

Switching to Camizestrant After Detection of ESR1 Mutation Improves Progression-Free Survival for Some Breast Cancer Patients

Treatment switch guided by liquid biopsy ctDNA testing can delay cancer progression while maintaining quality of life.

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Results from the Phase III SERENA-6 clinical trial found that switching to treatment with camizestrant if an ESR1 mutation is detected during first-line treatment can help slow cancer growth for people with hormone receptor-positive, HER2-negative advanced breast cancer, according to [research presented](#) this week at the [2025 American Society of Clinical Oncology \(ASCO\) Annual Meeting](#) and published in [The New England Journal of Medicine](#).

“Following progression of disease on first-line therapy for advanced HR-positive breast cancer, a number of treatment options exist. However, their benefit is limited; quality of life decreases, and survival rates are low,” lead study author Nicholas Turner, MD, PhD, of Royal Marsden Hospital in London, said in an [ASCO news release](#). “Patients have an urgent need for new treatments that can prolong time on first-line therapy and delay disease progression. The results from SERENA-6 represent an important step forward and a potential new treatment strategy to improve first-line outcomes for patients.”

As their first-line treatment, people with HR-positive, HER2-negative advanced breast cancer often receive hormone therapy—most commonly an aromatase inhibitor—given in combination with a CDK4/6 inhibitor. However, some cancers can become resistant to this treatment, and ESR1 mutations are the most common reason for resistance. Approximately 40% of patients with endocrine-sensitive HR-positive breast cancer develop ESR1 mutations during first-line treatment.

Although testing for ESR1 mutations is common in patients receiving an aromatase inhibitor and CDK4/6 inhibitor, this testing typically is not done until the cancer has already started to grow during treatment. While other treatment options exist for patients whose cancer has grown on first-line treatment, survival rates with these treatments are low, and quality of life often decreases.

Camizestrant, from AstraZeneca, is an experimental selective estrogen receptor degrader (SERD). It works by inhibiting and breaking down estrogen receptors. Although camizestrant is still an investigational drug, it has shown promise in treating patients regardless of whether or not they have ESR1 mutations.

In the SERENA-6 clinical trial, researchers wanted to learn whether switching patients to camizestrant when an ESR1 mutation was detected, but before their disease started to spread, could slow their cancer growth.

Key Findings

SERENA-6 enrolled 3,256 patients with HR-positive, HER2-negative advanced breast cancer who had received at least six months of treatment with an aromatase inhibitor (letrozole or anastrozole) and a CDK4/6 inhibitor (palbociclib [Ibrance], ribociclib [Kisqali] or abemaciclib [Verzenio]).

The patients had their circulating tumor DNA (ctDNA), also known as a liquid biopsy, tested for ESR1 mutations every 2 to 3 months until 315 patients developed ESR1 mutations before disease progression. About 50% of these patients had an ESR1 mutation detected during the first ctDNA test.

These 315 patients were then randomly assigned to either switch from treatment with an aromatase inhibitor to camizestrant, continuing with the CDK4/6 inhibitor and adding a placebo in place of the aromatase inhibitor (157 patients), or continue treatment with an aromatase inhibitor and CDK4/6 inhibitor, adding a placebo in place of camizestrant (158 patients).

The researchers found that:

- The median progression-free survival (PFS) was 16.0 months for those who switched to camizestrant versus 9.2 months for those who continued treatment with an aromatase inhibitor. This improvement was seen across different subgroups of patients.
- The PFS rate one and two years after treatment was also significantly higher in the camizestrant group:
 - At one year, the PFS rate was 60.7% in the camizestrant group versus 33.4% in the aromatase inhibitor group.
 - At two years, the PFS rate was 29.7% in the camizestrant group versus 5.4% in the aromatase inhibitor group.
- Patients in the camizestrant group maintained their quality of life for longer than those in the aromatase inhibitor group.

- The overall survival benefit of camizestrant is still pending, as these data were immature at the time of the analysis.

Side effects for patients in the camizestrant group were consistent with previously known side effects of the drug, and no new side effects were reported. Very few patients from either group discontinued treatment due to side effects (1.3% in the camizestrant group versus 1.9% in the aromatase inhibitor group).

Researchers will continue the study as planned to further examine key secondary endpoints.

“The early switch approach of the SERENA-6 clinical trial resulted in a 56% reduction in the risk of disease progression or death for patients who switched to treatment with camizestrant, allowing patients to stay on first-line therapy for a longer period of time,” said ASCO breast cancer expert Eleonora Teplinsky, MD, of Valley-Mount Sinai Comprehensive Cancer Care. “Camizestrant is not yet FDA approved, but this data will likely pave the way for a new treatment paradigm in first-line therapy for HR-positive, HER2-negative advanced breast cancer.”

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Adapted from a [news release](#) published by the American Society of Clinical Oncology on June 1, 2025.

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