



CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
RP180381

Project Title:
Mass Spectrometry Imaging to Uncover Predictive Metabolic Markers of
Ovarian Cancer Surgical Outcome and Treatment Response

Award Mechanism:
Individual Investigator Research Awards for Clinical Translation

Principal Investigator:
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Entity:
The University of Texas at Austin

Lay Summary:

Last year, 22,280 new cases of ovarian cancer were reported in the US along with 14,240 deaths. Women diagnosed with advanced stage ovarian cancer normally undergo a highly invasive surgery to remove most of the cancer found followed by chemotherapy. These complex surgeries have varied outcomes depending on the surgeon's skills but also the biology of the tumor. Many studies have shown that only patients whose tumors can be completely removed upfront benefit from surgery, while others benefit from first receiving chemotherapy. However, using current clinical methods it is very hard to predict if a patient will respond well to surgery or not. Further, although new drugs are being tested for ovarian cancer treatment, their mechanisms are not well understood so it is difficult to decide who will benefit from these new treatments. Thus, the ability to analyze and identify molecular signatures of tissues that can predict how a patient will respond to surgery or certain treatment options would be highly beneficial. We propose to use a powerful chemical technique to analyze ovarian cancer tissues with the goal of identifying metabolic signatures that predict how a patient will respond to surgery or to a specific treatment option. This technique allows metabolic information to be rapidly obtained from tissues without sample preparation, and thus has the potential to be employed in a hospital routinely to assist with treatment decisions. For this study, we will use patient tissue samples being collected through a controlled ovarian cancer program at MD Anderson Cancer Center, as well as samples from animal models being tested for new drugs. Our interdisciplinary team of researchers believe this technology has the potential to be successfully incorporated in the hospitals to improve and accelerate the treatment decisions for ovarian cancer patients.