

Yale CANCER
CENTER

answers

WNPR Connecticut Public Radio



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Understanding Prostate Cancer

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Prostate and Urologic Cancers
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Yale Cancer Center Answers

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Welcome to Yale Cancer Center Answers with Drs. Ed Chu and Francine Foss, I am Bruce Barber. Dr. Chu is Deputy Director and Chief of Medical Oncology at Yale Cancer Center and he is an internationally recognized expert on colorectal cancer. Dr. Foss is a Professor of Medical Oncology and Dermatology and she is an expert 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. Kevin Kelly. Dr. Kelly is Associate Professor of Oncology at Yale Cancer Center and he is also Co-Director of the Prostate and Urologic Cancers Program.

Foss Prostate cancer is a common type of cancer, and in fact, as I understand, many men in the United States will eventually have this before they die.

Kelly That's correct, it's the most common malignancy we find in males and we know that when men reach the age of 75 or 80, 75% will have prostate cancer. It's a very-very common disease, but the problem with prostate cancer is it's a very heterogenous disease. There are a good proportion of these patients that will be diagnosed, have prostate cancer, but never need treatment for the disease itself.

Foss I understand that now we are diagnosing patients earlier because we are using testing and screening, could we start by talking about screening?

Kelly Absolutely, this is a huge controversy right now. I first have to talk about what we mean when we say screening. Screening means that we take a large population and look at a test to see if we can actually diagnose either a malignancy or some other abnormality in that population, and you really have to differentiate between early detection in a population. This is particularly relevant in prostate cancer because it is such a heterogenous disease, and recently there has been a lot of media publicity about PSA screening, which is how we actually look for prostate cancer. Remember that PSA is a blood test we do and we know that typically as the cancer grows, the PSA can be elevated or abnormal, but even in young patients, a very small elevation in PSA can be abnormal. Conversely, in older patients, they can have an elevated PSA without having the diagnosis of prostate cancer. You really have to differentiate between screening the general population versus another term that we call early detection. Early detection is just looking at those patients that are at the highest risk for having prostate cancer, and we are now looking for prostate cancer in that population with either a digital rectal exam or a blood test such as a PSA.

Foss Kevin, how do we know who those high-risk patients are?

Kelly Great question, because we do know a lot about who gets prostate cancer. We know that age

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is one of the most significant variables to predict prostate cancer, but those who are at the highest risk for developing prostate cancer are those who have a family history of it. So, if your father had a prostate cancer, you are at a high risk, and also African Americans are at very high risk for prostate cancer. Those are the patients that we should really focus on to make sure we have early detection for prostate cancer.

Foss Can we back up and talk a little about the average age of a patient with prostate cancer and how young a patient have you seen with prostate cancer?

Kelly Prostate cancer has a huge variability. The average age is anywhere between 65 to 75 years old, but I see patients in their 30s with prostate cancer and patients over 100 with prostate cancer, so it's a huge range.

Foss We talk a lot about genetic testing on this program, can you tell us a little bit about whether there are specific genetic syndromes that are associated with prostate cancer?

Kelly There has not been one identified genetic syndrome for prostate cancer. We have looked at different genes and we know there are some patients that are carriers of either what we call BRCA1 or BRCA2 that are at extremely high risk for prostate cancer. Approximately 50% of patients who carry this gene, which is typically found in breast cancer, may also develop a prostate cancer. We are learning more and more about different genetic abnormalities in prostate cancer and in the near future we will have better testing to look at the genetic population and who is going to be at risk for prostate cancer.

Foss For the average 65-year-old male who goes in for regular check-ups, what kind of tests are going to be done for that patient to detect prostate cancer?

Kelly It starts off with knowing your patient and following the patient for a long time. Of course you always want to ask the patient if they have any local symptoms from difficulty urinating to hesitancy of the urine flow, and I still recommend patients get a digital rectal exam to see if there is anything further that is abnormal on the digital rectal exam that's a concern. There has also been an in-depth history taken, such as, do they have a family history of prostate cancer? Then subsequently, the physicians need to talk to the patient based on the risk factors and their clinical symptoms and findings whether or not PSA testing is appropriate for them. If it is, they need to understand the risk and benefits of getting the PSA and what that could mean if they do have an abnormal PSA, and whether they would go for further workup for incident biopsy or treatment.

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Foss A lot of men have a condition called benign prostatic hypertrophy, which can have some of the same symptoms as prostate cancer, can you talk a little bit about that, and also talk about the PSA, whether its elevated in BPH?

Kelly It's very common as men grow older to have an enlarged prostate gland and it is not cancerous, but it is just an enlargement of the tissue in the prostate gland itself. Again, the PSA can go up with this and the patient can have significant urinary symptoms from an enlargement of the prostate gland without prostate cancer.

