Speaker 1:

Welcome to the Cancer Wise Podcast, where we'll discuss cancer prevention, treatments, the latest in research, and important news around cancer. Brought to you by the University of Michigan Health Rogel Cancer Center.

Jennifer Matthews:

Welcome all. I'm Jennifer Matthews, the web project manager for the Rogel Cancer Center. Today I'm talking with Dr. Melissa Pilewskie, surgical lead for the University of Michigan Health Rogel Cancer Center's breast cancer program. We're going to talk about surgical options for breast cancer patients, in particular, lumpectomy versus mastectomy. Welcome, Melissa. Thank you for talking with me. Let's begin with explaining what is a lumpectomy and what is a mastectomy.

Dr. Melissa Pilewskie:

So just to start and outline our two main surgeries that we think about for treating breast cancer, a lumpectomy is a procedure where we remove a tumor with a margin of normal breast tissue around that, but it's only removing the diseased portion of the breast. So we are leaving the rest of the natural breast tissue in place. And just to make sure that it's clear, in almost all situations for an invasive breast cancer, when we do a lumpectomy that's followed with radiation to the breast, those two things always go together, and the alternative option for women is a mastectomy, which is removing the entire breast. And there are some different nuances to that in terms of how we make an incision and whether a mastectomy is done with or without breast reconstruction in conjunction with a plastic surgeon, but the notion there is that we're aiming to remove as much of the breast tissue as possible.

Jennifer Matthews:

There has been some research presented that talked about more women benefiting from lumpectomy over mastectomy. Can you talk about this research?

Dr. Melissa Pilewskie:

Yeah, so I think what this is in reference to is a recent study that was just reported at the San Antonio Breast Cancer Symposium a couple weeks ago. It's an Alliance study. And the premise of this study is asking whether or not it is safe to do lumpectomies for patients who have two or three spots of breast cancer within the breast. So for historical perspective, we know from studies that have long-term follow-up that if you have one spot of breast cancer, doing a lumpectomy with radiation is really equal to a mastectomy. Survival is the same, and based on the type of tumor profile that we see, rates of recurrence are very similar, and so we really consider those to be equal options in that situation. The problem is that some women are diagnosed with what's called multifocal or multicentric disease, where there are two spots that are not right next to each other. There may be a spot in the upper outer breast and a spot in the inner breast.

And prior to some of this research, if that was the case, if we saw a couple of spots throughout the breast, the standard recommendation was to do a mastectomy to make sure that all of those lesions were removed together. So this study, the Alliance study, looked at women very specifically who had two or three spots that were separated by a couple of centimeters of normal appearing breast tissue, and they went on to have two site lumpectomies. There were some nuances to this. Sometimes it was done through one incision, sometimes it was done through two separate incisions. Some patients also had an oncoplastic type of reconstruction done afterwards. But the big picture question was could we do two lumpectomies followed by radiation and see rates of recurrence that we thought would be

acceptable and safe? So the study did not directly compare the outcomes to women having a mastectomy, but we used numbers for recurrence that we thought would be appropriate as a comparison.

And the study reported five year outcomes, and they found that three percent of women ended up having a local recurrence, so breast cancer that came back within that breast. So a three percent risk of recurrence at five years is considered to be quite low and very acceptable, and so I think that this is really opening the door for the possibility of lumpectomy for more patients, those that we always considered appropriate for lumpectomy, and now another cohort of individuals who have more than one spot of cancer in the breast.

Jennifer Matthews:

Is there a particular benefit related to a lumpectomy, perhaps, that makes it, obviously, of more interest to doctors than a mastectomy?

Dr. Melissa Pilewskie:

Sure. So I mean, I think that there's things that physicians look at and also what patients are looking for. So the benefits of a lumpectomy, when feasible, are that we are able to preserve natural breast, which improves cosmesis for most women to have your natural shape of the breast, and also sensation. One of the big changes after a mastectomy is that it is expected that women will lose sensation to the overlying skin of the chest wall on that side. When we're doing a lumpectomy, most of the sensory nerves are not impacted, and so sensation remains intact. It's also, frankly, just a smaller surgery and easier recovery from the procedure, smaller scars, and so the initial surgery and recovery is easier to go through, and some of the long-term impacts on body image and sensation are also reduced. And there are a number of studies that have looked at patient reported outcomes. How do patients feel 12 months, two years down the road after these surgeries? And in these series, we find that women have better outcomes and are happier with the surgery that they've selected when they've undergone a lumpectomy.

Jennifer Matthews:

Are there people who insist that they would rather have a mastectomy instead of a lumpectomy? How do you work with them, and what might drive those decisions?

Dr. Melissa Pilewskie:

Right. From my perspective, the first question is what can we do from a cancer standpoint? Which operation is feasible based on the size of the tumor, extensive disease, number of lesions, patients' breast size, all of those are taken into consideration. There are cohorts of individuals that are eligible for a lumpectomy, but opt to have a mastectomy. One of the most common scenarios that we see in making that decision are individuals who are an increased risk for developing a second breast cancer in the future. The most obvious example of that is somebody who carries a deleterious gene mutation that increases their risk for another cancer in the future, so somebody who has a BRCA1 or two mutation has quite an elevated risk of a second breast cancer. And so in that situation, some women may opt to do mastectomies, both to treat the cancer that's there and also to prevent another cancer from happening in the future. There are other reasons that somebody may be at increased risk based on their family history or other radiation exposure at a young age, for example.

But there are also average risk women who have breast cancer who feel more comfortable proceeding with a mastectomy. For some people it's peace of mind to avoid future screening, because after a mastectomy we typically don't do imaging to screen. We rely on physical exam. Sometimes it has to do

with symmetry and how things would look after the procedure. And so it's really a personal decision. But as I mentioned, at the end of the day, we really have two very safe ways of treating breast cancer, and so one's not necessarily right or wrong. It's just working with somebody to figure out what makes most sense for them.

