Urologic Health and Advances in Urologic Cancers

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Welcome to Yale Cancer Answers with doctors Anees Chagpar and Steven Gore. I am Bruce Barber. Yale Cancer Answers features the latest information on cancer care by welcoming oncologists and specialists who are on the forefront of the battle to fight cancer. This week it is a conversation about urologic cancers with Dr. Josep Brito. Dr. Brito is an Assistant Professor of Urology at Yale School of Medicine, and Dr. Gore is a Professor of Internal Medicine and Hematology at Yale and Director of Hematologic Malignancies at Smilow Cancer Hospital.

Gore   Joe, thanks for joining me tonight.

Brito   Thank you so much for having me.

Gore   Urologic cancers, there is a prostate gland, I guess there is a bladder.

Brito   The most common that most men know about is prostate cancer, and bladder cancer as well. We also take care of patients with kidney cancer, which is very common and then some of the less common ones, things like testicular cancer, which I know you did a show on recently and then cancers of the urethra and even cancers of things like the penis and scrotum. So, it is wide ranging.

Gore   Gotcha. And do you do only male urologic cancers?

Brito   We do not. We take care of females with kidney cancer, bladder cancer as well, cancers of the ureters as well. But by the numbers, because of the prostate gland, it ends up being a lot of men.

Gore   So, when you train to be a urologic oncologist, do you become a urologist first?

Brito   Yes. You do a residency in urology. Usually that is one year of general surgery and then 4 or 5 years of urologic specialty training, and then generally speaking, you do a fellowship, so that is anywhere from 1-3 years of fellowship training afterwards.

Gore   Specifically in cancer?

Brito   Right, in oncology of urologic cancer types.

Gore   Although I assume that in your urologic residency, you are doing a lot of this care?

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Brito: You are, absolutely. We see a lot and there are many surgical procedures that we end up getting involved in even early on in our training, things like removing a testicle for testicular cancer is a pretty basic operation.

Gore: I hate it when you talk about it.

Brito: Sorry, I will not bring up this subject.

Gore: So, did you go into urology because you were interested in urologic cancer?

Brito: I actually did some research in Boston at Dana Farber for a couple of years before going to medical school and that was in basic science surrounding prostate cancer and I got interested in that at that time. Urologists tend to be early adopters of technology. So, some of the gadgetry that we use in urology is interesting.

Gore: Robots?

Brito: Robots, lasers, scopes, kind of sounds like a sci-fi movie, but we use all those things to take care of urologic cancers as well.

Gore: Were you one of those robotic geeky kids, did you like do those robot competitions?

Brito: I do not know if I would call myself geeky, but probably, yeah.

Gore: Did you belong to the robot club?

Brito: I did not. There was not any robot club where I was at least, but I probably would have joined if there was one.

Gore: So, you like the robots?

Brito: I do, yeah. Robotic surgery has been around for almost 20 years now believe it or not. We still think of it, and I think a lot of people think of it, as a new technology, and in a lot of ways, it is and it has certainly advanced since it started, but we have been using the robot in urologic surgery for almost 20 years now. And urologists were some of the first to use a robot for mostly prostatectomy to begin with and it has become the gold standard for management of prostate cancer that is surgically treated now.

Gore: And prostatectomy is taking out the prostate right?

Brito: Correct, removal of the prostate.

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Gore I know that is a complicated surgery.

Brito It is complicated. There are multiple steps to it, but it has gotten a lot more standardized and many urologists are capable of doing that even outside the major academic centers now. We started to use the robot for some other surgeries more commonly as well. We use robotic surgery for kidney tumors now, whether removing the whole kidney or just a tumor off the kidney, which is called a partial nephrectomy. So, it has become more widely adopted even outside the prostate surgery world.

Gore And if you are using a robot to take out all or part of the kidney, are patients having regular large kidney removal incisions or is it done laparoscopically?

Brito The reason we try to use it for most patients is because it saves them one of those large incisions.

Gore I see. So, it is more like laparoscopy?

