Transcript Details
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How Testing for Acquired vs. Intrinsic Mutations in HR+/HER2- Metastatic Breast Cancer Differs

Announcer Introduction

Welcome to *Project Oncology* on ReachMD. On this episode, sponsored by Stemline, a Menarini Group company, we'll hear from Dr. Megan Kruse , who's a breast medical oncologist at the Cleveland Clinic. Dr. Kruse is here to discuss the key differences in testing for acquired versus intrinsic mutations in HR+/HER2- metastatic breast cancer. Let's hear from her now.

Dr. Kruse:

When I think about acquired versus intrinsic mutations, the way that I divide them in my head is that intrinsic mutations are those that are available in the tumor really from the earliest stages of tumor development. So these are mutations that we are likely to see in an early-stage breast cancer and then also at the time of a breast cancer recurrence. Or if a breast cancer is diagnosed at later stage, we might see it right from the get-go.

Acquired mutations are really those that come about after a patient has been exposed to some sort of treatment, and the tumor develops many times a mutation that signifies resistance to a particular treatment. And so these are mutations that we may not find until later on in a patient's cancer journey or after a tumor has become resistant to a particular type of therapy.

So when we apply this information to ESR1 mutations and PIK3CA mutations, it's the PIK3CA mutations that are actually more of the intrinsic type, where we can find those early on in tumor development, and they tend to persist throughout a tumor's lifespan. And the ESR1 mutations are more in the acquired realm; we tend to see these after patients have been exposed to prior therapy with aromatase inhibitors.

So when thinking about testing for different types of mutations, it's important to think about if they are acquired or intrinsic so that you can time the testing results appropriately. And what I mean by that is, if you're looking for a PIK3CA mutation so that you can use a PIK3CA inhibitor as part of a patient's treatment regimen, you can expect to find that mutation at any point that you do the testing in reality, and that can be testing that you get from the blood or testing that you get from the tumor tissue.

But if you're looking for an ESR1 mutation, you will not find that until after a patient has had particular endocrine therapy. And so let's say you have a patient with newly diagnosed metastatic hormone receptor-positive breast cancer, and before you start any treatment at all, you get genomic testing, and you find a PIK3CA mutation, but you do not find an ESR1 mutation. When you go to approach your second-line treatment decisions for that same patient, you actually will likely want to repeat some genomic testing at that point. Because even though you know about your PIK3CA mutation, you would not have expected to find that ESR1 mutation on the initial panel just because of when it was drawn in a patient's treatment course. And so, this really highlights the need for longitudinal and repeat sequential testing for our patients with metastatic breast cancer as some of these targetable alterations will be dynamic throughout a patient's treatment lifetime.

Announcer Close

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