

Seeking new targets for ovarian cancer treatment

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Identifying molecular changes that occur in tissue after chemotherapy could be crucial in advancing treatments for ovarian cancer, according to research from Magee-Womens Research Institute and Foundation (MWRIF) and the University of Pittsburgh Cancer Institute (UPCI), partner with UPMC CancerCenter, presented today at the American Association for Cancer Research (AACR) Annual Meeting 2015.

For years now, intraperitoneal chemotherapy, a treatment which involves filling the abdominal cavity with [chemotherapy drugs](#) after surgery, has been considered the standard of care for ovarian cancer. According to Shannon Grabosch, M.D., a gynecologic oncology fellow at Magee-Womens Hospital of UPMC and the study's lead investigator, treatment advances for this disease haven't moved forward as quickly as they have for other cancers.

"The addition of intraperitoneal chemotherapy for women with ovarian cancer was one of the biggest achievements in improving survival outcomes, but unfortunately, we still don't understand the biological mechanisms by which this works," said Dr. Grabosch. "We wanted to understand what changes occurred to the local tumor environment after chemotherapy was administered, with the idea that these changes could eventually be targets for new, personalized [ovarian cancer](#) treatments."

Dr. Grabosch and her team examined peritoneal cavity fluid and peripheral blood samples of 13 patients. The samples were obtained prior to intraperitoneal treatment and after the first and second rounds of

chemotherapy. Using multiple sequencing techniques, Dr. Grabosch and her team identified chemotherapy-induced molecular changes.

"We were able to identify changes in both miRNA and genes which appear to be related to chemotherapy. Furthermore, we identified different, significant changes between the [peritoneal cavity](#) and [blood samples](#), proving that the local tumor environment is an underutilized wealth of information," said Dr. Grabosch. "Now we need larger studies to determine whether the changes that occur in the tumor microenvironment after chemotherapy could be potential targets for new, more personalized drugs and to further understand the mechanisms of intraperitoneal [chemotherapy](#)."

Provided by University of Pittsburgh Schools of the Health Sciences

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