Brito Correct. If you have ever seen someone who had an open kidney surgery, they tend to have a big shark bite type incision. And that is a big recovery time in the hospital, generally more blood loss. So, with the robot, it saves a lot of those complications.

Gore That is really interesting. In my field, of course I do not deal with surgeons as much because I take care of patients with leukemia, but occasionally we have to send patients to have their spleens removed and the laparoscopic splenectomy is amazing compared to the open splenectomy that they used to do. When they can do that, it comes out like in a plastic bag or something?

Brito Right, we put in a bag and then the bag comes out through a much smaller incision than you would otherwise have to do the surgery.

Gore And I imagine that the recovery time is a lot less?

Brito It is. When we do a radical nephrectomy or removal of the whole kidney, generally those patients are in the hospital for 1, maybe 2 nights. If we were to do that surgery open, they would be in the hospital for at least 3 and sometimes 4, 5, 6 days. So, it is a big difference in terms of hospital stay, blood loss, recovery time and then even once the patients are home, the things that they can do are just easier, to get around without having a big incision that you have to worry about.

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How does this work? Do patients come to you with a diagnosis of cancer already?

It depends a little bit on the pathway through which they get there. Often urologists who specialize in oncology will be either a bigger practice where you have some general urologists who will start the workup or there are patients who are sent from their primary care physician who may be a little earlier on the path, which I guess gets into a bigger topic of how we detect these cancers. For instance, prostate cancer which many people know is detected often by a blood test called PSA, and that can be started by a primary care physician through screening protocols.

But that is controversial still isn’t it in terms of whether people should be getting screened?

Yeah, it is a good question. It has become a little less controversial in the past year actually. So, what you are referring to is back in 2012 the United States Preventative Services Task Force or USPSTF came out with a recommendation against using PSA for prostate cancer screening, and there was a big uproar in the urologic community because we are the ones who end up taking care of those patients when they are not screened and they present with more advanced disease.

You mean it was not because of fewer surgeries and less income?

It was not. I can’t say that for everyone, but certainly that is how we felt as a community, is that these patients were showing up after that recommendation hit the press with metastatic disease, urinary obstruction, more advanced symptoms, etc.

But I thought the recommendation about screening had been because it was not really felt that lives were being saved?

There is a lot that goes into it. What I would say is that some of the data that was used to come up with that recommendation was based on an earlier era in the management of prostate cancer, so in the modern era, a lot of low-grade prostate cancers that are detected are not managed with surgery or radiation at all, they are actually followed through a protocol we call active surveillance.

You mean, I am going to sit here, and you are going to tell me that I have cancer in my prostate gland and you are going to say, live with it.

You might do that. It depends what it is. There is a grading system for prostate cancer.
Gore: Jackie Gleason stage?

Brito: Not Jackie, but yes Gleason, the Gleason grading system. So, if you end up with what is considered to be a low-risk prostate cancer based on your biopsy, you may not be well served by surgery or radiation because there are side effects to those treatments. If we can avoid those side effects, but still ensure that you are not going to develop a disease that is going to kill you or have you suffer from, then that is really what we try to do for most of those patients now.

Gore: I would imagine there must be some patients for whom that is highly anxiety producing?

Brito: Absolutely, you are right. And actually the data show us that most patients that come off of those active surveillance protocols are not because their disease progresses, but because of other factors.

Gore: What does active surveillance involve?

Brito: Generally speaking, we follow the PSA more closely than we would for general screening protocol. So, that is usually every 6 months or so we check the PSA values, and then they will have repeat prostate biopsies at intervals depending on what the PSA does and what their previous biopsy showed.

Gore: So, if the PSA is going up, then you get worried?

Brito: Right, and we look at things like how quickly it is rising and what their physical exam is like to help determine that.

Gore: And how often would this to be done?

Brito: Initially, when the protocols came out, they were biopsying those patients every year, we now try to use technologies like MRI of the prostate and MRI-guided prostate biopsy to risk stratify them a little better and try to space the biopsies out to even as much as every 2 years.

Gore: Oh wow!

