

Older Women with Breast Cancer (Part 3): Surgery and Defining the Value of Adjuvant Therapy

by Dr. Hyman Muss, University of North Carolina-Chapel Hill

Dr. Muss:

Now this is a photo some may find somewhat objectionable, it's mastectomy, it's removing the breast. This was the standard of care probably until the 1970's when some doctors started challenging the need for this operation. A lot of women, I think they were really martyrs for women who followed them, went on trials to compare mastectomy, removing the entire breast with removing the lump in the breast – what's called the lumpectomy or sometimes a partial mastectomy – and then giving radiation which is like surgery without a knife to try to kill any little cancer cells that might have been remaining in the breast.

So these women went on trials where a coin flip essentially said heads mastectomy, tails lumpectomy and radiation, very brave to do that when you think of the implications.

But what they taught us is that a woman like this who's had a lumpectomy and actually had some of her lymph nodes removed and then got breast radiation can end up with a wonderful cosmetic result, maintain her body image and hasn't paid for it by shortening the live span by not having a mastectomy. So this has been a terrific thing for patients to be aware of.

Now in addition to the surgery and optimal radiation, we frequently recommend what we call adjuvant therapy. That means using chemotherapy, hormone therapy, which is really hormone blocking therapy, or radiation either before but usually after the surgery. The aim is to destroy little metastases that are microscopic, little clusters of cancer cells that might have spread from that cancer into other parts of your body and which we can't detect with any of our fancy scans, x-rays and blood tests. So the aim of this treatment is to treat you when this cancer spread is minimal – tiny, little areas – with drugs that at that time might be able to cure it, kill all those little spots of cancer, that if you didn't treat will come back in the months and years to come.

So this is what adjuvant therapy is. I like to point out it's like a flu shot. So if you get a flu shot, you ask the doctor, "Do I need a flu shot?" The doctor can't tell you whether you're going to get the flu or not, and not everybody gets it. So the way doctors know flu shots work is they've gone to a hundred patients and they've given them all the flu shot, and a hundred they left alone. At the end of flu season, the patients who got the flu shot maybe one or two got the flu – because the vaccine isn't perfect – but then the people who didn't get the flu shot about 30 got the flu. The problem is there's no way of knowing up front who those 30 are. So you've got to give the vaccine to all 100 patients, to help them all.

Now we're always trying to learn more about cancer and new genetics to pick those people. Maybe sometimes we could pick the person in the community who's going to get the flu because they have a different immune system, or maybe there's more kids running around and the neighborhood or something. But we don't have those tools yet, so we have to select adjuvant therapy on the basis of the cancer characteristics and its potential benefits.

Now a lot of patients will say, “Boy, I don’t want to take that chemotherapy or take these pills to block my low level of female hormones. If the cancer comes back I’ll take it then. Why should I take chemotherapy now when I’m feeling pretty good and you’ve just told me you don’t know if I could have these little clusters of cancer cells in my body? Why should I do that if I can take these drugs when it comes back?”

The problem is this, by the time someone like myself or Dr. Weiss or anybody finds little spots of cancer in your bones or your liver, even though they may be found by accident; you got into an auto accident and went in the emergency room and then did a CT scan and they found two little spots in the liver, something you were totally unaware of; by the time we see that we know that our drugs can’t kill every cancer cell in those two little spots. They can kill 99.9%, but that 0.1% of cells, those are the tough soldiers in the army and they’re going to grow and come back with a vengeance. That chemotherapy obviously is not going to be able to get rid of them because we couldn’t get rid of them in the first place.

So the best treatment is early, and that’s to prevent what we call drug resistance. By the time you’ve got a marble-size breast cancer that’s spread somewhere, from the breast to the lung, there’s cancer cells in that marble size mass that we can’t kill with the chemotherapy. Whereas when it was a few cells, like a drop of cancer, we may be able to get rid of it. So that’s why we have to use our tools early. The same chemotherapy that we may pick early to improve cure rates is only going to be palliative therapy once the cancer spreads somewhere in the body, and that’s very, very important. It’s scary, but it’s very, very important to know about that so you can decide that to do.

So adjuvant systemic therapy is treatments with either chemotherapy, hormone therapy. We have some new drugs now that are targeted against little genes, called the HER2 gene, that shows up in about 20% of the cancer cells in women with breast cancer to use these generally in combination depending on the cancer to try to get the best potential cure rate. We generally consider giving hormone therapy, drugs like tamoxifen or some of the newer drugs that lower estrogen levels like aromatase inhibitors, to virtually all patients whose breast cancers contain what we call estrogen receptors or hormone receptors.

In older people those are little pieces in their DNA, they’re like a lock in the DNA, and the key is your little level of estrogen. So if the estrogen in your blood goes in to that lock, it opens the lock and the cancer cells grow and spread. So in all but these tiniest tumors, if they’re hormone receptor positive or estrogen receptor positive, we consider giving one of these drugs for five years. There are some patients who are older, who don’t have hormone receptors in their cancer. About 15% of older people, we call the triple negative breast cancers, they neither have hormone receptors or this HER2 gene, and those are very aggressive. For a healthy, older patient we generally treat them with chemotherapy.

