

WEB EXCLUSIVES

PARP Inhibitors Successful Against Hard-to-Treat Breast Cancers

BY MELISSA WEBER

A new class of drugs called PARP inhibitors is getting some serious attention after a study in metastatic triple-negative breast cancer patients found that the agent BSI-201 significantly improved survival.

A phase II study randomly assigned 116 patients to receive chemotherapy (Gemzar [gemcitabine] and carboplatin) with or without intravenous BSI-201. For patients receiving the experimental agent, progression-free survival (the time before the tumor progressed) reached 6.9 months, compared with 3.3 months for the chemotherapy-alone group. Overall survival hit 9.2 months for the BSI-201 arm versus 5.7 months for patients not receiving the drug. Side effects were similar between the two groups, the most common of which were low blood counts.

A separate phase II study tested a different PARP inhibitor called olaparib as a single agent in patients with advanced breast cancer who have BRCA1 or BRCA2 mutations, a genetic alteration that predisposes a carrier to breast and ovarian cancers. In this single-arm trial, 11 of the 27 patients receiving the higher of the two doses used in the study had their tumors shrink by at least half. Side effects of the oral agent included mild nausea and fatigue.

PARP is an enzyme used by cancer cells to repair DNA damage—specifically the damage caused by chemotherapy. By inhibiting PARP, the cancer cells are more susceptible to the effects of treatment. PARP inhibitors are especially beneficial in patients who have deficient DNA repair systems, as is the case for those with mutations in BRCA1 or BRCA2.

A phase III study of BSI-201 in metastatic triple-negative breast cancer will launch at the end of June, said researchers.