

Dr. Michael Girardi, Skin Cancer Awareness May 16, 2010 Welcome to Yale Cancer Center Answers with Dr. Ed Chu and Dr. Francine Foss, I am Bruce Barber. Dr. Chu is Deputy Director and Chief of Medical Oncology at Yale Cancer Center and Dr. Foss is a Professor of Medical Oncology and Dermatology specializing in the treatment of lymphomas. If you would like to join the conversation, you can contact the doctors directly. The address is canceranswers@yale.edu and the phone number is 1888-234-4YCC. This evening Francine welcomes Dr. Michael Girardi. Dr. Girardi is an associate professor of dermatology and associate clinical director of the immunology and immunotherapy research programs at Yale Cancer Center. Here is Francine Foss. Foss Michael, we are here today to talk about non-melanotic skin cancers. Overall there are two different types of skin cancer, melanoma and non-melanotic. What are these non-melanotic skin cancers? Girardi Non-melanoma skin cancer is kind of a catch-all term for all the other skin cancers, among the most common of which are basal cell carcinoma and squamous cell carcinoma. These are the most common cancers in the world, and therefore, they become a particular problem and concern for patients particularly at risk, and the time is quite good to think about these and talk about these as we head into the spring months. Foss Exactly, and I know that you are going to tell our audience that we all need to start breaking out our sunscreen now. Girardi We do, we certainly need to think about it. The data is indisputable in terms of sun exposure and tanning salon exposure as being among the most and biggest risk factors for non-melanoma skin cancer. Foss So Michael, reiterating what you just said, that these cancers are the most common cancers, what is the lifetime risk of say the average person in the United States to get one of these types of cancers? Girardi When we talk about skin cancer in general, and we talk about risk and how common they are it's in the group of melanoma. We talk about over a lifetime of about 1 in 70, and this actually seems to be increasing. Foss That sounds like a really high number. Girardi Yes, it's quite high and when we talk about non-melanoma skin cancer we are talking about two or three times greater for non-melanoma skin cancers than melanoma itself. 2:34 into mp3 file <http://yalecancercenter.org/podcast/may1610-cancer-answers-girardi.mp3> Foss Can you talk a little bit about risk factors? Sun seems to be the biggest risk factor. Girardi Sun exposure, and there is certainly a fair amount of consideration for someone's genetics, and so it's again a combination of what type of genes they have that could predispose them so we often ask patients about their first-degree relatives, that is parents, siblings, or children and whether there is a family history of skin cancer in these patients. We will ask about basal cell carcinoma, squamous cell carcinoma, as well as melanoma itself in the family. Patients who have a family history of skin cancer are at a far greater risk than people who do not, so clearly there are genes that predispose patients to skin cancer, and genes that protect people from skin cancer. When we talk about risk factors we have to look at a patient's skin type and that is how fair they are. In particular, among the fairest are those with red hair who freckle a lot, these people are at the greatest risk of getting non-melanoma skin cancer as well as melanoma itself. We also

talk about their lifestyle. What kind of lifestyle do they have that would give them that kind of sun exposure? In particular, in Connecticut, we will think about tennis players and golfers on one hand, we will think about farmers, and people who spend most of their time at work outside as also being at great risk for this. It runs the gamut of all different types of people and their sun exposure. We have to strongly consider the beach lovers, the sun worshipers and also sailors in particular are another group in Connecticut that are at great risk for a lot of sun exposure over years that will predispose them to skin cancer.

Foss Can you talk about sun exposure in general? Is there a risk for younger people who have had sun exposure say for 10-15 years or so, or is the risk more for people who have had exposure over a longer period of time?

Girardi The answer is both, and here is how I would break it out. I think photo protection has to be on the minds of parents even with their newborn babies, and the data shows that even single blistering sunburn substantially increases the risk of a person's chance of getting melanoma over their lifetime. So a burn that causes blisters in childhood actually increases that person's risk of melanoma for their entire life. Melanoma seems to be more of a concern for single or multiple episodes of blistering sunburn, so this intense hit, even when you are young, whereas non-melanoma skin cancer seems to be more of a concern with regards to chronic sun exposure, so people who have been repeatedly exposed to the sun or tanning salons for that matter.

Foss When we talk about sun exposure, how long and how much sun?

6:02 into mp3 file <http://yalecancercenter.org/podcast/may1610-cancer-answers-girardi.mp3>

Girardi That varies tremendously and it varies tremendously because people's susceptibility varies tremendously from the fairness of their skin and as we talked about, the genetics of their protection. So for the most part, you want to completely avoid getting to a point where you are going to get sunburns, in particular getting a blistering sunburn, so people need to determine, based on their skin type and on their family history, how much sun exposure that really is. There is actually one particular downside to too little sun exposure, and you will hear an argument for sun exposure for vitamin D levels, and in fact vitamin D is particularly important for the immune system and functions of the immune system, so patients who are at risk for skin cancer who are protecting themselves also need to make sure that they are having adequate intake of vitamin D, or have their level checked by a primary care physician. So to answer your question, it's almost like saying how much smoking is too much, but we can't avoid sun exposure completely because there is a downside to that.

