

Yale CANCER
CENTER

answers

WNPR Connecticut Public Radio



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Treatment Update on Breast

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Yale Cancer Center Answers

is a weekly broadcast on

WNPR Connecticut Public Radio

Sunday Evenings at 6:00 PM

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I am Bruce Barber and this is Yale Cancer Center Answers with Drs. Ed Chu and Ken Miller. Dr. Chu is Deputy Director and Chief of Medical Oncology at Yale Cancer Center and an internationally known expert on colorectal cancer. Dr. Miller is a medical oncologist and the Director of the Connecticut Challenge Survivorship Clinic. Ken specializes in pain and palliative care. If you would like to submit a question about cancer, please email us at canceranswers@yale.edu or call 1-888-234-4YCC. If you are interested in listening to past editions of Yale Cancer Center Answers each segment is posted on the Yale Cancer website at www.yalecancercenter.org. This evening Ed and Ken discuss breast cancer with Dr. Lyndsay Harris, Associate Professor of Medical Oncology and Director of the Yale Cancer Center Breast Cancer Program.

- Miller Lyndsay, let's start with a pretty basic question. How common is breast cancer in women, and also in men?
- Harris Breast cancer is a very common disease in women. Of all cancers that are diagnosed in women one in three will be breast cancer. It turns out that if you live to the age of 80, one out of eight women will be stricken by breast cancer. Breast cancer in men is about 10 times less common than it is in women.
- Chu In terms of breast cancer in relation to other cancers in women, where does it rank?
- Harris Breast cancer is the second most common cancer in women and is the second most common cause of cancer deaths compared to lung cancer.
- Miller A question that I have heard women ask many times has to do with the frequency of breast cancer. We are now talking about one in eight women; years ago it was one in 12. Is breast cancer becoming more common or are we finding it more?
- Harris What is pretty clear is that the incidence of breast cancer does continue to increase, although lately there seems to be a bit of a plateau; whether that is due to screening or not is a little less clear. The good news is that the breast cancer mortality rate has not increased, in fact, overall breast cancer mortality, or the risk of dying from breast cancer, has decreased over the last 10 years.
- Chu Lyndsay, what are some of the common risk factors for breast cancer?
- Harris Even though we hear a lot about genetic risk, it turns out that the risk of having a strong family history for breast cancer is actually uncommon. Probably only 10% of all breast cancers are strongly genetic. The others are mostly hormonal risk factors which include estrogen replacement therapy, your menses starting early in life, your menstrual periods ending later in life and other hormonal risk factors appear to be most strongly associated with breast cancer.

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- Miller Common questions that women ask their doctors are: Is it the hair dye I used? Is it my cell phone or my diet? Is it something in the environment? What are your thoughts on this?
- Harris There are obviously a lot of concerns about what environmental risk factors predispose a woman to breast cancer. The epidemiologists have looked very hard for various exposures that might increase your risk. The good news is that after careful study there is no definitive evidence that any of the pesticides or toxins, deodorants, hair dyes or any of these are risk factors for breast cancer.
- Chu You mentioned that genetics play a relatively minor role, but it is still important for our listeners to be aware of. There is a linkage between breast cancer and ovarian cancer and perhaps other cancers as well correct.
- Harris That's exactly right Ed. It turns out that about one in ten women with breast cancer have a gene predisposition for breast cancer. In that case the risk of her developing another breast cancer, and the risk of her family being predisposed, is much higher. So while it is less common, it is very important to know whether the genes that predispose women to breast cancer are present.
- Chu What specifically is the gene or genes that predispose women to breast cancer?
- Harris There are several genes that have been discovered to be associated with breast cancer risk. The ones that we know the most about are the BRCA1 and the BRCA2 genes. There are other genes that are much less common, such as p53 a gene for Cowden syndrome, which do predispose women to breast cancer. But the ones we most frequently test for are the BRCA1 and BRCA2.
- Miller Let's focus for a minute on the issue of screening. Obviously this is a very common disease, so what are your recommendations for optimal screening for women in general; what age and what tests?
- Harris There is some controversy about this but I think the general consensus in the field is that a woman should start screening with mammograms at the age 40. It is always worthwhile to have a baseline between the ages of 35 and 40 to establish the architecture, and this should always be done using mammography. There is a lot of controversy about which test is the best to do but we all believe that mammography is the gold standard.
- Chu So mammography is better than say MRI, which I know a lot of people are doing out there in the community.
- Harris There is no doubt that the best screening tool for breast cancer is mammography.

