Ovarian Cancer Survival Can be Predicted Investigators Report at AACR Meeting

Complete Remission in Advanced Epithelial Ovarian Cancer is Predicted by Metabolic Signatures Measured in the Media of Patient's Primary Culture 3D Tumor Explants

LONG BEACH, Calif. -- Investigators at the Nagourney Cancer Institute and Metabolomycs, Inc. will report today at the American Association for Cancer Research (AACR) Annual Meeting in New Orleans that they predicted the survival of ovarian cancer patients by measuring metabolic signatures in a tumor microenvironment. The results could harken a future in which oncologists could determine in advance how a patient will respond to treatment in order to improve survival outcomes.

According to the researchers, human tumor biology reflects a continuum from normality to malignant transformation to drug resistance all driven by global metabolic reprogramming.

"We have previously shown that platinum resistance in gynecologic malignancies is predicted by metabolic changes measured in the plasma of patients at the time of diagnosis," said Dr. Robert Nagourney, Founder and Medical Director of the Nagourney Cancer Institute. "We now show that the tumor microenvironment measured in the media of human tumor 1o culture explants provides similar insights into drug response for platinum-based therapy."

Ovarian cancer is the leading cause of gynecologic cancer death. While 80% of ovarian cases respond to platinum-based therapy, the majority of cases recur, and patients succumb within five years. With the growing interest in human metabolism as an important component of cancer biology, this report on ovarian cancer is the most recent of several of the team's analyses in several advanced cancers that confirms metabolomics' role in determining survival.

The investigators conducted quantitative tandem Mass Spectrometry (MS/MS) on the tissue culture media of human ovarian cancer explants to examine metabolic signatures of the tumor microenvironment following 3 days of culture in modified RPMI 1640.

The Mass Spectrometry conducted on 11 patients' tissue culture media compared 8 patients who achieved pathologic complete remission (pCR) with three patients with residual disease all following induction chemotherapy with Carboplatin plus Paclitaxel. Analyses included amino acids, biogenic amines, hexoses, phosphatidylcholines, lyso-phosphatidylcholines and sphingomyelins.

"With such insight, we are on the verge of more accurately determining the best course of treatment for those with ovarian tumors," said Dr. Nagourney.

About the Nagourney Cancer Institute and Metabolomycs

The Nagourney Cancer Institute is a clinical research center that has pioneered the study of human tumor tissue for individualized cancer patient drug selection and has facilitated cancer drug discovery. Metabolomycs, Inc is a California-based corporation that applies metabolic signatures measured by mass spectrometry to study human health and disease.

Visit www.nagourneycancerinstitute.com and www.metabolomycs.com for more information.