Brain Tissue Resource Facility

General Information

The VCU Brain Tissue Resource Facility (BTRF) was established in 2010 as an integral part of the VCU Parkinson's Disease Center of Excellence. The BTRF is dedicated to assisting families of patients with neurodegenerative diseases in exploring the possibility of an autopsy and human brain tissue donation for research. Discoveries, from work made possible by donated tissue, further the understanding of both the normal and abnormal workings of the human brain. New information about Parkinson’s disease (PD) and other neurodegenerative diseases such as Alzheimer’s and ALS (Lou Gherig's disease) is the critical first step in the creation of novel, targeted therapies for fighting these diseases.

Many years of concentrated effort by the scientific community has made it clear that the experiments with cell and animal models to mimic human neurodegenerative diseases don’t give the whole picture of the disease process and have not lead to effective new therapies. The use of human tissue to validate the results obtained from other lines of research is critical to the accurate and efficient advancement of scientific knowledge about these diseases. By bringing together the efforts of professionals from different disciplines within the VCU community, the BTRF makes it possible for families to gain any knowledge needed about the autopsy procedure. If brain tissue is donated, it can be done knowing that this delicate tissue is handled with the utmost care and precision in facilities with the latest in scientific technology.

Human brains for research purposes are obtained during the course of an autopsy or post-mortem examination. Ideally, an autopsy takes place very shortly after a patient has expired. Many studies examine gene expression changes, including our studies, which require a 15-18 hr time window for obtaining and freezing the tissue to preserve the sample. We can only accept tissue for research within this time frame, and our Pathology Department will only remove tissue for us during normal working hours, Monday through Friday. So due to the timing of events, we may not be able to accept tissue for research purposes. At the time of donation, tissue samples are taken for histopathological analysis by a NeuroPathologist.
Immediately following the autopsy the body of the loved one is returned to the family for the funeral arrangements of their choice. An autopsy does not interfere with an open casket funeral or other traditional funeral arrangements. Transportation for the body to-and-from the VCU Health and post-mortem examination charges are covered for patients who meet donation timing criteria. Funeral expenses remain the responsibility of the family.

A report of the findings from the autopsy will be sent to the next-of-kin and the patient’s personal physician, if requested. This information may help the family better understand the patient’s illness and could aid in the diagnosis and treatment of related family members. In cases where a definite diagnosis is only possible by post-mortem examination of the brain, confirming the diagnosis adds valuable statistical data to what is known about how often the disease occurs.

The patient’s family plays a key role in the final decision of whether or not to obtain an autopsy and donate tissue. Although the deceased person may have wanted to donate her/his brain, the next-of-kin must give consent for the autopsy and brain donation to take place. This makes it very important that families and, if possible, the patient discuss and preplan the decision for an autopsy. The staff of the BTRF is always available to provide support and any information requested. If the decision is made to obtain an autopsy, the next step is register for the program. I will gladly send this additional information to those interested along with a more detailed packet of instructions.

Please note, accurate data on the normal aging brain is essential to understanding what has changed in neurodegenerative diseases. For this reason, spouses and family members without neurologic disease will also be considered for tissue donation to the BTRF.

Peer-reviewed scientific papers published by members of the VCU Parkinson’s Disease Center that were possible because of the availability of donated human brain tissue:

Arkun, K; Rice, AC; Bennett, JP Jr; Effect of Lewy Bodies on mitochondrial DNA Copy Numbers and Deletion Burden in Parkinson’s disease Substantia Nigra Neurons. Journal of Alzheimer’s Disease and Parkinsonism. In press

Rice, AC; Keeney, PM; Algarzae, NK; Ladd, AC; Thomas, RR, Bennett, JP Jr. Mitochondrial DNA Copy Numbers in Pyramidal Neurons are Decreased and Mitochondrial Biogenesis Transcriptome Signaling is Disrupted in Alzheimer’s Disease Hippocampi. Journal of Alzheimer’s Disease, 2014, 40:319-33C.


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