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There are newer techniques such as digital mammography that may be particularly helpful in young women, or women with dense breasts, but there is absolutely no evidence that screening with MRI is of value except in very special circumstances.

Miller Lyndsay, do your recommendations change at all if in fact there is a very strong family history of breast cancer and say the family history starts with breast cancer in an individual aged 40 or 45?

Harris Absolutely, and that would be one of the special circumstances. Women who have one of the BRCA genes that I mentioned or with a very strong compelling family history would potentially be recommended to have screening MRIs. However, it is still a discussion that needs to occur with the woman's surgeon and their primary provider as to the pros and cons of screening with MRI.

Chu Is there anything that a woman can look for herself before actually going to the screening mammography that might tip her off that something is suspicious?

Harris Every woman after the age of puberty, when the breasts develop, should learn to do a breast self-exam. A breast self-exam is best done a week or so after the menses when the breast is less active. She should learn the architecture of her breast and repeat that exam at least once a month. There are other features that she can watch out for that could potentially be of concern; a new lump in the breast, new dimpling of the skin, a change in the nipple going from out to in and potentially changes in the skin.

Miller We have an email from a woman named Marsha saying that she has a strong family history of breast cancer. She points out that she has been tested for the genes and was negative. With that being said, what are some strategies to reduce her risk? You can't change her family or her genes but what can you do?

Harris In terms of reducing mortality from breast cancer, we know that screening is the tried and true modality to reduce the risk of dying from breast cancer. We also know that understanding the architecture of your breast and doing self-breast exams has not convincingly been shown to reduce mortality, but 10% of breast cancers are not detected by mammography so it is very sensible to do breast exams. It is also important to have your primary care provider or your surgeon do breast exams once every six months or so.

Miller What role does tamoxifen have or the new drug Raloxifene?

Harris There are certain things that a woman who is at very high risk can do to reduce her chance of developing a breast cancer. There are lifestyle alterations that have been considered and there is recent evidence that reducing fat in the diet, and

more importantly increasing exercise, may reduce the risk of developing breast cancer. There are also drugs that are available for women at high risk; these include tamoxifen and Raloxifene. These are drugs that block the estrogen from feeding any cancer cells that might be developing.

- Chu I have been asked by a number of folks out there, are there any other dietary interventions or nutritional supplements that people might be able to take that could help reduce the risk of developing breast cancer.
- Harris It turns out that there is no specific dietary intervention that has been proven to reduce the risk of breast cancer. There are conflicting studies in the literature. We believe that eating a healthy diet with fruits and vegetables, reducing fat in the diet to a reasonable level and regular exercise are important components, but there is no single drug or single supplement that is going to convincingly reduce the risk of breast cancer. It is really a lifestyle change.
- Chu What role do alcohol and tobacco play in breast cancer?
- Harris It turns out that there is an association between the use of alcohol, greater than two drinks per day, with a risk of developing breast cancer. It has not been tested further where we have reduced alcohol and seen the difference, but it is sensible and I think prudent to maintain alcohol at a moderate level, or abstain, to reduce the risk of breast cancer.
- Miller We would like to remind you to email your questions to yalecanceranswers@yale.edu. We are going to take a short break for a medical minute. Please stay tuned to learn more information about breast cancer with Dr. Lyndsay Harris from the Yale Cancer Center.

Medical Minute

Over two million men in the US are currently living with prostate cancer. One in six American men will develop prostate cancer in the course of his lifetime. Major advances in the detection and treatment of prostate cancer have dramatically decreased the number of men who die from this disease. Screening for prostate cancer can be performed quickly and easily in a physician's office using two simple tests, a physical exam and a blood test. With screening, early detection, and a healthy life style, prostate cancer can be defeated. Clinical trials are currently underway at federally designated comprehensive cancer centers like the one at Yale to test innovative new treatments for prostate cancer. The patients enrolled in these trials are given access to experimental medicines not yet approved by the Food and Drug Administration.

