

Potential breast cancer drug performs well in early clinical trials

June 3 2014, by Courtney Mccrimmon

(Medical Xpress)—A drug previously studied to improve chemotherapy may be effective in treating patients with cancers related to the BRCA 1 or 2 genetic mutations, as well as patients with BRCA-like breast cancers, according to a University of Pittsburgh Cancer Institute (UPCI) clinical trial.

The results of the phase I study were presented today at the 50th annual American Society of Clinical Oncology (ASCO) annual meeting in Chicago.

The drug, veliparib (ABT-888), is a PARP inhibitor, which means it lowers the resistance of [cancer cells](#) to treatment by targeting the polymerase (PARP) family of enzymes responsible for a wide variety of cellular processes in cancer cells, particularly DNA repair.

"Cancer cells have increased levels of PARP, which we believe may, in part, lead to resistance to chemotherapies and other cancer treatments," said Shannon Puhalla, M.D., assistant professor of medicine, University of Pittsburgh School of Medicine, and breast oncologist with UPMC CancerCenter at Magee-Womens Hospital of UPMC. "Tumor cells in patients with BRCA mutations are particularly sensitive to the effects of PARP inhibitors due to underlying DNA repair abnormalities caused by the BRCA mutation. Veliparib can act as personalized medicine for patients with tumors caused by an inherited BRCA mutation, due to this particular sensitivity."

The study enrolled 60 patients with a BRCA genetic mutation and 28 patients without a mutation. The objectives of the trial included determining how veliparib affected cancer cells and observing how patients responded to the drug.

"We found that veliparib is well-tolerated by patients, with fewer side effects than what can be seen with chemotherapies. In addition, anti-tumor activity was detected in both our BRCA-positive and our BRCA-negative patients," said Dr. Puhalla.

Dr. Puhalla and a research team at UPCI have been investigating ABT-888 for five years. Their research began in the laboratory and progressed to human [clinical trials](#). Dr. Puhalla currently is leading a phase II clinical trial with ABT-888.

"Many cancer [patients](#) with BRCA mutations end up exhausting their treatment options. Veliparib may give them another option." Dr. Puhalla said.

Provided by University of Pittsburgh

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