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Sexual Function & Fertility in Men After Cancer

Narrator:
Welcome to “Medical Breakthroughs” from Penn Medicine, Advancing Medicine Through Precision Diagnostics and Novel Therapies. Your host is Dr. Lee Freedman.

Dr. Freedman:
Given the multitude of concerns a cancer survivor must deal with, sexual dysfunction is not always taken into account. How common are sexual issues after cancer treatment, and how can we deal with them? I am your host, Dr. Lee Freedman, and with me today is Dr. Puneet Masson, Director of the Male Fertility Program and Assistant Professor of Urology at Penn Medicine and the University of Pennsylvania Hospitals. Dr. Masson, welcome to the program.

Dr. Masson:
Thank you, thank you for having me.

Dr. Freedman:
Could you perhaps start by telling us, in terms of the patients that you see in your practice, what are some of the concerns and challenges that cancer survivors face?

Dr. Masson:
Sure. So my practice is relatively focused in the sense that much of what I do is male fertility and sexual medicine. So, we also do a fair amount of oncofertility here at Penn and fertility preservation for cancer survivors. So the largest concern that I do see for cancer survivors that walk into my clinic is basically either fertility-related or sexual-related. With fertility, specifically, a lot of people that are young that are diagnosed with cancer, basically men between the ages of 20 and 45, have a 5 year survival of greater than 75%. So, for this group of young, mainly childbearing ages, the men that are in this group fertility is a major concern for them. Fortunately, we are doing a better job of addressing that concern prior to any type of treatment for their cancer because a lot of their treatments may diminish their reproductive capacity either temporarily or permanently. So, for those patient, specifically, it is very important that the conversation starts early, and we discuss their fertility as an important part of their survivorship, and then we also take steps for them to preserve their fertility either through sperm banking, where they just come in and produce a semen sample, and we freeze it and keep it for however long they want or other ways such as surgical sperm extraction with cryopreservation, and that is very important because when these men do survive their cancer and are ready to produce families and so forth, this is something that is incredibly important in their lives and sometimes just the concept of doing this is the only bit of good news they are even receiving during the processes of diagnosis and beginning their treatment. So, it is incredibly important. So that's just my plug about fertility.

Now, with regards to sexual function, these are patients that I basically see afterwards, and your average sexual dysfunction patient is your male typically after the age of 40 they may have had some type of pelvic surgery or have gotten various treatments for their cancer, some of which may alter their hormonal profile and sexual medicine is incredibly important to these patients. You know, they find that their erections are not nearly as strong as they were before. They find that sometimes they are not able to even have erections. Additionally, orgasm, ejaculation those things are diminished or absent, and there is also a huge effect on their desire, and when it comes to these patients, it is important to address every single aspect of their sexual functioning because every single aspect is an incredibly important part of their survivorship, particularly when it comes to their quality of life.

Dr. Freedman:
Absolutely. So you, it sounds like you think of your patients really in 2 groups; one is the fertility group and the other is where fertility is

not so much of an issue but more sexual functioning.

Dr. Masson:
Yes, absolutely. I cannot even tell you. With just the fertility group alone, I can't tell you how many times I see patients in my clinic; my last patient, actually, was someone that is getting treatment for leukemia and was never offered sperm banking, and unfortunately, he is 2 months into treatment and this is not something that we can offer him right now because he is actively getting chemo at this moment, but it is very important to address these concerns for patients preoperatively or pretreatment, I would say.

Dr. Freedman:
And at Penn, is this a routine part of treatment for specific cancers or for all cancers that someone like you would meet with these patients?

Dr. Masson:
Yes, absolutely. The fertility preservation consult is just like any other important consult. Now for these patients many times with the new diagnosis of cancer, especially in a man that's young, of childbearing ages, there is some much insanity that is going on in their lives. This new diagnosis, what to do, just the word cancer gives many times people an emotional sort of like shut down, where they can't almost process anything else because of the ramifications of that and what we know about it. So, for these patients, it is so important to introduce the concept of fertility seamlessly into their treatment plan so that they can concentrate on their treatment itself and not worry about that. Many times this is the only bit of good news that we give these patients and it really offers them a sense of hope that there is something at the end of this journey.

Dr. Freedman:
Yes, I can imagine that psychologically getting to think about that part of their journey has to be a very big psychological lift.

Dr. Masson:
Right, absolutely, and the thing is that a lot of times cancers of young men, such as testicular cancer or lymphomas or leukemias, these are young guys in their 20's. For them, for many of them, fertility may not be anything that is on the agenda for years, if not decades. Nonetheless, it is important to have that conversation and offer them resources to preserve their fertility. There was a study that was done recently, not recently, a few years ago, by the American Society of Clinical Oncology where only 25% of men of childbearing ages were even offered sperm banking even though fertility is a concern for 75% of patients in that age range. So, for that reason alone, it is really important that we increase awareness and offer them this resource because it is such an important part of their survivorship.

