

CU Cancer Center Research Tests Two-Drug Treatment for Progressive Thyroid Cancer

Bryan Haugen, MD, led the study that adds a checkpoint inhibitor to the standard of care.

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Recent research led by [University of Colorado Cancer Center](#) member [Bryan Haugen, MD](#), may provide new treatment options for patients with [thyroid cancer](#) that doesn't respond to radioactive iodine treatment.

[Published in September](#) in the journal Clinical Cancer Research, the results of the 18-month trial show that adding the checkpoint inhibitor pembrolizumab, an immunotherapy drug, to the standard-of-care drug lenvatinib — a multikinase inhibitor that blocks the blood supply to tumors — helped patients go longer without a relapse.

We spoke with Haugen, who led the six-center trial, about the research and its results.

Who are the specific patients you were looking to help with this trial?

These were patients who had advanced differentiated thyroid cancer, which is one of the most common types of thyroid cancer. These are patients whose disease didn't respond to standard therapy with surgery and radioactive iodine. They have progressive disease that needs other systemic therapies.

What was the thinking behind combining pembrolizumab and lenvatinib?

We had some of our own preliminary data that showed a weak immune response in these tumors. We thought the checkpoint inhibitors would be good for overcoming that, but there was some preliminary evidence that by itself, pembrolizumab was not very effective. We thought if we paired it with our current standard multikinase inhibitor therapy, we would get a better benefit. And as we were starting the study, there was some data that came out to show that the combination was quite effective in uterine cancer.

How does lenvatinib work?

It blocks the growth of the tumors and blocks blood supply to the tumors. There is some evidence that lenvatinib affects the immune system, too, but it's not an immunotherapy. We were hoping that together, they would wipe out the tumors, but that's not exactly what happened.

What did happen?

We were looking at people with metastatic disease, and we were looking for complete responses, which is where the tumor goes away, and you can't see it anymore. We had two groups to the study. The first group of patients had never been on either of the therapies, and they got them both together. The second group was people who were already on lenvatinib, then they progressed. They were tolerating the drug, the tumors grew, so we added pembrolizumab. We didn't see any complete responses, but we did see a pretty impressive progression-free survival. They were on the drugs for quite a long time without progressing. It held the tumors at bay for quite a while.

What are your next steps with this research?

I'd love to do more work on it, but one of the problems is that lenvatinib is going off patent soon. When that happens, the company often doesn't want to continue with clinical trials. To get FDA approval for this combination in thyroid cancer, we would need to do a phase 3 trial — a much larger trial with a control arm and this treatment arm.

What we're hoping will happen is that the National Comprehensive Cancer Network (NCCN) will review this paper and add this treatment to their guidelines when they update them, which they do every year. I'm hoping the NCCN will acknowledge this work, and say, "You could consider people for this." What's good about that is if it gets into the NCCN guidelines, some insurers will see it as a reasonable option and will cover it. That could be a way to get this to more people who it could help.

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