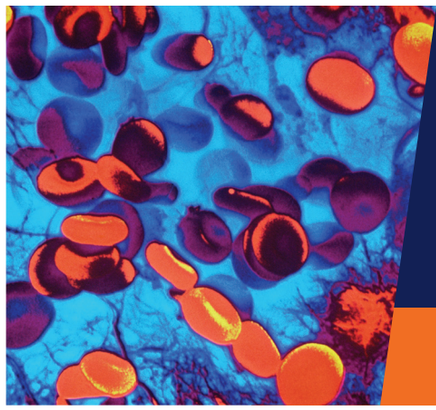

UNIVERSITY of VIRGINIA HEALTH SYSTEM

UVA Tissue Bank News

SPRING 2019 ISSUE 3

UVA CANCER CENTER An NCI-Designated Cancer Center

Powerful Effort to Better Understand Cancer

We celebrated a major milestone in January 2019 as we entered our fourth year of participation in the Oncology Research Information Exchange Network (ORIEN). We enrolled our 3,500th patient to the Partners in Discovery for Total Cancer Care protocol.

The ORIEN network has grown to 19 cancer centers across the nation, with more than 240,000 patients participating. As part of the national effort to better define cancers on the genetic and molecular level, 280 patients from UVA have donated cancer samples for comprehensive DNA and RNA analysis. As we continue this effort, we send an average 15 to 20 cancer samples a month for analysis. The molecular data is tied to information on treatment responses and other clinical data, which makes this effort so powerful in helping us understand not only how cancers originate, but what characteristics make them more or less sensitive to therapy.

In addition to nationwide research efforts, patients participating in ORIEN have supported 10 studies being carried out by UVA doctors and scientists, who have also benefited from access to donated tissue, blood and bone marrow samples as well as clinical data. All in all, our generous patient volunteers, UVA staff, and the ORIEN network are supporting each other in sharing information and resources to advance cancer research.

UVA Investigators Collaborate as Part of ORIEN New Oncologic Visionary Awards

New Oncologic Visionary Awards (NOVA) were awarded for collaborative projects among ORIEN member institutions. As ORIEN member institutions, these sites have a specimen biobanking protocol based on a protocol similar to our Partners in Discovery for Total Cancer Care at UVA. UVA investigators are involved in two of these awarded projects:

1. Characterization of poor-risk relapsed non-Hodgkin's lymphoma subtypes for precision medicine – Craig Portell, MD, and Michael Williams, MD, working in collaboration with project-leader Emory Winship Cancer Institute

2. Chromatin abnormalities and endogenous retrovirus expression as a novel biomarker of response to immune checkpoint therapy in low mutation burden cancers – Craig Slingluff, MD, working in collaboration with project-leader Rutgers Cancer Institute of New Jersey

You Are Vital to Our Progress

You are receiving this newsletter because you graciously decided to participate in Partners in Discovery for Total Cancer Care at UVA — a specimen biobanking project sponsored by UVA Cancer Center. Samples in our biobank are donated by UVA patients like you who sign a consent form and agree to have their samples used in medical research. The biobank is a valuable resource for researchers who are studying a wide variety of cancers. We created this newsletter so we can keep participants like you informed of our progress with this effort.

$5 Million Grant Awarded to UVA Biobank

The National Cancer Institute (NCI) has awarded a $5 million, 5-year grant to Dr. Christopher Moskaluk, head of the UVA Cancer Center Biorepository and principal investigator of the Partners in Discovery for Total Cancer Care at UVA.

This grant makes UVA a participant in one of the NCI's oldest and most successful biobanking efforts, the Cooperative Human Tissue Network.

This network is helping to transfer more than 1 million donated patient samples to research labs across the country, supporting more than 4,000 published research studies.

The types of information gained from these studies include:

- Many new gene mutation discoveries in cancer
- The use of RNA assays to subtype cancers into specific new categories
- The identification of many new cancer prognostic biomarkers

This grant means that patient samples donated at UVA will have even more avenues to support some of the best research programs occurring not only locally, but across the nation.