Foss Should all men who are told that they have BPH, have a PSA drawn?

Kelly Not necessarily, and I think it goes back to looking at the family history, what kind of symptoms you have, and following these patients longitudinally and knowing what their prostate gland feels like to see if there are any abnormalities. We really rely on the primary care physicians to look at this and take an overall picture of what's going on with the patient and really discuss the risk and benefits of doing a PSA in these patients.

Foss You talked also about the digital prostate exam, at what age should a man start getting that and how often does that actually detect prostate cancer?

Kelly Well, you know, that's a great question. I think that depending on your risk factors, so if you are African American, or have a family history, The American Cancer Society does recommend doing a digital rectal exam yearly on those patients. In a normal population, typically without risk factors, age 50 is typically when we start the digital rectal exams.

Foss We also hear about ultrasounds that are used to detect these tumors as well, can you talk about when those might be employed?

Kelly Typically it is if you have a suggestion that there may be cancer in the prostate gland, either a nodule is palpated or the PSA is elevated, we often do an ultrasound of the prostate with the biopsy to diagnose prostate cancer.

Foss We are talking about a lot of different things now. We are talking about PSA, we are talking about digital exam, we are talking about ultrasound, and you told us that PSA can be falsely elevated. It's really confusing for patients, can you just focus a little bit on the PSA and tell us what does that mean and how do we use that to detect prostate cancer, is it specific and sensitive?

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- Kelly We are also confused. It's not always a straight clear picture and there are a couple of facts we know about PSA. One, as we grow older, our PSA goes up. Two, not all prostate cancers make PSA equally, what do I mean by that? You can have what we call well-differentiated cancers that secrete a lot of PSA, but at times you can have a very aggressive prostate cancer that secretes very little PSA. I think that what we are finding out more and more now, is not necessarily the absolute value of PSA is what is important, but the changes of PSA over time may be more of an indicator of whether or not there is prostate cancer. A lot of people are moving towards just getting baseline PSAs and subsequently looking at the change over several years. If we see that the PSA is changing dramatically or quickly over several years, then it is probably more indicated that something else is going on in the prostate. We are moving away from just absolute PSA values dictating whether or not you have prostate cancer, but looking at what we called PSA dynamics.
- Foss So the PSA by itself is not diagnostic of prostate cancer. How do you actually make the diagnosis in a patient?
- Kelly That is correct, I mean PSA does not diagnose prostate cancer, you actually have to get a piece of the tissue to diagnose prostate cancer.
- Foss And how is that often times done?
- Kelly That's done by an ultrasound, by what we call a transrectal ultrasound biopsy. This is done by the urologist typically in the office and they can actually visualize the prostate gland and sometimes under local anesthesia they do a biopsy of the prostate.
- Foss Once you have found out that you have prostate cancer, what is the next step?
- Kelly Once you have prostate cancer, you have to understand whether the prostate cancer is localized to the prostate gland or has spread outside the prostate gland. Typically, depending on the initial PSA, from what we find on the biopsy and on physical exam, or what we call a digital rectal exam, we can actually determine if you have a low, intermediate, or high risk, or whether or not the cancer has spread.
- Foss And how is that done?
- Kelly We have what we call nomograms where we can place the numbers and physical findings into these programs, which are based on thousands and thousands of patients treated before

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and determine your outcome. We also augment this with either x-rays, such as a CAT scan or MRI scans, or often a bone scan, which looks for any abnormalities in the bone.

Foss Can you tell us whether PET scanning plays a role in the staging of prostate cancer?

Kelly PET scan has not played a role in prostate cancer, the reason for is that this is a typically very slow growing tumor, and in slow growing tumors PET scans typically do not work very well. In addition, it is because how PET scans are done, it does not visualize the pelvis very well.

Foss We usually think about cancer as either being localized or metastatic. Can you tell us, with prostate cancer, what percentage of patients have localized disease and what percentage have metastatic?

Kelly This has been a dramatic stage shift over the last two to three decades. With the introduction of PSA, we have seen more and more patients with earlier disease, which means more and more patients have localized disease to the prostate. Approximately around 80% of patients currently have what we call localized disease.

Foss If you compare that to say 20 years ago, before we were doing the kind of screening we are doing now and picking up these early cases, what percentage of men had localized disease?

Kelly Between 50% to 60% of patients had localized disease.

Foss So early detection really is helping us to pick up patients that could potentially be cured?

Kelly Yes it is.

Foss Thanks for that introduction to prostate cancer Kevin, I would like to talk a little bit more about treatment when we come back from the break. This is Dr. Francine Foss, and you are listening to a discussion about prostate cancer with Dr. Kevin Kelly.

