Clinical trial tests pirtobrutinib for patients previously treated for mantle cell lymphoma

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In a multi-center phase 1 and 2 trial (BRUIN, NCT03740529), researchers from leading cancer centers across the globe, including the Medical College of Wisconsin (MCW) in Milwaukee, tested Bruton tyrosine kinase inhibitor (BTKi), pirtobrutinib, in patients with pre-treated mantle cell lymphoma (MCL).

Results of the study, which assessed the efficacy of the drug in a cohort of 90 patients with poor survival prognosis, demonstrated the reversible BTKi drug to be both safe and effective in achieving inhibition of defective B-cells. The results were published by the *Journal of Clinical Oncology* on May 16.

MCL is an aggressive, rare subtype of B-cell non-Hodgkin lymphoma. Patients with relapsed/refractory MCL have historically had a median survival rate of less than 10 months. Resistance or intolerance to covalent BTKi drugs is common. Pirtobrutinib is the first BTKi of any kind to demonstrate durable efficacy in patients with relapsed/ refractory MCL previously treated with a covalent BTKi therapy.

In the study of patients between 46 and 87 years of age, with a median of three prior lines of therapy, more than half (57.8%) responded to the drug with a median duration of response of 21.6 months.

"This trial builds on years of research to identify a safe and effective way to target b-cell signaling pathways and extend longevity for patients with MCL who have not responded to other forms of treatment," said Nirav Shah, MD, associate professor of medicine at the Medical College of Wisconsin and the senior author on the study. "We now look forward to the results of future studies with pirtobrutinib, evaluating its role as a

second line treatment option for patients with R/R MCL (NCT04662255, actively enrolling at the MCW Cancer Center)."

More information: Michael L. Wang et al, Pirtobrutinib in Covalent BTK-Inhibitor Pre-treated Mantle Cell Lymphoma, *Journal of Clinical Oncology* (2023). DOI: 10.1200/JCO.23.00562

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