Dr. Freedman:
Dr. Masson perhaps you could tell us a little bit about the nuts and bolts of this process. When should semen be collected in terms of timing of therapy, how long is the semen viable, and what's the success rate when someone does decide they want to use the specimen?

Dr. Masson:
It may take up to several years for sperm production to recover after cancer treatment and sometimes sterility may be permanent for these patients. So for this reason, it is important for all men who are interested in becoming fathers to freeze their sperm at either a fertility center or a sperm bank prior to any cancer treatment. These samples can be stored for many years and used later for either something called insemination or in vitro fertilization. Those are options for people that desire to achieve a pregnancy with their frozen specimen. Now the thing is that what we also tell patients is something called reproductive—it's the the entire concept of reproductive safety—and that is because of theoretical damage to sperm after receiving any type of chemotherapy, that type of damage has been shown to persist for many months and sometimes even up to 1 year after receiving some type of chemotherapy or radiation therapy. So for that reason, we ask, or highly recommend, that our patients use contraception for 1 year following any type of chemotherapy or irradiation therapy, so basically, practice something called reproductive safety. Now, after that we offer these men an evaluation. They can come in and see one of us and produce a semen sample and make sure that everything is okay and try to achieve a pregnancy through natural means. Now, if their parameters are not that favorable, we do have frozen sperm that can be used, or if they are permanently sterile that they can use, to achieve a pregnancy. So that's why it is so important because in the event that sterility does ensue following cancer treatment, and that could be sterility from chemotherapy, radiation therapy, surgery, whatever it may be, at least have the option of using their frozen sperm, which can be stored for years, if not decades.

Dr. Freedman:
That is very interesting and have you seen any increase in terms of birth defects or other problems with stored sperm?

Dr. Masson:
Not that we have seen. There was some concern that in the beginnings of various forms of assisted reproductive techniques such in

vitro fertilization that there was that type of concern. There is a slightly higher complication rate with those modalities, but the patients undergo a formal counseling process about that. I can't really speak on the specifics of the in vitro fertilization; I would defer that to one of my reproductive endocrinology colleagues, but this is something that is incredibly effective. We do use this very commonly for patients, particularly cancer survivors, both men and women, to achieve pregnancy following their treatment.

Dr. Freedman:
If you are just tuning in, you are listening to medical breakthroughs from Penn Medicine on ReachMD. I'm your host, Dr. Lee Freedman, and I am speaking with Dr. Puneet Masson, Director of Male Fertility and Assistant Professor of Urology at Penn Medicine.

Dr. Masson, why don't we turn from fertility to post cancer treatment sexual dysfunction. What type of options do we have, let's say, if there is a low testosterone; is that safe in a cancer survivor?

Dr. Masson:
So, there are patients that may have low testosterone just as part of a chronic health condition called hypergonadism and that is similar to something like hypertension or diabetes; it is a chronic health condition, and it is important to recognize that versus just natural aging. Now, there are certain men that may have low testosterone following cancer treatment and they can be divided into 2 groups. There are certain groups, such as patients that have prostate cancer, that are treated with androgen deprivation therapy. Now, in those patients we do medically lower their testosterone and that's a very different population of people with low testosterone than a patient that may have had some type of central radiation therapy or other types of treatments that may alter their HPG access, which is important for testosterone production. If a man has low testosterone, there are various options for these patients because these patients may be symptomatic, and by symptoms, I mean low energy, low libido, issues with sexual functioning, decrease in muscle mass, decrease in strength, decrease in concentration, depressed mood and so forth. So if a man is having any of these types of symptoms following cancer treatment, it is very important they do see their physician and do have their hormones evaluated because there are treatment options available for them that can restore their testosterone levels to, basically, give them a better sense of health and also quality of life. Now patients that are treated with androgen deprivation therapy for prostate cancer, for example, would not be candidates for testosterone replacement therapy because that is part of their treatment process.

Dr. Freedman:
Absolutely, that makes perfect sense, and besides low testosterone, I imagine that there are several other either physiologic or psychological issues with sexual dysfunction after cancer treatment. What are some of the things that you see?

Dr. Masson:
Well, in terms of, I would say, for men the most common thing that we do see is erectile dysfunction, and these are men, particularly in my patient population includes patients that undergo pelvic surgery, such as having their prostate removed or their bladders removed or some type of colorectal surgery, but also patients that are treated with radiation therapy for prostate cancer, so to speak. And in these patients, we are doing a better job actually of asking them about their erections post treatment. When I say a better job--I don't necessarily mean me--I mean either the urologist, the oncologist, the radiation oncology and so forth. We do address that, but what is important to remember is that there are other factors that may negatively affect their sexual function after some type of pelvic cancer or therapy, and these include psychological issues, age, health-related competing risks for erectile dysfunction such as various other comorbidities, body image, particularly in patients who may undergo surgery and have a colostomy or some type of an ileal conduit for urine collection, partner response, change in life course, other things that, you know, their sexual priorities may have received less attention nowadays than before. So we are doing a better job about asking about their erections, and so, it is very important to address these other concerns.

