YEAR IN REVIEW

Preston Robert Tisch Brain Tumor Center at Duke

FALL 2013

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Poliovirus to Save Woman from Cancer

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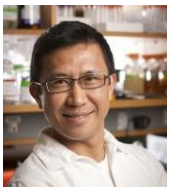
Immortality gene mutation identifies brain tumors and other cancers



Newly identified mutations in a gene that makes cells immortal appear to play a pivotal role in three of the most common types of brain tumors, as well as cancers of the liver, tongue and urinary tract, according to research led by Duke Cancer Institute. The finding was published in May of 2013 in the journal Proceedings of the National Academy of Sciences, and provides a long-sought answer to how some malignant cells are able to proliferate, while normal cells peter out and die. Led by Hai Yan, M.D., Ph.D., a professor of pathology and investigator at the Preston Robert Tisch Brain Tumor Center, the research team includes collaborators at Johns Hopkins and multiple other institutions. See full story at www.cancer.duke.edu/btc.

Duke doctors use poliovirus to save woman from cancer

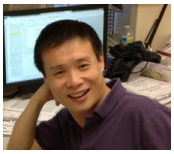
Doctors at Duke went to radical lengths to save the life of a then 20-year-old college student from South Carolina, stricken with one of the most aggressive forms of brain tumors.

Stephanie Lipscomb's mom noticed something was wrong with her daughter in June 2011. "We couldn't get rid of the headaches no matter what we tried," Lipscomb's mother said. She went to a local hospital to get it checked out, but what doctors found was completely unexpected. "It was Glioblastoma, stage four," Stephanie said. "This isn't supposed to happen to me. I'm only 20." Stephanie's tumor returned in April of 2012 despite radiation therapy, chemotherapy, and the surgery to remove the tumor.

Dr. Matthias Gromeier, Associate Professor in the Department of Neurosurgery and Dr. Annick Desjardins , Associate Professor and principal investigator, suggested something radical; killing her cancer cells with the poliovirus. Dr. Gromeier discovered back in 1998 that the virus can attack other cancer cells, but had to research and test the theory for the last decade. Lipscomb's brain responded to the engineered poliovirus. Gromeier said that this is not a cure and that more research needs to be done.

"These early results are intriguing," Dr. Annick Desjardins said. "Current therapies for glioblastoma are limited because they cannot cross the blood-brain barrier and often do not specifically attack the tumor. This treatment appears to overcome those problems." Lipscomb is finishing her nursing degree and getting her life back on track. For more information about the poliovirus research go to www.cancer.duke.edu/btc

NCCN Names Young Investigator Award



Yiping He, Ph.D., Assistant Professor of Pathology, won the National Comprehensive Cancer Network (NCC) Foundation Young Investigator Awards Grant for his proposed research. Dr. He won for a proposal on "Genetic approaches for analyzing the role of aberrant MLL2 in tumorigenesis." The award provides total support of $150,00 over a two year period starting in September 2013. Dr. He will also get a travel/housing grant to attend and present data at the NCCN annual conference.

Angels Among Us 5K Run & 3K Walk Celebrates 20th Anniversary

In April, 2013, Angels Among Us celebrated 20 years of raising funds for brain tumor research at the Preston Robert Tisch Brain Tumor Center. Established in 1994, this event has contributed over $14 million to help find a cure for brain tumors. This past year saw a record $2,015,618 raised with the help of over 365 teams from across the country. Please mark your calendar and join us for the 21st Angels Among Us 5K and 3K Family Walk on Saturday, April 26, 2014. For details go to www.angelsamongus.org.

Duke Medicine Pavilion Opens

Duke University Hospital held its July 27, 2013 opening of the new Duke Medicine Pavilion, a major expansion of Duke University Hospital addressing patient needs and the increasing demand for Duke Medical services and priority programs.

The 8-floor, 608,000 sq. ft. pavilion includes 160 critical care rooms, 44 pre-operation bays, and 18 operating rooms. The new units are generally bigger and have more advanced technology than the older facility. For example, a patient lying in the new pre-op bays will have their vitals monitored and connected to the nurse's phone, so the nurse can respond quickly if there are any sudden changes.

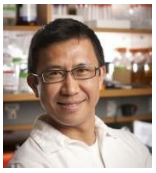
The building includes a patient resource center, patient rooms with couches that turns into workspaces and beds for family members, an interfaith chapel and a new café.

Duke Medicine Pavilion opens with intraoperative MRI, CT suites

Following its July 27, 2013 opening, the Duke Medicine Pavilion reached another major milestone with the opening of its new intraoperative suites. The suites feature the latest in imaging technology — one with a ceiling-mounted intraoperative magnetic resonance imaging (MRI) system, and a ceiling-mounted intraoperative computed tomography (CT) system. Duke University Hospital is the first in the country with both types of ceiling-mounted systems. These state-of-the-art, SUV-sized intraoperative systems travel on overhead rails between adjoining operating rooms on DMP Level 3, allowing the surgical patient to remain stationary on the operating table while being imaged in real-time.

The groundbreaking use of the intraoperative MRI—the first such device in North Carolina—occurred Sept. 4 during brain tumor surgery performed by Allan Friedman, MD, chief of the Division of Neurosurgery, deputy director of The Preston Robert Tisch Brain Tumor Center. "The intraoperative MRI allows us to see what we have done while the patient is still in the operating room and before the final wound closure," he said. "So you take an operation that's a good operation and you make it better. At Duke we have an international reputation for the quality of our tumor resections. If the intraoperative MRI scan shows a small amount of residual tumor, the surgeon decides whether the residual tumor can be safely removed or whether its removal will harm the patient. Once the patient leaves the operating room, their surgery has been completely optimized to the best of the surgeon's ability."

Darell D. Bigner, M.D., Ph.D. Young Investigators Award Established



In honor of the scientific contributions and commitment of Dr. Darell D. Bigner, Director of the Preston Robert Tisch Brain Tumor Center at Duke, this award was established to commemorate the 75th Anniversary of the center and recognize the outstanding achievements of a physician scientist dedicated to finding a cure for brain tumors. The recipient must demonstrate excellence in their research, great passion to understand the "how" and "why" of brain tumors and an extraordinary commitment to winning the battle and bringing hope to brain tumor patients and their families. The first award, presented in 2012, was awarded to Hai Yan, M.D., Ph.D., and the 2013 award was given to Bryan Choi, M.D., Ph.D.

Jason Watts, M.D., Ph.D. Joins Staff of Tisch Brain Tumor Center

Jason Watts, M.D., Ph.D., joins the clinical team of Drs. Henry Friedman, Katherine Peters, Annick Desjardins, Tulika Ranjan and Gordana Vlahovic as the center's hospitalist. In this role, he is responsible for the care of brain tumor patients admitted to Duke University Hospital. He is a graduate of the University of Pennsylvania School of Medicine.