Then there are a lot of people who have this HER2 gene, too many copies in the cancer cells – this is kind of techie stuff – there’s only about 15%. But if they’re older and healthy, we generally give them some of these new, exciting drugs that are really antibody drugs that attack these cancer cells in addition to chemotherapy. So, it can be quite aggressive. But all of these strategies have improved survival. Over all, using these strategies have lowered the chances of cancer showing up or coming back by about 30% on average and in some people it’s 50%. So, we’ve made a lot of headway in our patients, and that’s why when I showed you earlier in the beginning of the talk those curve improving, they look so much better since 1995. But older

people frequently don't get all these options; sometimes it's appropriate, they're sick. But sometimes it's just age bias on the part of the doctor not to explain it to you.

So, if you're unfortunately afflicted and get breast cancer, here's the scenario. You find out you have breast cancer and then when you talk with us, as I just told you, we can't tell you whether a few cancer cells have spread even with the most sophisticated and expensive tests. Then you get a monstrous bill from the American Healthcare System, then we tell you here's your chances of this cancer coming back if we don't treat you, then we tell you here's your chances if we give you adjuvant therapy – and by the way, your doctor in most instances can give you pretty precise numbers, absolute numbers that you can understand about this. Then of course what are the side effects of the treatment if I agree to do that. Then, "Doctor, how do you know this worked?" Well, we never know your flu shot worked until the season is over and you didn't get it.

It's the same thing, we never know whether these work because a lot of people's cancers won't spread and come back, we only know when it doesn't work. So this is always a dilemma, and that's very scary. So if you relapse, it obviously didn't work. But our goal is to prevent that.

Here's just an example of the difficulties we have as doctors in making decisions, and why your input in to this process and you're partnering with your doctor and team is important. So what I've done here is I've assumed we had a hundred people with breast cancer and we can cure 30% of them, and we're going to follow them over a 10-year period.

So this patient, primary tumor 1cm is a small cancer, it's a marble and the nodes are clear. We know that if we have a hundred of those patients and did nothing but remove the tumor, give them breast radiation or if they've selected it remove their breast, then 90% would be doing fine in 10 years. We don't know which 90, but they would be doing fine.

That means 10 would not be doing fine, but if we treated all a hundred of these patients we would cure 30% of the 10 people, which is 3 people, 3 out of 10, 30% of these lower risk patients. So we would save three lives out of a hundred. If it's a very simple pill with no side effects or minimal, we'd probably all do it because that's what probably Lipitor in someone like me is doing for me. It's not going to make me immortal.

This patient has a bigger cancer, 10 lymph nodes involved, and if you did nothing 80% of those people would not survive the 10-year period. So we have 80 patients who have little cancer cells hidden in their body and we have a treatment that cures 30% of them. So 30% of 80 it's 24 people, so at 10 years we now have 44% left. Now it's still terrible that half those patients didn't survive. But we have saved 24 lives out of a hundred, that's an incredible thing.

So, we'd all be recommending chemotherapy to a patient like this. Here, we would be comfortable offering hormonal therapy. But is chemotherapy worth it if it changed the life saved in addition to the hormonal therapy to four? So, those are the big questions. There's not a right or wrong answer there. Some patients may say yes and some may say no, and that's why it's so important to talk to your doctor about these issues.

Just a word about radiation therapy, radiation therapy depending on the risk of recurrence can actually help cure patients. We've learned that some patients who have a tumor in their breast or even after a mastectomy has such a big tumor or so many lymph nodes that there's a great chance that those cancers are going to come back where the surgery was done, on the chest

wall, other spots on the skin, and when that happens it increases the risk of spreading elsewhere. So radiation can help a lot of those patients live a lot longer and improve the curability rate.

If you take a patient and you just remove the lump in their breast, about 30% of those patients will come back in those areas. So although people are afraid of radiation in general in the community, 30% if you give the radiation it's less than 10%. In most patients skipping radiation therapy isn't appropriate, there are exceptions if they're smaller tumors and the hormone receptors are positive and you're going to be put on a pill, an Adjuvant Therapy pill, sometimes we can skip it. But in general, radiation therapy is very effective. So in 70 year-old patients, you may be able to avoid it, the radiation. These are some things to discuss with your physicians.

Usually if you do a mastectomy we don't do radiation. But if it's a large tumor, a few inches, where there's lots of lymph nodes, we've learned that radiation therapy can add to the cure of those patients as well. Radiation therapy is like surgery without a knife, people are afraid. But in the modern era with modern technology, the side effects are minimal, you don't lose your hair. It's very, very well done today. Certainly if your approach is to consider it, you need to think about it and decide whether it's for you.