Now, as urologists, we have done a lot over time in terms of modifying our approach to cancer surgery. There are better nerve sparing options for people that have their prostate removed, for example, and that has been shown to basically lead to improved outcomes with regards to their sexual function, particularly, their erections postop, but we also need to target these other source factors of erectile dysfunction and sexual dysfunction to really optimize patient recovery postop. I mean, and also after treatment for their cancer.

Dr. Freedman:
And to that end, do you involve sex therapists, do you involve psychiatrists, things of that nature?

Dr. Masson:
That is very important, we do. We have actually 4 sex therapists that we routinely refer patients to, to basically address psychogenic aspect to their sexual dysfunction, and also, it is a lot of cognitive behavioral therapy that goes into it as well, and we encourage involvement of their partner and so forth. That doesn't really happen all over the place. A recent study that was done in prostate cancer survivors in Michigan basically showed that only 4% of these patients are even referred to sexual therapy, and that is such an important part of their treatment algorithm. You know in patients that do see someone like that anecdotally do benefit, but it is very important to

involve them as opposed to other things in terms of improving their sexual response and function and overall quality of life.

Dr. Freedman:
Are there particular resources either for patients or physicians if we are practicing in an environment that is not quite as advanced as Penn Medicine and doesn't put as much focus on these issues?

Dr. Masson:
Yeah, there are many foundations that all have websites and organizations that have websites that basically provide people with information on this. You know, off the top of my head, the American Cancer Society has, you know, their website alone has a lot of excellent information. There is a great booklet on there basically that is online that involves sexuality for a man with cancer. There are certain foundations, such as the Livestrong Foundation, that has information as well. There is the Oncofertility Consortium that has a lot of excellent information particularly focused on fertility for cancer survivors and that is just to name a few.

Dr. Freedman:
Dr. Masson, you mentioned some of the nerve-sparing techniques specifically for prostate cancer surgery. In that group of patients is there any role for early introduction of some of the erectile dysfunction medications to preserve or regain erectile function?

Dr. Masson:
Right, so the integrity of an erection basically depends on having intact nerves, arteries and veins, and even though a nerve-sparing operation is performed, you can still have a little bit of trauma to nerves, even though they are spared and not cut, you can still have trauma to them just as a result of surgery and that takes some time to heal. So what we do, basically, is something called early introduction of various mechanisms to achieve an erection, and for some people, it is something as simple as introducing a PD5 inhibitor and those are medications like Viagra, Levitra, Cialis, and Stendra, which is one of the newer ones on the market. The goal that we have for our patients is basically aim for 3 erections a week because you want to insure that good blood flow comes to the penis because that helps preserve the integrity of the penile tissues that are important for erections. Now, if the medications are not doing the trick, there are other options. There is a vacuum device, which is an external device that one can put on the penis. There is a band that one wears around the penis and that basically works through negative pressure to bring blood flow into the penis and the band preserves the storage retaining capacity of the penis to help maintain an erection. There are also injectable agents that we commonly give to patients that they give themselves basically using the smallest needle they have ever seen in their entire life directly to their penis and to achieve an erection, and both of these mechanisms--the vacuum device and the injections--both these options basically depend on intact good blood flow to the penis. There are also penile prosthetics, which is surgery that do to basically put in a penile implant, as another options for patients that are having difficulty achieving an erection, but many times we do that several months, not years, after definitive treatment for their cancer therapy. But what I always tell patients is that it might take up to a year and a half before you have any type of regain of sexual functioning, particularly erectile dysfunction, following treatment for pelvic surgery or other major treatment for cancer.

Dr. Freedman:
So you would need to have some patience along with these other therapies and hopefully some function will come back.

Dr. Masson:
Yes, and it's also important to involve the partner and basically find a working solution for them through this process. It can be very frustrating if someone is just trying this and they are not getting any type of benefit. So, I think early eduction is very important, partner involvement is very important during all of this.

Dr. Freedman:
And Dr. Masson, is there any take-home message that you would give to our listeners who are treating patients who are either contemplating treatment for cancers or are cancer survivors?

Dr. Masson:
I would tell everyone that sexual functioning and fertility are very, very important aspects of survivorship, and they are very important for patient's quality of life, and it is important to address those concerns, because many times patients may not bring those up; they may be afraid to ask about it; they may think that why would the doctor even want to hear about these concerns when we should really be focusing on the cancer itself and survivorship? And I think it is important, as a physician or provider, to introduce these questions or address these concerns with patients, and you will be surprised at what you hear, and there are options to help everyone get better.

Dr. Freedman:
Dr. Masson, thank you so much for being with us and for outlining for us some of the issues involved both with fertility and sexual dysfunction for cancer patients. This has been a very important message that you have given to our audience, and I thank you very

much.

Dr. Masson:
Thank you for having me, any time.

Narrator:
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