Foss Basically if you are the type of person who can go out there and not in an hour develop any kind of sunburn at all, are you okay to go outside without sunscreen?

Girardi No, I would not say that. I would say that you still need to wear sunscreen and minimize your exposure.

Foss Okay.

Girardi The kind of guidelines you want to follow is when you can, you want to avoid most of the mid-day sun because these are the direct rays most likely to cause damage to the skin cells and we have expanded that over the years as we have seen the data come in to being from 10 a.m. to 4 p.m. So not just around noon and not just 1 p.m., so it's quite a window. Now

of course nobody can avoid sun exposure or being outside all the time during those hours. But when we need to be outside then we need to protect our skin and we can do that with sunblock, which is my preferred term as opposed to suntan lotion or suntan oil, and really you want SPF of at least 15. I tell my patients at risk to actually go to at least 30 with the SPF. I prefer the physical blockers which contain zinc oxide or titanium dioxide as the protector, but people can protect themselves by also wearing clothing and they actually make tight weave clothing under different brands that are particularly good at blocking the rays of the sun, and so in these ways we can still enjoy life, we can still get out there and still be protected from most of the damaging rays of the sun.

9:12 into mp3 file <http://yalecancercenter.org/podcast/may1610-cancer-answers-girardi.mp3>

Foss When we are going out and conducting our normal daily activities, not specifically sunbathing, but say on your weekend when you do all your errands and you are in and out of the house all the time, do we need to worry about that level of sun exposure, do we need to wear sunscreen all the time?

Girardi This is somewhat debatable. I think that over many years that little bit of sun exposure everyday will take its toll, in particular for patients who are at risk, and so they make some very nice daily moisturizers now that are appropriate for application to the face, the hands, and the arms that will contain SPF of 15 and I think that can serve as your daily maintenance in protecting yourself from the sun.

Foss In terms of thinking about these kinds of cancer, we hear a lot about melanoma, but we don't really hear a lot about these non-melanotic skin cancers. Can you talk a little bit about what the different types are?

Girardi Well the primary reason we don't hear as much about them and the reason melanoma gets most of the hype is that melanoma is the deadliest of the skin cancers, and it's one of the biggest causes of death in young people, so it does get its deserved share of concern in that regard, but non-melanoma skin cancers are, as I said earlier, are more common and fortunately not as deadly as melanoma. The most common type is basal cell carcinoma, and basal cell carcinoma arises predominantly in sun exposed areas. It can be quite benign looking at first, more like a pink little bump; sometimes it has a translucent or pearly quality to it. Other times it's very fragile, so the slightest little rub, the slightest little scratch will lead to an area of bleeding or a scab that seems to not heal, and whenever a patient sees this kind of change they need to bring it to the attention of their primary care physician, and hopefully to a dermatologist who can do a shave biopsy, a very, very simple procedure to have it examined for basal cell carcinoma. Basal cell carcinoma is not the type of skin cancer that can really travel in the body, and so if you are going to get cancer that's one to get, but on the other hand it can be quite invasive, it can go deep into the skin and that could be a particular concern when it occurs in anatomical areas where surgery can become a problem such as on the face, near an eye, a nose, or lip, and so it still has concerns for treatment and we want to catch them early so that we can minimize the surgery. The other major type of non-melanoma skin cancer is squamous cell carcinoma and squamous cell carcinoma often looks very different than basal cell carcinoma. It often arises as a hard little bump as opposed to