This has been a medical minute. More information is available at www.yalecancercenter.org.

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- Miller Welcome back to Yale Cancer Answers. This is Dr. Ken Miller and I am here with my co-host Dr. Ed Chu and Dr. Lyndsay Harris discussing the latest treatment options for women with breast cancer. Lyndsay, what can we do for women who have been diagnosed with early breast cancer?
- Harris Well, the approach for a woman with early breast cancer is a multidisciplinary approach. We work very closely with a team of surgeons, radiation oncologists, medical oncologists, social workers, nurses and supportive care, to give a woman optimal treatment for her cancer. Specifically, the treatment involves surgery for the breast cancer itself and there are several options depending on the situation. It may involve radiation or medication to reduce the risk of the cancer coming back again.
- Miller When you face a woman who has had surgery for breast cancer, what issues do you think about when trying to make the decision of whether to give chemotherapy or some type of other medication after surgery?
- Harris The key issue is what the breast cancer looks like when it is removed and the various features that tell us what the best treatment to offer is. We also take into account the age of the woman, her menopausal status and other features of her family history.
- Chu But in general after surgery would you usually recommend some form of what is called adjuvant therapy?
- Harris Correct. It turns out that we are offering treatment more and more even before surgery to shrink the cancer down and allow the surgeon to better remove the cancer at the time of surgery. So chemotherapy and hormonal therapy are both considered before surgery in this day and age.
- Miller I have heard you talk a lot about breast cancers that we call triple negative, what does that mean?
- Harris Triple negative has actually become a common term. It tells us that the breast cancer does not express the estrogen receptor, progesterone receptor, or the HER2 receptor. The reason that is important is twofold. First of all, the therapies that target those receptors are not going to be useful for that patient, and secondly that type of breast cancer appears to be somewhat more aggressive but is also more sensitive to chemotherapy. So there are important reasons for knowing about this type of breast cancer.
- Chu You have also said that this triple negative breast cancer may be seen more in African-American women, and perhaps some other minority populations.

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- Harris That's absolutely right. There is very convincing evidence now that triple negative breast cancers, another term is basal breast cancers, are more common in African-American women. There is even more recent evidence that shows it may be more common in some Hispanic populations.
- Miller Lyndsay, can you tell us a little bit about your research. A lot of what I have read has been, in a sense, on profiling cancers. What have you learned and how is that translating into treatment?
- Harris We have made great strides over the last 10-15 years. People have been looking at tumor markers to try and identify which features of the tumor tell us the best therapy for the patient. This is a form of personalized or tailored medicine that I think the entire community is moving toward. The goal is to define which features of the breast cancer, either the HER2 receptor or some of the other features that we have talked about, give us an indication of what therapy will most likely benefit that particular patient.
- Chu As part of your research you have been actively involved in the exciting field of targeted therapy, and in many ways breast cancer can be the poster child for targeted therapy. Can you explain this a little bit for our listeners out there?
- Harris We have been using targeted therapy in breast cancer for many years in the form of tamoxifen. We know very clearly that when tumors express the estrogen receptor, the patients who take tamoxifen have a dramatic reduction in the risk of having the cancer come back. If we take that to the next level with a HER2 receptor, we now know that the targeted therapy Herceptin can reduce the chance of dying of breast cancer by 50%; but it only applies to women whose tumors overexpress HER2. It is very specific for those women who have that kind of breast cancer.
- Miller What does tamoxifen actually do?
- Harris Tamoxifen binds to the estrogen receptor and prevents estrogen from binding in its place. It essentially blocks the estrogen signal which stimulates the breast cancer cells to grow. In the case of Herceptin, it similarly blocks the HER2 receptor from signaling or activating growth of the cells. They work in a similar way but on completely different receptor systems.
- Chu What's nice is that we have tests, pretty simple diagnostic tests, to tell whether or not a woman's breast tumor in fact expresses the estrogen, progesterone receptor or the HER2 receptor.
- Harris That's right.