Brito: So it is a little less of a burden for the patient.
Gore I know in my patients who have leukemia or lymphoma that has been in remission, they are often able to put things out of their brains for a long time, but then the week before the appointment, they get very anxious.

Brito Of course, yeah.

Gore I can imagine that if I had a reassuring physician who is telling that I was in good shape, being monitored every 2 years, I could probably put it out of my head reasonably well.

Brito Right, and that is part of the job. That is part of the so-called art of medicine, trying to help explain those things to the patients and relieve some of that anxiety.

Gore But you often hear people complaining about what food is allowed. This week in the *New York Times*, coffee is good, coffee is bad, fat is good, fat is bad, right? So, similarly, we have had this back and forth a little bit about the PSA, when it was the darling test and then it was you should not have one. I even had that myself because when I moved up to Connecticut 4 years ago, my internist said, well you are an oncologist, do you want me to screen your PSA, and I said I kind of feel that perhaps I should like the values that I teach, which in those days was probably do not do the screening. So, there was about a year that I did not get screened, although I have been screened previously which made me feel more comfortable not being screened, and then I talked to one of your colleagues, it was Dr. Kenney perhaps, and he told me all the reasons why I should be screened and I said okay and I am back to being screened.

Brito It has come full circle, the USPSTF changed their recommendation last year and actually upgraded it from they should not be screened to that it is more of a shared decision-making process and put it back in the hands of the clinician and of the patient. Now, it is a discussion that we have like you had with your physician about whether or not it is a beneficial thing on a patient-by-patient basis.

Gore And at what age should men consider being screened?

Brito Generally the screening population is 55-69. There are certain populations who should be screened earlier. African-Americans are at a higher risk for prostate cancer and should be screened at an earlier age, and then there are some patients who we feel are at higher risk for having a genetically inherited type of prostate cancer. So, there are certain genes that have been implicated in prostate cancer and that is a field that has really exploded over the past few years in terms of the number of candidate genes, but for instance the BRCA-1 and 2 genes, which classically have been associated with breast cancer are now being found to be in an increasing proportion of prostate cancers.

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I see. I guess if you are a guy and your mother had breast cancer, especially at an early age and there are a couple of aunts who have breast cancer, you might question whether you are one of these people who should be starting screening earlier as you could have BRCA?

Right. Actually last year, there was a big meeting in Philadelphia where they kind of came up with guidelines for genetically inherited types of prostate cancer, and if you had a family relative who was under the age of 50 who was diagnosed with breast cancer and had a prostate cancer diagnosis, then you would be at a higher suspicion for being tested, so you would have to get one of those BRCA testing genes.

But those are men who already have prostate cancer?

Right. It is at an early state right now. Where we are not really sure should we screen everyone, should we not.

Gotcha.

But we do know that if you get a diagnosis of a BRCA positive mutation, specifically #2, BRCA-2, that you are more likely to have an aggressive type of prostate cancer. So, those patients should be managed probably a little bit more aggressively.

Fascinating. Right now we are going to need to take a short break for a medical minute. Please stay tuned to learn more about advances in urologic cancers with Dr. Joseph Brito.

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This is a medical minute about survivorship. Completing treatment for cancer is a very exciting milestone, but cancer and its treatment can be a life-changing experience. For cancer survivors, the return to normal activities and relationships can be difficult, and some survivors face long-term side effects resulting from their treatment, including heart problems, osteoporosis, fertility issues and an increased risk of second cancers. Resources are available to help keep cancer survivors well and focused on healthy living. More information is available at YaleCancerCenter.org. You are listening to Connecticut Public Radio.
Welcome back to Yale Cancer Answers. This is Dr. Steven Gore. I am joined tonight by my guest Dr. Joseph Brito. We have been discussing general urologic health and urologic cancers. Joe, prior to the break, we were talking about prostate cancer, which is obviously something a lot of middle-aged men worry about and think about and lot of people know people who have had prostate cancer. And you mentioned that surgical approaches are safer than they used to be.

Yeah, I would say that the recovery times are better, blood loss is lower, and we know that surgical outcomes from an oncology perspective are just as good.

