

Opting for a Novel Combination Treatment for Resistant Aggressive B-Cell Lymphoma

Justin, who lives in western Pennsylvania, is passionate about the outdoors. He works for the U.S. National Park Service, maintaining hiking and biking trails around the country, including in California's Shasta-Trinity National Forest and Yosemite National Park, Colorado's Rocky Mountain National Park, and parks in northern Minnesota. He also teaches chain saw classes for the National Park Service and loves to fish and hunt in his free time.

He was working on a stone wall in the New River Gorge National Park and Preserve in West Virginia when he suddenly felt pain in his groin. Thinking he had a hernia, Justin went to his primary care doctor and had imaging followed by a biopsy. The biopsy revealed that Justin had stage 4 follicular non-Hodgkin lymphoma (NHL). He underwent a standard 6-month chemotherapy regimen and had no evidence of disease at the end of the treatment.



Justin benefited from a novel 5-drug treatment called ViPOR for non-Hodgkin lymphoma.

Credit: Sage Storm

A month later, however, doctors found a 13-cm growth at the base of his spine. The operation to remove the growth was complicated, and Justin became septic and almost died. Once he recovered, he had two more chemotherapy regimens. Each seemed promising for a short while, but then the cancer returned.

He then underwent CAR T-cell therapy at his doctor's suggestion. However, a month after that treatment ended, scans showed that Justin's follicular lymphoma had transformed into an aggressive diffuse large B-cell lymphoma (DLBCL)—a change that happens in a small percentage of people living with follicular lymphoma.

Faced with the disappointment that yet another treatment had not eliminated his cancer, Justin next considered a bone marrow transplant, which came with significant risks. His local oncologist instead recommended that he enter a new clinical trial at the National Institutes of

Health (NIH). "I had some hesitation because of my experience with the earlier treatments," he recalled. "But if the bone marrow transplant failed, then I might have been too sick to enroll in the trial. I was out of options."

Benefiting from the innovative ViPOR treatment

Justin chose to enroll in the NCI clinical trial testing a treatment called ViPOR at the NIH Clinical Center in Bethesda, MD, in December 2020. ViPOR is a five-drug combination targeted therapy designed to interrupt multiple pathways that DLBCL cells use to survive, such as B-cell receptor signaling. And the new treatment does this without chemotherapy.

Dr. Christopher Melani, co-investigator and Justin's trial doctor, explained that previous laboratory studies conducted by intramural researchers at NCI revealed the potential of this combination of drugs—which includes venetoclax, ibrutinib, prednisone, obinutuzumab, and lenalidomide (Revlimid)—against NHL, including DLBCL.

Justin stayed at the NIH Clinical Center for an initial 2 weeks of treatment, then returned home for a week without treatment. He repeated 2 weeks of treatment followed by 1 week off for another five cycles, finishing in April 2021.

Like many of the patients in the trial, Justin had fewer side effects on this protocol than his prior therapies—some fatigue and cramping due to low potassium levels. By the end of his first cycle of ViPOR, his tumors had shrunk by more than 90%. "The treatment was like a pain reliever," Justin said.

One year after completing ViPOR treatment, Justin returned to his job at the National Park Service full time, and 3 years later his cancer has not returned. Dr. Melani describes him as likely cancer free. "Many of these patients whose cancers stopped responding to standard treatments would have otherwise died within a year, and now we have a good proportion who are still alive 2 years later, and some now 5 years later," said Dr. Melani. "It's gratifying to see these long-term remissions and potential cures in patients."

Appreciating life without cancer

Justin has been cautious about celebrating too quickly. He waited until this past spring to have his infusion port removed. "The entire ordeal of having cancer, getting four separate treatments, and having my cancer return shortly after each treatment ended, has been stressful," he shared. "I still get anxiety when I feel pain in my body." He gets annual surveillance and is grateful that the screenings continue to show no cancer.

On social media, he participates in several cancer groups and encourages others with DLBCL to consider participating in the ViPOR trial. "I wouldn't be here without NCI," Justin effused. "The

NIH Clinical Center is one of the country's best kept secrets."

Justin looks forward to attending his elder son's high school graduation next year and spending more time with his younger son. He completed a bucket list item soon after he concluded the VIPOR protocol—visiting all 48 contiguous states, and he is planning additional trips. He and his wife want to travel with their sons and show them the coral reefs, as well as the redwood trees on the West Coast. Wherever Justin travels, you can bet he'll be enjoying the outdoors.

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