the basal cell carcinoma, which is usually soft, and this hard little bump can become painful and that's a sign that it's actually become invasive. Because squamous cell carcinoma, unlike basal cell carcinoma,12:37 into mp3 file <http://yalecancercenter.org/podcast/may1610-cancer-answers-girardi.mp3> does have a small chance of travelling in the body or metastasizing in particular if it's in certain areas such as on a lip, ear, or other areas on the face, we also want to catch that early and get rid of that early through surgery.Foss Mike, are there a lot of folks out there who have these small tumors like these basal cell cancer and don't even know about them?Girardi Yes, because they can often look fairly benign early, patients will often ignore them and this can become a problem. Now, a lot of times the basal cell carcinoma can sit there for years and grow very slowly as most of them do, but other times they can grow fairly rapidly and become invasive, so bring it to the attention of your doctor and have it dealt with and then the patient can move on from there.Foss A strong message for everybody out there who is a sun worshipper. We are going to take a short break now for medical minute, please stay tuned to learn more information about non-melanotic skin cancer with Dr. Michael Girardi.Foss Welcome back to Yale Cancer Center Answers. This is Dr. Francine Foss, and I am joined by my guest Dr. Michael Girardi Associate Professor of Dermatology and Associate Clinical Director of the Immunology and Immunotherapy Research Program at Yale Cancer Center. We are here today discussing non-melanotic skin cancers. Mike, we talked before the15:09 into mp3 file <http://yalecancercenter.org/podcast/may1610-cancer-answers-girardi.mp3>break about the fact that there are a lot of folks out there who probably have these non-melanotic skin cancers and don't even realize it yet. If somebody has a suspicious lesion, something that they are worried about, what would they do next?Girardi They would bring it to the attention of their primary care physician and my bias is that they should insist that it be seen by a dermatologist, a specialist in the care of patient's skin so that it can be appropriately examined and a determination made as to whether it would be appropriate to do a biopsy on a lesion. People hear the word biopsy and I think there is hesitation there, but really a skin biopsy is a very simple procedure. The skin is easily accessible and often it's just a small piece, 2 mm or 3 mm piece of the area in question needs to be sampled and it does not need to be sampled deep, so skin biopsy is the definitive way to determine whether a particular lesion on the skin is a skin cancer or not and this is done by a dermatologist and it's quite a simple procedure.Foss I can say that I have actually been to your office and you have done that procedure on me and just to let the audience know, I had no idea that Dr. Girardi did a procedure. We were talking and then he said we are done, and so clearly it is a painless procedure. In addition, you mentioned the issue of shaving, when do you do a biopsy, and when do you do a shave?Girardi A shave is actually a type of biopsy. It is probably the simplest type of biopsy. It is done with a razor that basically takes a sliver of the skin off. We also do another type of biopsy called the punch, and that's the more common one that will give us a little more information about the deeper area. We have to determine whether

most of what we are looking at is in a superficial part of the skin or whether there could be a component that is deeper. For melanoma, we will often do a punch to make sure that no part of it's gone deep. In squamous cell carcinoma we will sometimes do a punch to examine the deeper portion. Foss We also hear about the use of liquid nitrogen to burn these tumors off, when do you do that? Girardi Well, liquid nitrogen is a dermatologists and sun damaged patient's best friend in several ways. It's most commonly used to freeze off the precancerous lesion that can precede squamous cell carcinoma and these are called actinic keratosis, and these arrive again in sun damaged areas as gritty little bumps and you can sometimes feel better than you can see. Not all of these will go on to become squamous cell carcinoma. Somewhere in the 18:11 into mp3 file <http://yalecancercenter.org/podcast/may1610-cancer-answers-girardi.mp3> range of one in 50 to one in 100 will actually go on to, but this is the easiest way to nip it in the bud and that is to freeze it with liquid nitrogen and we use a spray canister that keeps it under a high pressure and produces a very tight fine spray with precision to be able to destroy one by one these actinic precancerous keratosis. Foss This is also something that most people wouldn't even know that they had unless they came to see a dermatologist. Girardi Yes, I think that there is some education that needs to go on from the primary care physician or dermatologist as to what to look for with actinic keratosis because again if we can freeze these off early or treat them with a cream, which is another way we can treat these sun damaged areas with a fair number of actinic keratosis, then we can do a lot to prevent future surgeries, future development of basal cell and squamous cell carcinoma and protection, therefore, against the slight chance that one of the squamous cell carcinomas could travel in the body. Foss Going back to the whole issue of who should be screened, can you talk a little bit about what populations of patients need to have preventive screening? Girardi Anyone with lesions in question need to be screened whether they have seen a new lesion that there is some concern about in terms of some of the signs and symptoms I talked about earlier, but if a primary care physician sees a lesion in question they will refer it to a dermatologist so that the patient can be examined with the full body skin exam to look for that. Patients who are at genetic risk with a family history, again if they have a family history of melanoma in a primary relative, that patient really needs a full body skin examination by a dermatologist on a yearly basis. Foss Starting at what age? Girardi At any age, children even with a history of melanoma need to be screened, in particular, if they have a large number of nevi or moles. Foss So once the diagnosis is made, and you have mentioned that it's made by a biopsy of the skin lesion, what happens after that? Girardi Then a treatment plan needs to be put in place, an appropriate treatment plan. If it's on what we call the truncular or extremities skin, that is the back, the abdomen, the chest, or the arms or legs then these can usually be 21:01 into mp3 file <http://yalecancercenter.org/podcast/may1610-cancer-answers-girardi.mp3> treated by simple excision within the office of a dermatologist or by destruction, the most common form being electrodesiccation and curettage which means an electrical destruction as well as a scraping by curettage. If

