

Stacking the deck against ovarian cancer

May 6 2016, by Brandi Klingerman

Nearly 70 percent of ovarian cancer cases are detected after metastasis, which is the development of secondary malignant growths distant from the primary site of cancer. Understanding ovarian cancer metastasis is a research focus of M. Sharon Stack, the Ann F. Dunne & Elizabeth Riley Director of the Harper Cancer Research Institute (HCRI) and Kleiderer-Pezold Professor of Chemistry and Biochemistry at the University of Notre Dame.

Stack's laboratory places an emphasis on understanding molecular mechanisms by which tumor cells manipulate micro-environmental cues in order to more efficiently metastasize. Knowing how cancer spreads is a key step in stopping the metastatic process in this late, but common, stage.

"It's important to delve deeply into understanding ovarian cancer on a molecular level and identify disease-specific targets," said Stack. "Not only will this help us find cures, but it will also assist in early detection efforts that are important for survival."

Stack has published more than 155 peer-reviewed research articles and reviews. Recently, alongside HCRI researcher Yueying Liu, she led a team of researchers in a study that found that [obesity contributes to ovarian cancer metastasis](#). The team used an integrative approach combining three-dimensional cell culture models, tissue explants and mouse models to evaluate tumor cell adhesion to cells that line the abdominal cavity.

In addition to leading a research group, Stack is at the forefront of cancer discussions and bringing researchers together to build on each other's knowledge. At the upcoming Midwest Ovarian Cancer Coalition (MWOCC) workshop at Notre Dame on May 21-22, researchers will examine the current state of ovarian cancer research in addition to how they can collaborate to more effectively combat the disease.

"The goal of the meeting is to bring together research groups and share our findings, as well as to learn from survivors as well as advocates," said Stack. "We want all women to have better treatment options and early detection, and this event will provide us the opportunity to collaborate on these topics."

When it comes to cancers affecting women, [ovarian cancer](#) has the lowest survival rate. Investigators in the Harper Cancer Research Institute are dedicated to conducting innovative and integrative research that confronts the complex challenges of all kinds of cancer. HCRI's programmatic structure fosters multidisciplinary cancer research by promoting interactions among research groups with distinct expertise and by training young scientists to work across scientific fields. Clinical partnerships provide key translational insight and strengthen the mission of discovery.

Provided by University of Notre Dame

Citation: Stacking the deck against ovarian cancer (2016, May 6) retrieved 18 April 2024 from <https://medicalxpress.com/news/2016-05-stacking-deck-ovarian-cancer.html>

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