Is what men are worried about, an erection?

Correct, always.

And you never mentioned that.

Well, we had not really talked about it, but we can, we certainly can. Erectile function is always a concern for prostate surgery. The reason for that is that the nerves that help to control erection go right past the prostate. There was a big advance by a guy named Pat Walsh who kind of helped to discover these neurovascular bundles that go past the prostate. What we try to do now for patients who it makes sense for from a cancer control perspective is to save those nerve bundles when we do a prostatectomy. And that is just called the nerve-sparing procedure. Not everyone is a candidate for that, so it depends on what their biopsy shows us – how advanced the cancer is. Certainly, if it is involving those nerve bundles, then we cannot save them, and it is just not safe for the patient, but the best predictor for how a patient’s erectile function will be after surgery is how it is before surgery. So, it is an important thing for the clinician and the patient to discuss beforehand to make sure we know what the baseline function is.

There is an old joke about, doctor will I play the piano again?

Yeah, exactly. And for the most part, we can get patients back to a functional level, which depends on what needs to be done to get there. There are many different therapies for erectile dysfunction after prostatectomy, which are sort of escalating invasiveness to try to help patients get back there.

Right, erections are one thing, but orgasms are not always the same right?

Correct. As part of a prostatectomy or prostate removal, we also remove the seminal
vesicles which are right behind the prostate and that is where the largest volume of ejaculate comes from, so certainly things will not look the same, but we think that the sensation is the same, it is just that the actual act might be quite different.

Gore So, if you are able to spare the nerves and if the men retain their ability to make erections, they should expect to be able to have orgasms?

Brito They should, yes.

Gore I have also heard from one of your colleagues I think that for those who are not able to have erections, some of them can have orgasms anyways, is that true?

Brito Correct, yeah it is true.

Gore Interesting. And some patients can elect to have radiation I guess right, which has its own set of pluses and minuses?

Brito Right. It has really become a multi-disciplinary approach to prostate cancer. For most patients they should at least be counseled on the options of surgery versus radiation and again it depends on where their cancer is and what the risk is, but for most patients if they are a candidate for surgery, they probably are also a candidate for radiation and it just depends on the individual patients and their preferences.

Gore Before the show you were telling me that we had recently moved our Yale operation to Lawrence + Memorial, I think it is in New London, right?

Brito Correct.

Gore And you told me that it is a growing operation, but not so big. How does the patient who sees you get the multi-disciplinary interaction?

Brito We are affiliated with Smilow Cancer Hospital here and truthfully for any urologist taking care of patients with urologic cancers now, they should be plugged into a multi-disciplinary team. We work with medical oncologists and radiation oncologists who help to come up with an appropriate treatment plan for every patient, and being plugged into an academic medical center helps with that, but for the most part all urologists should at least have that capacity available.

Gore Even in community hospitals?

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Brito: Yeah, they should.

Gore: Let’s say, I am a man, which I am, and let us say I have prostate cancer, which as far as I know I don’t.

Brito: I hope not.

Gore: I hope not too, and I have been treated successfully by you and I have had positive outcomes in all the dimensions that are important to all of us, but it is always possible that the cancer comes back right?

Brito: Right, it is possible. And it is important to monitor patients even if they have had a prostatectomy or have had radiation for prostate cancer. Generally speaking, we would follow your PSA levels, so your blood test. It becomes more of a marker of what is happening inside at that point as opposed to a screening test, where it is used initially for patients, and we really use that as a yardstick of what is going on. So, if the PSA starts to rise after you have had your prostate removed, it really should not come from anywhere except for prostate cancer at that point because your prostate is gone. So, that is an indication that things may be coming back and that does happen. It depends a lot on what your initial biopsy showed, what your surgical specimen tells us, whether or not all of the cancer was removed or not, and then when we do a prostatectomy, we also take lymph nodes out of the pelvis so that can help us to know whether or not the disease has spread at that point, and all those things just get factored in when we think about recurrence risk for a patient.

Gore: And what happens to somebody if it does recur?

