Alaskan natives at 69%, Asians at 68%, Hispanic men at 65% and black men at 52%. We know even prior to this study that persons of color tend to present with a later stage of diagnosis and in general are 1.5 times more likely to die from melanoma. And there are multiple reasons why this is the case. In our cohort specifically, black males were less likely to have private insurance, were more likely to have a lower income status than all other groups in the study. And importantly to these cancers show -- melanoma cancers show up in different locations and can have different subtypes that are more aggressive. And I think this is extremely important to understand. Now, overall in melanoma, the vast, vast, vast majority of melanomas are in Caucasian patients. However, we still see melanomas in Hispanics, Asians and Blacks. And these tumors, in our study and others, were found to be more likely in areas that are not sun exposed, in the extremities, to have subtypes that are more rare and can be more aggressive as well. So, there's multiple factors that are involved.

Dr. Gold: Because most skin cancer, as you and I have discussed in other venues, is sun exposure related. You know we've talked an awful lot about protective clothing, about sun blockers and other such things that are really important, particularly for our kiddos as they're out in the warmer weather. Regrettably, I sense the weather's beginning to cool down a bit here and that doesn't make it any less significant. But you're telling us something different, particularly for the black population.

Speaker 3: That's right. And so again, while skin cancer incidents overall is seen in -- 40% of Caucasians will develop skin cancer at some point within their lifetime. That rate is 5% in Hispanics, 4% in Asians and 2% in Blacks. So it's very rare overall. But to your point, I think it's important to understand what to look for. And so with melanoma, you know, we found that, in general, white and Indigenous men were more likely to develop it on the trunk location, whereas Black, Asian and Hispanic men were more likely to develop it on the lower extremities and specifically areas without sun exposure. So in our study, the most common subtype was acral lentigenous melanoma in Black individuals. And in general, we see higher rates of mucosal acral lentigenous, which means the palms and the soles, as well as subungual or nail melanomas, in persons of color.

And so these are not typical places that we think about for melanoma. And so it's just getting the word out and for people to be able to recognize that something that is not going away, that is pigmented or new on the hands, the feet, nails, what to look for, I

think is extremely important to get the word out, so we're not seeing patients at really advanced di stages of diagnosis. Now our group and many others are trying to look at what is actually causing melanomas in these non-sun-exposed areas, because the vast majority of melanomas in Caucasian patients are caused by ultraviolet radiation, the number-one risk factor for melanoma. But that is not the case for these subtypes on the hands, the feet, the nails. And we're just at the beginning stages at understanding of what types of mutations that are really driving these melanomas and what can help, prevent and ultimately treat these cancers.

Dr. Gold: So as our audience probably knows, you're not only a phenomenal clinician, but you're a great research scientist, as well. So, what's on the horizon? What's coming out of the research labs? Are there any, for instance, biomarkers being developed? You know, we do a lot of work here in pancreas cancer, and what we're looking for is the early detection biomarker signals, the ability to identify patients even before they would have an abnormal scan or even their first symptom, so that they could be treated at a time that we could take a disease and turn it into a cure. So what does the future for skin cancer look like, particularly for these highly aggressive melanomas?

Speaker 3: Yeah, it's an extremely exciting time to be a physician in medicine, and skin cancer is really on the cusp of major advances, and we've been over the last five to 10 years. You know, I think if I can sum it up in, in, in one term, it would be just precision medicine. You know, we are really starting to understand that there are unique factors about a patient, you know, genes they were born with, the conditions they have, and that can help predict what patients will do well versus what patients, you know, even telling them what medications we might use. Now, the tumors themselves, we are now looking at specific genetic mutations or groups of mutations that can put patients at higher risk of dying from their melanoma, versus saying, “You really could be cured with surgery alone.” And you're absolutely right, circulating tumor DNA is being looked at in melanoma and multiple other types of skin cancers. And we are very, very close to being able to take your specific melanoma tumor, sequence that tumor, understand exactly what's driving the growth of that, and then develop therapeutics, vaccines, you know, various types of things that can really target your specific tumor and give very high cures. There's never been a more exciting time to be in medicine and particularly in cancer. I think we are going to continue to see major advances to targeted therapies and outstanding outcomes across all of our different cancers, including melanoma and skin cancer.

Dr. Gold: That's fantastic. And by the way, led by individuals such as yourself. And to a very large extent, that's been the history, the trajectory, if you will, of the med center here, of looking for this innovative care for cancer, even going back to the very early days of bone marrow transplantation, when people started to think about how you could actually cure some of these leukemias and lymphomas, in that way and now applying that to so many different diagnoses. Well, let me thank you for being with us today and of course for all that you have done and, and continue to do. And we'll come back and we'll have a chance to talk about other skin cancers, but more importantly, what, if anything, our audience would need to know about this dreaded disease. If they wanted to find this paper, Dr. Wysong and read it themselves, where would they look for it?

Dr. Wysong: This paper is in the Journal of the American Academy of Dermatology and can be found online, or feel free to reach out to our team, we can send it to you as well. I'm very proud of the work that our team here at University of Nebraska Department of Dermatology has done around skin cancer and around highlighting disparities in care and really independent risk factors for these diseases. So please take a look at all the work we've been doing over the last 10 to 15 years. I think there's a lot to see, and always happy to come back and, and talk about skin cancer. Finally, if there's anything new, growing bleeding, not healing on the skin, please reach out to our teams here at UNMC/Nebraska Medicine or your local primary care physician or board-certified dermatologist.

Dr. Gold: Thank you. Have a great day.

Dr. Wysong: Thank you Dr. Gold.

Dr. Gold: Thank you for tuning into this episode of “Health Care Heart to Heart” with Dr. Jeff Gold. And until next time, stay healthy.