Researcher discovers ovarian cancer treatment

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Doctors at the University of Arizona Cancer Center at St. Joseph's Hospital and Medical Center in Phoenix reported today in *Lancet Oncology* that a new treatment for ovarian cancer can improve response rates (increase the rate of tumor shrinkage) and prolong the time until cancers recur. In addition, this breakthrough showed a trend in improving survival although these data are not yet mature.

Trebananib (formally known as AMG 386; Amgen) is a first-in-class peptide-Fc fusion protein (or peptibody) that targets angiogenesis (the growth of new blood vessels into cancerous tumors) by inhibiting the binding of both angiopoietin 1 and 2 to the Tie2 receptor. This is very different mechanism of action than other agents that also effect angiogenesis by inhibiting vascular endothelial growth factor (VEGF) such as bevacizumab (Avastin; Genentech).

Trebananib does not increase the risks of hypertension (high blood pressure) and bowel perforation like bevaciuzmab, but still has a similar impact on tumor shrinkage and delaying cancer progression.

Neither agent has shown a definitive increase in survival at this point. TRINOVA-1 (Trebananib In Ovarian Cancer – 1; ClinicalTrials.gov, NCT01204749) was a randomized prospective phase III clinical trial that added trebananib or placebo to standard chemotherapy (weekly paclitaxel) among 919 women with recurrent ovarian cancer patient from 179 sites in 32 countries.

The trial was run by Professor Bradley J. Monk MD who directs the Division of Gynecologic Oncology at the University of Arizona Cancer Center at St. Joseph's in Phoenix and sponsored by Amgen. Dr. Monk's site also was the largest enrolling site in Arizona.

"This is an exciting new targeted medication in treating recurrent ovarian cancer. Recurrent ovarian cancer is almost always fatal and new treatments are desperately needed," said Dr. Monk. "TRINOVA-1 also showed that angiogenesis is a complex process in oncology and many new targets like angiopoietin 1/2 will allow us to more effectively inhibit the growth of new blood vessels that are necessary for cancer growth, metastases and progression. If we can stop cancers from growing by choking off their blood supply, we can help our patients feel better and live longer."

Amgen, the manufacturer of trebananib has not yet filed this agent with the US Food and Drug Administration (FDA) but has also enrolled two other ovarian cancer phase III trials that have not yet had reported results (TRINOVA-2 [NCT01281254], and TRINOVA-3 [NCT01493505]).

TRINOVA-2 is evaluating pegylated liposomal doxorubicin in combination with either placebo or trebananib in previously treated patients with ovarian cancer while TRINOVA-3, also known as ENGOT -Ov2 and Gynecologic Oncology Group - 3001, is studying the use of trebananib in front-line treatment adding it to carboplatin/paclitaxel. The results of these two additional trials are expected within a year and will hopefully add to a successful FDA application for approval making this agent available to American women with ovarian cancer.

The study will first be reported in the online editions of *Lancet Oncology* and then in the paper editions.

Provided by St. Joseph's Hospital and Medical Center