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- Miller What clinical trials are available for women who are diagnosed with breast cancer and are looking for newer more advanced therapies?
- Harris There are a number of clinical trials available in the community through Yale. In fact, we are looking not only at standard therapies, but newer therapies that we think will benefit women with different molecular features to their tumor. For example, for women with HER2 overexpressing breast cancer we have a combination of Herceptin and the novel agent Abraxane which we think will potentially be tolerated better, and certainly will be potentially more active than the current treatment regimens.
- Chu Will this be used preoperatively or will this be used after surgery?
- Harris This particular combination is used preoperatively, before the tumor is removed, in an attempt to shrink it down and also to see if the drugs are working for that particular patient. It is valuable to use them before the surgery so that you can tell within that particular woman's case if she is in fact responding to the treatment.
- Chu As I understand you are also doing some clinical trials looking at therapies that target the process of angiogenesis.
- Harris That's right. We have a number of people in our group, and Gina Chung is really leading this effort, that are using the blood vessel blocking drug bevacizumab, also known as Avastin, in women with early stage breast cancer. In many ways this is an ideal medication for women with triple negative breast cancer because we know that those tumors are more aggressive and probably more angiogenic. These combinations either combine bevacizumab with hormonal therapy or combine it with new chemotherapies in women who don't have either estrogen or HER2 receptors.
- Miller Lyndsay, you have been working with breast cancer for a number of years, how have things changed in terms of the outlook for a woman coming to you now as opposed to 8 or 10 years ago?
- Harris I have to say it has been a very exciting time to be in medical oncology. Over the last 15 years we have seen the advent of new targeted therapies, we have seen an improvement in breast cancer survival of nearly 30% and I personally, in my career, have seen these novel therapies dramatically reduce the risk of recurrence and death from breast cancer.
- Chu What we hear at meetings is that breast cancer is being treated and approached as a chronic disease now.
- Harris That's absolutely right.

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- Chu This is a nice way to think of it as opposed to receiving a diagnosis of cancer and thinking that things are not very hopeful.
- Harris Nowadays, not only do we know that we can cure in excess of 80% of women who are diagnosed with breast cancer, but even women with advanced breast cancer can live many, many years with this illness. Also, our new therapies are able to maintain a high level of quality of life.
- Miller Lyndsay, we had an email asking us about oncotyping which reminds me of how we were just talking about profiling tumors. Can you tell us what oncotyping is? Why would you use this test and how might it help?
- Harris The oncoType DX test is an example of a gene profile that can help us determine which treatment is best for a patient. We use this particular test in women who have estrogen-positive tumors, tumors that are on the smaller side of the spectrum, and it helps us decide whether a woman is likely to benefit from hormonal therapy alone or whether she is more likely to need chemotherapy to reduce her risk of recurrence.
- Miller So it's a tool in a sense like a roadmap for you in terms of making some decisions.
- Harris That's exactly right. It is the way that we can help personalize the therapy for an individual patient by offering a test that helps to determine her personal benefit from a particular therapy.
- Miller On a more personal note of the experience of breast cancer for women, what is the most difficult part of the experience that you have seen for women who have just been diagnosed?
- Harris When women are diagnosed with breast cancer they are often in the prime of their life and it's a very frightening diagnosis. I think that one of the most difficult pieces is getting used to the idea that you have to focus on treating the cancer in the optimal way. It often interrupts their entire life and family. It has a lot of implications and is very, very stressful. The good news is that breast cancer is a highly curable condition that we have many options of therapy for. Women can be comforted by the fact that with a multidisciplinary approach to care, her chance of cure is very high.
- Miller Can you tell us about the tumor board meetings, which I attend. They tend to be very exciting and I would like people to hear about it.
- Harris The tumor board meetings are where we use our multidisciplinary approach. We have a large group of doctors and nurses and other personnel involved in thinking about a woman's individual case and what her best treatment is.

Chu So the patient comes in and leaves with the opinion of the whole group.

Harris Exactly.

Chu Just terrific.

Miller Lyndsay, I want to thank you for sharing some really state-of-the-art information on breast cancer.

Harris My pleasure.

Chu Until next week this is Dr. Ed Chu and Dr. Ken Miller from the Yale Cancer Center wishing you a safe and healthy week.

If you have questions, comments or would like to subscribe to our Podcast, go to www.yalecancercenter.org where you also find past broadcasts in written form. Next week on Yale Cancer Center Answers, we examine lung cancer. I am Bruce Barber.