

Resource Summary Report

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CTE and Post-traumatic Neurodegeneration: Neuropathology and Ex Vivo Imaging

RRID:SCR_006543

Type: Tool

Proper Citation

CTE and Post-traumatic Neurodegeneration: Neuropathology and Ex Vivo Imaging
(RRID:SCR_006543)

Resource Information

URL:

http://projectreporter.nih.gov/project_info_description.cfm?aid=8661937&icde=19363283&ddparam=

Proper Citation: CTE and Post-traumatic Neurodegeneration: Neuropathology and Ex Vivo Imaging (RRID:SCR_006543)

Description: Initiative to assemble a multicenter team of expert neuroscientists to evaluate the late effects of Traumatic brain injury (TBI), including single and repetitive TBI of varying severity, and Chronic Traumatic Encephalopathy (CTE), using histological examination of postmortem bio specimens and neuroimaging tools as a foundation to develop in vivo diagnostics. As a first aim, this proposal will bring together a team of 5 accomplished neuropathologists in neurodegenerative disease to establish consensus criteria for the post-mortem diagnosis of CTE. This team will also define the stages of CTE pathology, the features that differentiate CTE from other neurodegenerations and the effects of substance abuse, and the characteristics of posttraumatic neurodegeneration after single TBI. As a second aim, this proposal will establish a national bio specimen and data bank for TBI (Understanding Neurological Injury and Traumatic Encephalopathy (UNITE) bio bank) by developing a nationwide brain donor registry and hotline to acquire high quality bio specimens and data. The UNITE bank will use strictly standardized protocols and a web-based interface to ensure that tissue and data are readily available to qualified investigators. Comprehensive retrospective clinical data including clinical symptoms, brain trauma and substance abuse history, and medical records (including common data elements) will be entered into a secure database. Behavioral/ mood dysfunction, cognitive changes, substance abuse and traumatic exposure will be correlated with quantitative assessment of the multifocal tauopathy, Ass deposition and axonal injury. As a third aim, neuroimaging signatures of the neuropathology will be determined in post-mortem tissue using high spatial resolution diffusion tensor imaging (DTI) and autoradiography using a highly selective PET ligand for tau. Quantitative assessment of axonal injury, tau, and Ass will be correlated with ex vivo DTI abnormalities

and tau ligand autoradiography. Pilot neuroimaging studies of individuals at high risk for the development of CTE will also be conducted in the final 2 years of the proposal. This proposal will determine the clinical and neuroimaging correlates of CTE and posttraumatic neurodegeneration and create the groundwork for establishing their incidence and prevalence. This study will have a tremendous impact on public health of millions of Americans and greatly increase our understanding of the latent effects of brain trauma.

Abbreviations: CTE and Post-traumatic Neurodegeneration: Neuropathology and Ex Vivo Imaging

Synonyms: Chronic Traumatic Encephalopathy and Post-traumatic Neurodegeneration: Neuropathology and Ex Vivo Imaging

Resource Type: topical portal, disease-related portal, portal, research forum portal, data or information resource

Keywords: brain bank, biospecimen repository, neuroimaging, brain, neuropathology, dti, pet, clinical, cognitive decline, dementia, axonal injury, aggregated protein, neurodegeneration, post-mortem, incidence, prevalence, risk factor, clinical course, treatment, diagnosis, biomarker

Related Condition: Traumatic brain injury, Chronic traumatic encephalopathy

Resource Name: CTE and Post-traumatic Neurodegeneration: Neuropathology and Ex Vivo Imaging

Resource ID: SCR_006543

Alternate IDs: nlx_156786

Record Creation Time: 20220129T080236+0000

Record Last Update: 20260728T043235+0000

Ratings and Alerts

No rating or validation information has been found for CTE and Post-traumatic Neurodegeneration: Neuropathology and Ex Vivo Imaging.

No alerts have been found for CTE and Post-traumatic Neurodegeneration: Neuropathology and Ex Vivo Imaging.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 1 mentions in open access literature.

Listed below are recent publications. The full list is available at [SPARC SAWG](#) .

Thompson AJ, et al. (2010) Variants in the ITPA gene protect against ribavirin-induced hemolytic anemia and decrease the need for ribavirin dose reduction. *Gastroenterology*, 139(4), 1181.