Precision Cancer Care at the University of Virginia

By Matt Reilley, MD

One of the biggest challenges with cancer is that it arises when normal cells 'go bad.' Because the cancer cells are in most ways similar to normal cells, the treatments that attack the cancer also affect the normal cells, leading to side effects. However, cancer cells do have important differences from normal cells, and those differences almost always are what cause the cancer to behave badly. In 1960, Peter Nowell and David Hungerford reported an abnormal chromosome that was present in the majority of patients with chronic myelogenous leukemia (CML). Later called the Philadelphia chromosome (named after the city where the two worked), it took decades of research to understand that this faulty chromosome created a cancer-causing gene mutation. Acting like a defective switch stuck in the 'on' position, it causes the blood cells to always be growing and multiplying. Only after this molecular mechanism was understood was a new drug developed, imatinib (Gleevec), that could be used to block the 'always on' signal in cancer patients. It was approved by the FDA in 2001 and now is a critically important treatment for patients with a variety of different cancers. In the past two decades, the example of imatinib has paved the way for dozens of other molecularly targeted therapies that have improved the lives of countless patients.

We are continually discovering new groups of patients whose cancer is driven by abnormal signals due to alterations in cancer cell DNA. These discoveries have been greatly aided by the participation of patient volunteers like those in our Partners in Discovery program at UVA. Their donated samples allowed scientists to analyze them for new cancer-causing gene mutations and responses to new candidate cancer drugs. As a result of these new discoveries, tumor molecular profiling through genomic testing has become increasingly important in the treatment of many types of cancer. Many findings are directly linked to an approved drug but there are often results from this testing that have unclear significance.

In Fall 2018, we started a molecular tumor board at UVA Cancer Center to help guide decision-making based on tumor genetic results. The group includes specialists from across multiple fields to review and help with the interpretation of findings for individual patients. This group benefits from expertise across multiple disciplines with the goal of providing the most current information to help match patients with the best possible treatments. It also provides common space for clinicians and research scientists to share ideas on cancer research and treatment.

While molecular and genetic results already play an important role in precision cancer care, they will only become more important in the future. The Partners in Discovery program at UVA and the national research programs we participate in, like ORIEN, are creating opportunities for researchers to ask more questions on 'What goes wrong in cancer and how do we treat it?' As with the Philadelphia chromosome, these findings will lay the foundation for a better understanding of different cancers and new precision treatments. Ultimately, our goal is for the UVA molecular tumor board to serve as both bridge and accelerator — to use the most advanced knowledge to safely match patients with the best treatments for their cancer.

UNIVERSITY of VIRGINIA HEALTH SYSTEM

UVA CANCER CENTER
An NCI-Designated Cancer Center

University of Virginia Health System
PO Box 800224
Charlottesville, VA 22908-0224

OUR TEAM

Christopher Moskaluk, MD, PhD
Principal Investigator
cam5p@virginia.edu
434.982.4408

Joyce Agati Miller, PhD
Program Director
jma8m@virginia.edu
434.243.3983

Lea Becker, MT (ASCP), CCRC
ORIEN Project Associate
lhb2k@virginia.edu
434.297.4320

Galina Diakova, MS, CCRC, CCRP
ORIEN Data Coordinator
gbd4g@virginia.edu
434.924.5990

Jay Glick, BS
ORIEN Research Coordinator
jme3d@virginia.edu
434.243.3642

Emily Hoade, BA
ORIEN Research Coordinator
esh5rq@virginia.edu
434.924.5524

Emily Leytham, BS
ORIEN Research Coordinator
el5mf@virginia.edu
434.243.4717

Prefer an Electronic Newsletter?
Prefer to receive an electronic version of the newsletter instead of a paper copy? Please send an email with your request and full name to ORIEN@virginia.edu.

Prefer to Opt Out of the Newsletter?
To stop receiving this newsletter, please send an email with your request and full name to ORIEN@virginia.edu.

Want to Withdraw from ORIEN?
If you decide that you would like to withdraw from the program, you may do so at any time without any effect on your care at UVA Cancer Center. Please send an email to ORIEN@virginia.edu or a written letter to:

ORIEN Program c/o Joyce Miller
UVA Cancer Center
PO Box 800334
Charlottesville, VA 22908-0334