



Sylvester Researcher Aims for Early Detection of Ovarian Cancer with Support from \$500,000 Philanthropic Gift

Sophia George, Ph.D., is hoping to find new strategies for early detection of ovarian cancer, a disease that is particularly deadly for African American, Caribbean, and Jewish women.

“While two-thirds of patients respond well to targeted cancer therapies, early detection and prevention is a much better strategy,” said Dr. George, associate professor in the Department of Obstetrics, Gynecology and Reproductive Sciences and inaugural associate director of diversity, equity, and inclusion at Sylvester Comprehensive Cancer Center at the University of Miami Miller School of Medicine.



Sophia George, Ph.D.

Dr. George's pioneering genetic research will be advanced by a \$500,000 charitable contribution from New York-based Royalty Pharma plc, a buyer of biopharmaceutical royalties and funder of innovation across the biopharmaceutical industry.

"Royalty Pharma is committed to supporting academic research aimed at saving lives, advancing precision medicine, and reducing health disparities," said Pablo Legorreta, founder and CEO. "Dr. George's leading-edge genetic research is needed to understand why ovarian cancer impacts some patients more than others, and why outcomes are less favorable for some populations. Answering those questions could lead to better screening protocols and personalized therapies, resulting in long-term disease-free outcomes."



Gift Supports Nationally Recognized Research

Stephen D. Nimer, M.D., director of Sylvester, holder of the Oscar de la Renta Endowed Chair in Cancer Research, and executive dean for research and professor of medicine, biochemistry and molecular biology at the Miller School, said, “We are so very grateful to Royalty Pharma for its generous gift, which supports our innovative Gynecologic Cancer Research Program.”

Dr. Nimer added, “Our team is conducting nationally recognized research in ovarian, endometrial, and cervical cancers. We know that early detection of ovarian cancers is an important step toward reducing the human burden of these devastating diseases.”

Recognizing Sylvester’s longstanding commitment to addressing the inequities that perpetuate cervical cancer in South Florida and beyond, the World Health Organization (WHO) in November designated Sylvester as the first WHO Collaborating Centre for Cervical Cancer Elimination. Sylvester researchers, such as Dr. George, are working closely with the Pan American Health Organization, the WHO’s regional office for the Americas, to identify practices that accelerate the elimination of this deadly disease.

While the last decade has seen major clinical advances, ovarian cancer remains the most lethal gynecologic malignancy, with more than 21,000 new cases and 13,000 deaths in the United States in 2020 alone.

“One of the reasons ovarian cancer is so deadly is that the symptoms, such as abdominal bloating and lower back pain, are common to many women,” said Dr. George. “By the time pain



prompts women to see a clinician, the cancer is often at an advanced stage, making it far more difficult to treat.”



Pablo Legorreta, founder and CEO, Royalty Pharma plc

Hereditary Cancer Syndromes

Most advanced cases are associated with a pre-cancerous lesion called serous tubal intraepithelial carcinoma (STIC), which can be found in the portion of the fallopian tube closest to the ovary. With support from Royalty Pharma, Dr. George will analyze the fallopian tube cells in women at risk for a known hereditary cancer syndrome as well as those from other genetic backgrounds.

Certain sub-populations, including Black women of Afro-Caribbean descent and Ashkenazi Jewish women, carry BRCA1 and BRCA2 gene mutations and experience hereditary breast and ovarian cancer syndromes at significantly higher rates than the global average, said Dr. George. “With its diverse



population base, Miami is an ideal location for these types of genetic studies,” she said.

Dr. George said hereditary cancer syndromes, which account for about 25% of ovarian cancers, are a prime target for early detection followed by testing of family members and risk-reducing preventative surgery for women with cancer-causing mutations. In her new study, Dr. George plans to leverage single-cell DNA sequencing technologies in a collaborative team approach to identify genetic mutations that could be implicated in the other 75% of ovarian cancer cases.

“Studies of high-risk populations have shown that screening with pelvic ultrasound and a protein blood test results in diagnosis at an early stage and improves survival,” said Dr. George. “In the absence of data on screening for women in the general population, our team is ready to explore new preventative approaches.”

Goals ‘Deeply Aligned’

A Caribbean native, Dr. George joined Sylvester in 2015, where she studies breast and ovarian cancers in her laboratory. Her work is funded by the National Institutes of Health (NIH), the Department of Defense Ovarian Cancer Research Program, and the Chan-Zuckerberg Initiative for her work on the African-Caribbean single cell ancestry network, which will map cells as part of the human cell atlas of the fallopian tube, breast, and prostate from individuals across six countries (The Bahamas, Haiti, Jamaica, Kenya, Nigeria, and the U.S.).

Dr. George is also co-leader of the women’s cancer working group in the African Caribbean Cancer Consortium and co-principal investigator of the Transatlantic Gynecologic Cancer



Research Consortium.

Since founding Royalty Pharma 25 years ago, Legorreta has built strong partnerships with leading academic medical institutions, helping them build new clinical and research facilities while accelerating the development of new, life-saving therapies. Legorreta is also founder and chairman of Alianza Médica para la Salud, a nonprofit dedicated to enhancing the quality of health care in Latin America by offering continued education opportunities for doctors and healthcare providers.

“Sylvester’s research, education, and clinical programs are deeply aligned with Royalty Pharma’s values and philanthropic goals,” said Legorreta. “By supporting Dr. George’s leading-edge genetic research, we will take an important step in helping patients and families, while addressing health disparities in cancer outcomes.”

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