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Finding a Key to the Cure

Every October, Arizona Foothills Magazine has always participated in bringing awareness to breast cancer and raising funds to find a cure. This year, we will continue to partner with Saks Fifth Avenue for the Key to the Cure event, which supports TGen (Translational Genomics Research Institute). This is my favorite fashion show by far each and every year in the Valley. The community dresses up and energy is very high. Plus, there's great people-watching, Champagne, food and of course, shopping. Usually, everyone migrates over to Christopher's Restaurant after for lunch. If you have not gone, you are missing out.

We live in an amazing city where cutting-edge research is taking place at TGen. As researchers and clinicians at TGen work toward developing new treatments for many of today's cancers, an area that remains challenging is how to stop cancer from metastasizing to the brain. Today, improved drug treatments provide many cancer patients longer lives, and in many instances, these therapeutics knock down cancer cells at their point of origin.

But something else is happening, too: Researchers are seeing these cancer cells change, adapt and migrate to the brain, where treatment options are limited and the disease is almost always fatal. TGen Associate Investigator Dr. Nhan Tran leads a nationwide research team studying how to stop breast cancer cells from invading the brain. "This will open up a huge research arena at TGen," says Tran, who is co-heading the Breast Cancer/Central Nervous System Metastasis (CNS Mets) Project, which eventually could affect all aspects of TGen cancer research.

A central goal of the project is to identify cellular pathways, biomarkers and other key molecular mechanisms that will help scientists find ways to prevent this type of cancer—CNS Mets—from entering the brain. Researchers in clinical trials are finding new drug treatments that are successfully shrinking tumors, allowing cancer patients to live longer, healthier lives. The downside, however, is that as patients live longer, their cancers often invade other parts of the body. And cancers that migrate to the brain often erupt in multiple sites, making it almost impossible to remove them by surgery or radiation, or even a combination of both.

"This project has huge implications for patients in clinical trials," says Dr. Tara Iyengar, a co-principal investigator on the study with Tran and a drug development scholar at TGen Clinical Research Services (TCRS) at Scottsdale Healthcare, where more than 30 clinical trials are underway. TCRS, at the Virginia G. Piper Cancer Center, is a partnership of TGen and Scottsdale Healthcare.

"Brain metastases, in general, are an under-funded area of research. Most clinical-trial protocols will not allow patients with brain metastases; the few that do have strict requirements about radiation treatment and steroid support. This makes it very difficult for a large population of patients to receive new innovative drugs," Iyengar says.

"If we can highlight pathways that drive these metastases, we could potentially find drugs that could inhibit further growth," Iyengar says. "This would have a major impact on survival. We have made great strides in controlling systemic disease. But if we can't control CNS Mets, the patient succumbs to this disease."

This study pairs a TGen scientist with a Van Andel Research Institute scientist as a way to accelerate the research at both institutions, as well as leverage subsequent grants, mainly from the National Institutes of Health.

The project also received funding from the Bruce T. Halle Family Foundation, and from the C.A.R.E. group at Desert Mountain. Eventually, the findings will be applied to other cancers.

The research TGen is doing will make a difference in the lives of our family and friends. We ask you to support TGen by coming out to the annual Key to the Cure fashion show at Saks Fifth Avenue on Oct. 21. Tickets

are \$75 per person; VIP tickets are \$125. To learn more, please log onto AZFoothills.com.

God bless you and your family.

Michael S. Dee *President and Publisher*