Brito: It depends a little bit on where they are recurring. If you were to have surgery and you have what is called a positive margin, meaning that there may be a small amount of cancer left inside, you could have a recurrence just in that one spot. Those patients may be candidates for adjuvant radiation therapy or radiation after surgery to try to get rid of that one spot. If you were to have a recurrence that is more widespread throughout the body, metastatic disease, then you may be treated very differently. Prostate cancer is interesting in that it is sensitive to hormone deprivation or blockage of testosterone, which starves the cancer of its food supply if you will. And that was a major discovery for prostate cancer. There are multiple medications available now to block testosterone which can control cancer no matter where it is in the body.

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Gore: That is great, but of course those drugs have side effects as well.

Brito: Absolutely they do.

Gore: That is really interesting, and it is good to know that there are backup plans.

Brito: There are. But I think it is important for people to know that just because they have had surgery or radiation, they do need to be followed. You cannot just assume that things are gone and they are gone forever. At the very least, people should have their PSA checked once a year even if they have had surgery or radiation.

Gore: Right, and if they are working with a good urologist like you, they will be informed.

Brito: Right, and they should be followed.

Gore: Gotcha. So, the prostate cancer though is not the only cancer that you deal with. You gave us kind of a list and I think a lot of people do not think a lot about kidney cancer.

Brito: I think you are right.

Gore: When and how do people find out they have kidney cancer?

Brito: We used to teach the medical students that it was diagnosed where you had a big flank mass and gross hematuria and pain.

Gore: Hematuria is blood in the urine?

Brito: Right. Hematuria being blood that you can see in the urine, gross meaning you can just see it yourself.

Gore: I remember being taught that kidney cancer was like the great imitator.

Brito: Meaning that it can cause all sorts of other issues.

Gore: Other symptoms that the internist would have trouble tracking.

Brito: Right, and that certainly can happen as well. More commonly, today, we find kidney cancers incidentally. So, they are found when the patients have a CT scan for some other reason, you come into the emergency department with abdominal pain or some...
sort of GI bug and you get a CAT scan and will see usually a small tumor on the kidneys. We have seen an earlier detection of those tumors based on just the fact that they are found more incidentally now.

Gore  Gotcha. And that is probably better because I am guessing a smaller cancer can be cured more easily?

Brito  Right. It is certainly easier to manage from a surgical perspective.

Gore  Using your robot?

Brito  Right, exactly. We use robotic surgery to do a partial nephrectomy or removal of just a small part of the kidney and we can take the tumor off usually and leaving the rest of the kidney behind, which saves the patients certainly kidney function over time and also if they are to develop a tumor on the other kidney, it is a way for us to make sure that they are not suddenly without kidneys at all.

Gore  People can live well without a whole kidney, they can live with a single kidney, right?

Brito  Right. Kidneys are a paired organ, so as long as the other kidney is functional and we can usually tell that by a CT scan, but there are other tests that can help us to figure that out if we cannot tell, then certainly a whole kidney can be removed.

Gore  One thing that I think is one of the scarier symptoms for patients in general are blood in the urine, which is a pretty common symptom right?

Brito  It is very common, you are right. It tends to be a little bit more common in women, urinary tract infections can cause blood in the urine, and one thing that we as urologists make sure that the patients know and try to get this word out to the primary care doctors and the emergency departments as well is that blood in the urine that you can see, gross blood in the urine, is really never normal and should not be considered that. Unfortunately, what we found in the research shows that women tend to present with higher stages of bladder cancer because they get diagnosed with a UTI when they have blood in the urine and they may be treated with multiple courses of antibiotics before they get referred to a urologist. So, certainly if patients are seeing blood in their urine, they really should approach their primary care doctor about being tested further, and if there is no infection there, they really should be sent to a urologist.

Gore  I see. Some of those patients though might have kidney stones for example, right?
Brito: True. When patients are sent to us with blood in the urine, we generally do several tests to really decide where things are coming from. A CT scan is usually the first step and that is done with and without contrast. The noncontrast phase shows us kidney stones. So, that is part of our workup of patients with blood in the urine.