there is any concern about adjacent areas such as we see with skin cancers on the face, then often the patient is sent for a special procedure called Mohs, micrographic surgery, and that's done by a specialist who will take the patient and they will do a very tight excision without a lot of normal skin being taken off and they will examine that tissue right there in the office while the patient waits to see if the lesion is completely removed. Any positive margins at that time will be dealt with at that same time, so that patient will be brought back into the room and a little bit more skin at that one edge that might still have some skin cancer left will be subsequently removed in another stage. This procedure will minimize the amount of normal tissue that needs to be taken out and also ensure that the lesion is completely excised, so it has a dual purpose in that regard and it has become a major benefit to patients with skin cancer particularly on the face. Foss And again, only certain patients require that kind of procedure. Girardi Correct, and that determination is made by the dermatologist as well as the Mohs surgeon who will see the patient first in what we call a Mohs consultation. Foss Mike, can you talk about how frequently these tumors recur after they are excised? Girardi That depends on a lot of factors. That depends on how it was treated, what the anatomical location was, and what the primary skin cancer type was. For melanoma, we often take a fairly wide excision, meaning a 1-cm rim of normal tissue, for basal cell and squamous cell carcinoma we will often do that also except when we are near an anatomical location where we have to try to minimize the removal of the normal tissue, and then we go to Mohs surgery. In general, for lesions treated in the office by simple excision or electrodesiccation and curettage, we see a 95% cure rate. Now that means over the years we might see recurrence, but that can easily be treated itself. Foss Do these patients ever require CT scans or PET scans, or other imaging studies? Girardi That's rare, certainly in basal cell carcinoma there is not any real concern for metastasis there. For squamous cell carcinoma in particular areas, could be a concern, as I said earlier on the lips, on the ears, and we see a small 24:22 into mp3 file <http://yalecancercenter.org/podcast/may1610-cancer-answers-girardi.mp3> percentage of patients who can develop spread to lymph nodes with squamous cell carcinoma. Whenever there is an enlarged lymph node in these types of patients, then it is appropriate to do some of this screening with a CAT scan or PET CT scan to ensure that it has not travelled in the body. Foss Mike, is there any role for radiation therapy in patients with these invasive squamous tumors? Girardi Actually yes, radiation therapy has been a big help for patients where you cannot completely excise some of these lesions because they have gone too deep or where patients really cannot tolerate surgery for one reason or another. Radiation treatments can be done in a therapeutic radiology center such as Yale Cancer Center and really be a help to these kinds of patients. Foss We talk a lot about multidisciplinary approaches to cancer and you mentioned the Mohs surgery and use of radiation therapy. Is there a multidisciplinary center here at Yale Cancer Center to address these invasive skin cancers? Girardi Yes, we talked about the role of the therapeutic radiologist, the Mohs surgeon, and the dermatologist, so we also have to talk

about the role of the oncologist. When these cancers get out of the box, when they metastasize to a lymph node or to elsewhere in the body, the oncologist is really the person who is going to be driving the boat as to what therapy is going to minimize the amount of damage to the patient, and this can be in the form of chemotherapy, but also some of the newer agents that are more selective targets of these types of cancers.

Foss Can you elaborate on what some of those new treatments might be, the EGF receptor for instance, we hear about that with squamous tumors. Is that appropriate for skin cancer?

Girardi Yes, so as I was mentioning these are some of the newer targeting agents that will actually target some of the receptors that are positive on the cancers and the EGF receptor, for example, is positive on some of the squamous cell carcinomas that can metastasize, and so this can be a very helpful treatment that's really come to the forefront over the last couple of years for these patients who develop metastatic squamous cell carcinoma.

Foss I know that you have done a lot of research in your lab looking at the effect of the immune system on the development of cancer. Can you talk a little bit about what are you doing?

Girardi My laboratory at Yale focuses on some of the earliest events in skin cancer, and that starts from what happens to damaged cells. How are they handled by immune cells within the skin and immune cells that can come to the skin from the blood? We look at the various types of immune cells using genetically modified animal models to see how they handle their response to damaged skin cells, how they eliminate them and in some cases how they actually facilitate their growth. It is a double edged sword, the role of the immune system in skin cancer, and that's a major focus of where we try to look at the potential targets for prevention and for treatment.

Foss In the future hopefully you will be developing some immunotherapy approaches for these patients with skin cancer.

Girardi I will keep trying.

Foss Excellent. Michael, it has been a pleasure to have you here tonight to talk to us about non-melanotic skin cancer. This has been a terrific show and I think all of us are going to leave this show knowing that we need to use our sunscreen. Until next week, this is Dr. Francine Foss from Yale Cancer Center wishing you a safe and healthy week. If you have questions or would like to share your comments, visit yalecancercenter.org where you can also subscribe to our podcast and find written transcripts of past programs. I am Bruce Barber and you are listening to the WNPR Health Forum on the Connecticut Public Broadcasting Network.