

[MUSIC PLAYING]

JUDY BOUGHEY: From the surgical standpoint, there has been a lot of changes, where historically, we used to take the patient initially to the operating room. And then after surgery, they would receive their systemic therapy. Now increasingly, what we're doing is evaluating that patient together as a multidisciplinary team, and considering them actually for systemic therapy first. This is what we call in the neoadjuvant setting.

The decision to recommend treatment with neoadjuvant systemic therapy is very much based on the biology of the tumor, and how large the tumor is, and also patient factors. Tumors that are very responsive to chemotherapy are the ones where often we're going to recommend chemotherapy prior to surgery. And that's often the more aggressive tumor biology.

SAMEER Triple negative breast cancer is one of the most aggressive forms of breast cancer.

KEOLE: There is two hormone receptors we look at, estrogen and progesterone. And there's antigen status called HER2/neu.

JUDY BOUGHEY: For patients with triple negative breast cancer, we really have had not the best choices on the horizon. And we're now seeing some advances in that field. Along with immunotherapy and vaccines, we now have several agents that work for the HER2 positive breast cancers. And we're actually seeing now that patients with HER2 positive breast cancer treated with targeted HER2 therapy actually do very well.

One of the areas that we've been working on here has been looking in particular at patients whose breast cancer has already spread to their lymph nodes. So when breast cancer spreads to the axillary lymph nodes, usually the standard of care over the past decades has been to remove all of the lymph nodes underneath the arm. That's a procedure called an axillary lymph node dissection, and it's a great procedure.

The downside of that procedure, however, is that it is associated with about a 25% risk of lymphedema. So if we have a patient who has node positive breast cancer at the time of their initial diagnosis, that's usually found by an ultrasound with a needle

biopsy. And what we try to do now is have our radiology team place a clip in that lymph node that was biopsied at the time of their diagnosis, same as what we do with the breast tumor when it's biopsied.

The patients then proceed with their neoadjuvant chemotherapy. And then post chemotherapy, when we re-evaluate that area, if we find that patient has had a great response in the breast, it looks like that tumor has really shrunk down, and if the lymph nodes on imaging look much better, we actually have an informed discussion with them about considering doing a sentinel lymph node biopsy.

Meaning, just removing the first few lymph nodes in the drainage pathway-- the first two or three lymph nodes-- along with that lymph node that had the clip placed in it, send those lymph nodes to pathology, and if those are negative, then we can actually preserve the remaining lymph nodes. From the radiation standpoint, there have also been a lot of advances.

SAMEER

KEOLE:

The two most significant innovations is our use of a shorter number of treatment days called hypofractionation, and the second is our use of advanced radiotherapy techniques, most notably proton beam therapy. We have studies now looking at shortening the radiation course from seven weeks, down to three weeks, and now just to one week. And so these types of advances make it much more convenient for patients, especially if they're coming in from great distances.

JUDY BOUGHEY: I'm always refreshed and energized by the new advances in all of our fields. And so I

always like that our patients have that opportunity to see, how would we recommend treating their cancer? What drugs would we use? What type of radiation would we recommend? What type of surgery would we recommend? And from the patient's standpoint. it means that there is a lot of opportunity, there's a lot of hope.