Gore: I see. So, do not necessarily panic if you have blood in your urine but take it seriously.

Brito: Right. It could be nothing or at least something not as serious as kidney or bladder cancer, but it should be worked up, it should be investigated.

Gore: Well, unlike the kidney where there is 2 of them, there is only one bladder, so how do you deal with that?

Brito: If patients have bladder cancer that is advanced, in urology that is generally bladder cancer that is invading into the layers of the bladder, most importantly if it starts invading into the bladder muscle, then those patients may need to have their bladder removed. That is a big surgery. And as you can imagine, as you alluded to, if your bladder is removed, then you kind of have a plumbing issue, so how do you get the urine out of the body and there are many ways to do it. We have to do what is called urinary diversions. That is anywhere from taking a small piece of intestine and creating what is called the conduit or a way for urine to get out of the body to actually building a new bladder out of intestinal tissue.

Gore: No kidding?

Brito: Yeah, that is a little bit more of an involved process, but depending on the patient’s desires and the stage of their disease, they may be a candidate for that.

Gore: So, if you build one of these I guess neobladder if you will or pseudo-bladder, then people urinate normally through their penis or through their urethral meatus?

Brito: Yes, its normalish. It is does require a lot of learning in terms of how that works, you know the sensation is very different because it is not innervated, or the nerves do not travel the same way as they would have.

Gore: How do you know when you have to go and how do you make it happen?

Brito: Sometimes patients will actually start to feel a sensation, probably very different or they void at regular intervals during the day.

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Gore: Gotcha, but it anatomically feels more normal.

Brito: Right, I mean the sense that it is coming out of the right hole.

Gore: Interesting. And otherwise, they need to have a diversion that is like a colostomy bag or something like that?

Brito: Right, except instead of stool it would collect urine, right.

Gore: And, I have had patients like that. It does not seem very unacceptable.

Brito: It is actually, they have done a lot of quality of life studies to see what the patients desire and with those more complicated procedures like the neobladder, there are also higher complication rates, and some of those patients will have trouble urinating normally, so they may need to catheterize themselves. A lot of patients will decide they do not want to go through that and will opt for a more simple diversion like an ileal conduit and they do well with those and they can be pretty easy to take care of with proper education.

Gore: And I hate to dwell on sex, but if you have bladder cancer, is future sexual functioning going to be possible and is that going to impact the choice of the surgery?

Brito: It is a little more complicated I think for bladder cancer patients than for prostate cancer patients. When we do remove the bladder of a man, we generally will remove the prostate and seminal vesicles as well. It is a little bit harder to do a nerve-sparing procedure in those patients and most commonly, we do not do a nerve-sparing procedure. So, there still can be sexual function but it has to be a little bit different and sometimes they will have to undergo actually additional surgeries to get to that point.

Gore: I see. What about for women?

Brito: For women, most commonly when we remove the bladder, we also remove part of the vagina. So, there is a part of that surgery which involves reconstruction of the vagina. Depending on what the stage of the cancer is, that may be easy to do or may be more difficult if it is more invasive. It of course also depends on the patient’s desire. Most of the patients undergoing that surgery are in their 70s or even 80s and it may not mean anything for them.

Gore: Easy for you to say, young surgeon.
Brito   True, you are right. But it is something that we need to discuss with the patient beforehand. So that we know what their desire is.

Gore   Does your multi-disciplinary team include psychologists or social workers to kind of deal with these sexual and identity losses?

Brito   Absolutely. Social workers should be a big part of the team, and increasingly because our detection methods and our surgeries are getting better, these patients are surviving longer. So, there is a big survivorship movement now to help patients have some of these survivors talk to some patients in their earlier stages of diagnosis and help them understand what their diagnosis is and make the right decision.

Dr. Joseph Brito is an Assistant Professor of Urology at Yale School of Medicine. If you have questions, the address is canceranswers@yale.edu, and past editions of the program are available in audio and written form at YaleCancerCenter.org. I am Bruce Barber reminding you to tune in each week to learn more about the fight against cancer here on Connecticut Public Radio.