*Medical
Minute*

Over 170,000 Americans will be diagnosed with lung cancer this year and more than 85% of these diagnoses are related to smoking. The important thing to understand is that quitting, even after decades of use, can significantly reduce your risk of developing lung cancer. Now everyday patients with lung cancer are surviving thanks to increased access to advanced therapies and specialized care and new treatment options are giving lung survivors new

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hope. Clinical trials are currently underway at federally designated comprehensive cancer center like the one at Yale to test innovative new treatments for lung cancer and patients enrolled in these trials are given access to medicines not yet approved by the Food and Drug Administration. This has been a medical minute and you will find more information at yalecancercenter.org. You are listening to the WNPR Health Forum from Connecticut Public Radio.

Foss Welcome back to Yale Cancer Center Answers. This is Dr. Francine Foss and I am joined by Dr. Kevin Kelly, co-director of the Yale Cancer Center Prostate and Urologic Cancers Program. Kevin, we talked a lot in the beginning of the show about the diagnosis of prostate cancer. Now, we have a patient who has prostate cancer, can you talk a little bit about the treatment options?

Kelly When a patient is initially diagnosed with prostate cancer, you want to know if the cancer is localized to the prostate cancer or outside the prostate gland itself. If we focus on those patients who have the cancer within the prostate gland, there are three major treatment options you have; one is called active surveillance, two is the surgical approach called prostatectomy that's either robotic prostatectomy or radical prostatectomy, and three is external radiation therapy, which can be what we call external beam radiotherapy, or brachytherapy, seed implants.

Foss How do we decide which one of those options is appropriate for each individual patient?

Kelly That's sometimes very difficult because there is a lot of personal opinion about that and feelings about which procedure a patient wants. If we start off with active surveillance, this is an option for patients who are typically a little older and have what we call indolent disease. Indolent diseases are those diseases that in their lifetime probably won't progress and they will not die from the cancer, and this can be a fair proportion of patients, and typically these patients have what we call low Gleason scores, or less aggressive tumors on the biopsy. They typically have a small amount of cancer when they do the needle biopsies and those patients can be what we call watchful waiting, or active surveillance. That means we are not going to forget about their cancer, but we periodically do either digital rectal exams, we do PSAs occasionally, and often we will repeat the biopsy in the future at some point in time. But there are tumors that are not indolent, or in the patient's lifetime, particularly we look at a ten year span, will progress and eventually patients will either have symptoms or die from the cancer, and those patients need treatment. Radical prostatectomy

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has been the gold standard for many-many years and that's a surgical operation where they remove the prostate. More recently, newer techniques have been used such as a robotic prostatectomy, which is using robotic arms to help the surgeon remove the prostate, again outcomes and complications from that can include impotency or decreased erections in males and also urinary incontinence. The third option is the radiation therapy option, and there are really two what I call flavors from that. One is what we call external beam radiation therapy where they aim a beam of radiation therapy to the prostate, and this typically is a confined beam of radiation therapy, which conforms around the prostate in order to decrease any of the side effects to the rectum or to the bladder. Additionally, there is another form of radiation they use which puts small radioactive seeds within the prostate that release over time, which can also be beneficial to patients.

Foss So these kinds of approaches for patients with disease limited to the prostate, are they curative?

Kelly Yes they are, in 80% of the cases with confined disease they can actually be cured from their cancer.

Foss And a lot of men worry when they hear prostate cancer and treatment for prostate cancer, they worry about sexual dysfunction, could you tell us a little bit about this, you have mentioned it already, but for men even with early stage cancer that don't undergo this radical surgery, do they have sexual dysfunction associated with prostate cancer?

Kelly Absolutely, that's one of the major risk factors for the treatment of prostate cancer and that's one of the reasons why many men opt for active surveillance. But you know, this is one of the risk factors for either surgery or radiation therapy. When we look at erectile dysfunction, we really need to treat that upfront and after surgery or radiation therapy and try to be proactive with it and try to improve the overall quality of life for the patients. There are methods that can be done to help these men either starting before surgery or radiation therapy through the treatment and after treatment.

Foss That touches on another point, which is the multimodality approach that we take to many cancers, can you talk about multimodality care of patients with prostate cancer?

Kelly Prostate cancer is really a multimodality treatment. It involves the surgeon, the medical oncologist, radiation oncologist, nutritionists are important here, and also people who deal

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with urinary incontinence and erectile dysfunction. It really needs to be a team approach when you approach these patients to know about what to offer these patients and send them to the specialist who can help them through the treatment.

Foss Can we focus now on the patient who isn't so lucky to have localized disease, and has metastatic disease? I understand that we often times use hormones and chemotherapy on these patients.