Jennifer Matthews:

Are there times when someone might want a lumpectomy, but it's actually better for them to have a mastectomy?

Dr. Melissa Pilewskie:

Yeah, so this is the flip side of that prior discussion. So there are unfortunately situations where a lumpectomy is just not feasible or we don't think it's the safest option. The most common scenarios there are based on the details of the tumor. So sometimes a tumor is just too large when we look at the ratio of the tumor to breast size to be able to remove that lump and some additional healthy breast tissue and leave somebody with a cosmetically acceptable breast. Also, based on the surrounding tissue, sometimes a breast cancer will form with extensive calcifications that go throughout the breast tissue or multiple masses in different areas. And in those situations, in order to get out all of the tissue that's abnormal, really a mastectomy is the safest option. Now, the Alliance study that I just mentioned does broaden the criteria for a lumpectomy here that certain individuals who previously we thought needed a mastectomy may be safely served with two lumpectomies, but there are still situations where there's just too much cancer in the breast and we can't safely remove it with a lumpectomy.

The other situation that comes up, it's infrequent, but every once in a while there's an individual who can't have radiation, and as I mentioned, a lumpectomy should always be paired with radiation. So for whatever reason, if we don't think that radiation is an option, then a mastectomy may be preferable there because we want to make sure that we safely treat the whole breast.

Jennifer Matthews:

You had referred earlier when you're doing surgery on a cancer you don't just take out the tumor. There's also a margin of tissue that you take in addition. Can you talk just a little bit about that and explain what the thinking is behind doing that?

Dr. Melissa Pilewskie:

What the data shows is that when we do a lumpectomy followed by radiation, we have higher rates of a recurrence, meaning cancer coming back, if the cancer's right at the edge of the tissue, if we have a positive margin. And so what we aim to do is to remove the cancer and then a little extra, and we don't need a lot extra. It can even be just a few millimeters. But as long as the cancer's not touching right at the edge of the tissue, then we know that by having a little extra margin around it we're minimizing the chance that cancer cells would regrow in the future.

Jennifer Matthews:

We've talked a little bit about the pros or the reasons why you would want to have a lumpectomy and/or a mastectomy. Can you talk a little bit about what are the downsides to both of these procedures, or things that at least patients should be aware of so that they can make a fully informed decision?

Dr. Melissa Pilewskie:

Yeah, so let me start with lumpectomy. I think I've highlighted a lot of the positives of a lumpectomy, and preserving your natural breast tissue being one of the major ones. One of the potential downsides is that, as I mentioned, we do need to ensure that we have negative margins. So there are a small group of patients where we do our lumpectomy and take a margin and everything feels clear and it looks like we've gotten out what we've needed to, but that microscopically the extensive disease is larger than what we could anticipate. And so, if on the final pathology report we see cancer cells that are right at the final margin, then that's an indication that we need to do more surgery, so sometimes that means going back in and doing what's called re-excision, where we take a little bit more breast tissue versus considering a mastectomy. So anytime we do a lumpectomy, there is a potential need for a second operation.

And for many women who have a lumpectomy, the cosmetic change is quite minimal. For some patients, it may be more noticeable. So there are some individuals who opt to have some form of reconstruction, or what we call oncoplastic procedure, afterwards. And so while it's the minority, it's something that's also a potential in need after that procedure. In terms of a mastectomy, the long-term downsides from my standpoint and what I hear from individuals, a big one being loss of sensation. We say that, and for some people it seems like that's not a big deal, but I think that that becomes more noticeable down the road when you're not anticipating what that might feel like. I also think that cosmetically this is a bigger change. Reconstruction is very good, but it typically does not match a natural breast identically, and so that can lead to asymmetry. Implants are a foreign body that may lead to additional surgery. So with a mastectomy, with reconstruction, oftentimes that's multiple procedures. We often tell women to expect at least two surgeries, but sometimes more. And long-term, there may be the need for additional revisions or surgery for the reconstruction.

The other thing that I think is worth mentioning is that it's just overall a bigger surgery. So immediately there are higher rates of complications such as bleeding or infection, needing to go back to the operating room for an initial complication after the procedure. And there are also a small group of individuals that have what's called post mastectomy chronic pain, where instead of having that loss of sensation from the sensory nerves actually have pain that happens because of nerve irritation that needs to be dealt with afterwards. So it doesn't happen all the time, but things that we just really need to educate women on who are making this choice in terms of weighing the pros and cons of each operation.

Jennifer Matthews:

Is there anything else that you would like to talk about with regard to this question for patients? Anything that you think people who are listening should know?

Dr. Melissa Pilewskie:

Yeah. I think the piece that I always like to highlight and that I discuss a lot in clinic with women is that the data really supports the equivalence of these two treatment options. I hear often from women the notion that if I remove my entire breast, then we're eliminating the chance of having a local recurrence, and so there's an idea that we're picking a safer option. And unfortunately, that is just not the scenario that we see. There is a small risk of having a local recurrence with either treatment option, but the numeric likelihood of that happening is actually the same with a lumpectomy and radiation versus mastectomy.

And what really drives that risk of recurrence is the biology of the tumor. So there are certain tumors that have higher risk features, and those tumors have a higher chance of ever coming back in the future, but that's true regardless of which surgery we do. And so bigger surgery here is really not always better,

and I think it's just important for women to really understand that, because we can minimize surgical side effects and changes to somebody's body by doing a lumpectomy when that's a safe option.

Jennifer Matthews:

Thank you.

Dr. Melissa Pilewskie:

Thanks.

Speaker 1:

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