Celebrating Women's History Month

Priscilla K. Brastianos, MD, is driven to find cures.

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Damon Runyon Clinical Investigator Priscilla K. Brastianos, MD, is driven to find a cure for metastatic cancer. Dr. Brastianos's grandmother was 23 years old when she felt a breast mass during medical school training and diagnosed herself with breast cancer, only to pass away at 29 when the cancer had metastasized to the spine. Four decades later, her mother faced the same devastating diagnosis. After living through therapy after therapy that failed, she lost the fight to breast cancer that had metastasized to the brain.

"It is the story of these women, along with my patients, that inspire me every day to find better treatments for metastatic disease," says Brastianos, director of the Brain Metastasis Program at Massachusetts General Hospital and Assistant Professor at Harvard Medical School. "I want to change the face of metastatic cancer because 90 percent of cancer patients die of cancer metastasis."

he directs an international effort to study how cancer metastasizes to the brain, which has collected hundreds of samples of primary tumors and the matched metastasized cancer tissue. "Damon Runyon funding allowed me to initiate a high-risk project in an understudied area of oncology: brain metastases. This helped me create a national and international network of collaborators."

In all the cancer samples, they discovered that the metastatic and primary sites shared a common cancer cell ancestor, but then the tumors evolved independently. The cells in a metastatic brain tumor, for instance, had new mutations that were not present in the primary breast cancer. The Brastianos lab is exploring new opportunities for targeted therapies beyond those that are used when a patient is first diagnosed. As Brastianos identifies common biological pathways in primary and metastatic brain tumors, she rapidly translates this work into promising treatments that are tested in clinical trials. Some patients have already responded remarkably well to these novel therapeutic approaches. Her research is impacting the diagnosis and treatment brain tumors and giving hope to patients.

As a role model to young women, she advises, "Do not be afraid to be bold and pursue your passions. A career in science is highly rewarding and great fun! Knowing that my lab discoveries can impact patient care makes this all worthwhile."

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