Kelly Yes, prostate cancer is what we call a hormonal driven tumor. The male hormone testosterone is very important for the growth of the prostate and prostate cancer. By lowering the male hormone testosterone, you can actually control the growth of the prostate cancer and we have medications that can lower the male hormone testosterone, which can control the cancer. Unfortunately, it does not cure the cancer, but can control it. There are side effects associated with hormonal therapy. These include erectile dysfunction, hot flashes that patients may get because of the change in hormones, increased weight gain, and also they can develop what we call metabolic syndromes, which are changes in cholesterol. It can change some of the cardiovascular risk factors that a patient may have so he needs to be followed by his internist. Most of these can be well controlled by diet and weight control and watching the cholesterol, and there is another side effect that happens with hormonal therapy which includes bone loss or what we call osteopenia or osteoporosis. Most patients should be started on calcium and vitamin D if they are on hormonal therapy.

Foss Kevin, you are a national leader in the treatment of prostate cancer, you have been involved in a number of national clinical trials and you are considered to be one of the major thought leaders in this area, can you focus a little bit on research and where you think we need to be going with prostate cancer?

Kelly Well, we have to do a better job. At this time we have to do a better job of treating localized disease. We have to have less morbid procedures, we have to think outside of the box, but areas where we have to develop are better surgical techniques that are less morbid for patients in localized disease. But in patients who have more advanced disease, we have to find better drugs for prostate cancer. We have to not only use chemotherapy at the appropriate times, but we have to develop other drugs besides chemotherapy that attack the critical pathways which require the prostate cancer cells to grow, and actually many of these new drugs are in clinical development right now and there are dozens of drugs that are now coming down the pipeline that are targeting prostate cancer. We have multiple trials, and

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we have trials starting from patients with localized disease all the way to the very end of prostate cancer, and we are very involved in finding new drugs to treat patients with more advanced prostate cancer.

Foss We talk about targeted therapies in other diseases and personalized medicine, have we gotten to that point yet with prostate cancer? Have we looked at personalized medicine, i.e., individual genes that a specific patient has to dictate therapy?

Kelly Yeah, we have always been the first to do personalized medicine in targeted therapy because hormone therapies are really our first targeted therapy that has been developed, but yes, we do have new genes that are been found that are causing the progression of disease. I think in the next five to ten years we will be able to better diagnose the patient based on blood tests and his pathology to really personalize the treatment for prostate cancer.

Foss Are there support groups or sources of information for patients who have prostate cancer?

Kelly There are multiple support groups both locally and nationally that help the patient and we are going to have a symposium on October 3, 2009, for the public, and this will go over some of the treatments of prostate cancer and allow patients to ask us questions about prostate cancer and I hope people will attend that.

Foss The other issue with prostate cancer is that since it is one of the most common diseases in the United State as far as cancer goes, people often times forget about clinical trials. Since you are leading some of the large clinical trials conducted by the NCI, could you put in a plug for entry onto clinical trials?

Kelly Until we cure cancer in general, I think that everybody should consider clinical trials; that's the only way we are going to make any progress in defeating cancer. One of the big initiatives that we are trying here at Yale Cancer Center is not only to develop trials here, but then get them out in the community so that we can have accesses to new drug for patients out in the community, and as we go through this health care debate right now its really access to care, access to new drugs is one of the essential issues, and we need to make sure that our patients out in the community have the same access that everybody else does.

Foss You talked about higher risk for the African-American population, are there any special initiatives in that area?

Kelly There are increased screening programs in that area, but the one thing that we have to do is

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increase the awareness in the African-American population, and here at Yale Cancer Center and groups around the country, have made initiatives going out and talking to the African-American community to make sure the high-risk patients are screened, to make sure they understand the risk and benefits of PSA screening and make sure those patients who are diagnosed with prostate cancer get into the system.

Foss Can we talk a little bit about survivorship issues with prostate cancer? There are lots of men out there who have prostate cancer right now, so another important point is living with prostate cancer, can you talk a little bit about that and tell us about any resources that might be available?

Kelly This is a very important issue that's not discussed often, but prostate cancer can be a very slow indolent disease and patients can live 10, 15, 20 years with prostate cancer and during that time period they deal with lots of issues from incontinency problems and impotency problems to fatigue associated with the therapies. It's very important that they are attached to supportive groups or programs that can help them deal with some of these issues.

Foss Thank you very much Kevin. This has been a really informative program about prostate cancer. You have been listening to Yale Cancer Center Answers and I would like to thank my guest Dr. Kevin Kelly for joining me in this evening. From Yale Cancer Center, this is Dr. Francine Foss wishing you a safe and healthy week.

Yale Cancer Center is presenting a symposium on prostate cancer for patients and their families, this Saturday, October 3, 2009, at 9 a.m. For more information, you can call 1888-700-6543 or you can visit yalecancercenter.org. I am Bruce Barber and you are listening to the WNPR Health Forum from Connecticut Public Radio.