Resource Summary Report

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Neuropathology of CTE and Delayed Effects of TBI: Toward In-Vivo Diagnostics

RRID:SCR_012951
Type: Tool

Proper Citation

Neuropathology of CTE and Delayed Effects of TBI: Toward In-Vivo Diagnostics (RRID:SCR_012951)

Resource Information

URL:
http://projectreporter.nih.gov/project_info_description.cfm?aid=8662111&icde=19363315&ddparam=&d

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Description: A multi-center and multi-disciplinary study designed to dramatically increase understanding of chronic traumatic encephalopathy (CTE) and other late effects of traumatic brain injury (TBI). Overlapping clinical features, postmortem pathologies and patterns of involvement exist in TBI, CTE, and Alzheimer"s disease pose challenges to accurate diagnosis. Premortem diagnosis of CTE is currently impossible. The neuropathological consequences of single mild or moderate-severe TBI and its relationship with CTE and known dementias are unclear. The proposed project will leverage extensive resources from an ongoing population-based prospective cohort study of brain aging (Adult Changes in Thought; ACT, n=2,305) which includes excellent medical, behavioral, and genetic characterization of a cohort (20% of whom have a history of mild-moderate TBI) in addition to state-of-the-art neuropathology workup upon death. Neuropathological study of TBI effects can begin immediately in the existing ACT autopsy sample (n=489, 20% with TBI exposure). Additional cohorts of TBI- exposed individuals will come from the Brain Injury Research Center at Mount Sinai (n=150 individuals with moderate-severe TBI), the University of Texas Southwestern (n=50 retired boxers with repetitive TBI exposure), and the National Football League (n=76 retired players with repetitive TBI exposure). All participants in the proposed study (ACT and other sites) will undergo uniform harmonized neurobehavioral assessment (chosen to maximize correspondence with existing large-scale TBI and dementia studies), MRI scan, and genomic analysis. Those individuals who expire during the course of the study will undergo ex-vivo neuroimaging and extensive neuropathological exam using state-

of-the-art techniques (such as Histelide) designed to quantify tau and A?? in whole brain specimens. Only by examining postmortem pathology in a sample of individuals with varying levels of TBI exposure who are well characterized during life (as proposed herein) can postmortem pathology facilitate identification of in-vivo biomarkers that can act as diagnostic tools. This project represents the most systematic and scientifically rigorous effort to date to develop a more complete understanding of the long-term clinical and neuropathological sequelae of single and multiple TBI.

Abbreviations: Neuropathology of CTE and Delayed Effects of TBI: Toward In-Vivo Diagnostics

Synonyms: Neuropathology of CTE and Late Effects of TBI: Toward In-Vivo Diagnostics, Neuropathology of Chronic Traumatic Encephalopathy (CTE) and Late Effects of Traumatic Brain Injury (TBI): Toward In-Vivo Diagnostics

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

Keywords: cognitive decline, health decline, dementia, symptom, incidence, prevalence, risk factor, causal role, multifocal tauopathy, neuropathology, neuroimaging, brain, biomarker, diagnosis, clinical

Related Condition: Chronic traumatic encephalopathy, Traumatic brain injury, Aging

Funding:

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Ratings and Alerts

No rating or validation information has been found for Neuropathology of CTE and Delayed Effects of TBI: Toward In-Vivo Diagnostics.

No alerts have been found for Neuropathology of CTE and Delayed Effects of TBI: Toward In-Vivo Diagnostics.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We have not found any literature mentions for this resource.