



Impact of age on acute post-TBI neuropathology in mice expressing humanized tau: A chronic effects of neurotrauma consortium

Purpose

To study whether polypathology is more severe in older compared to younger mice during the acute phase after repeated mTBI.

Participants

Transgenic mice with hTau gene (n=100) underwent surgeries after repeated mTBI exposure.

How was the study conducted?

After procedures were completed (whether experimental or control), mice were euthanized and samples immunostained 24 hours post-surgery. The data were statistically analyzed by a mixed analysis of variance.

Findings

The authors found that: mTBI produced more inflammation in older mice; immunoreactivity was reduced in older mice; and hippocampal RZ3 p-tau was elevated 24 hours post-injury. But there were no significant differences between young and old mice according to the authors' hypotheses.

Military Impact

This animal study has produced findings that may have implications for Veterans and service members with repeated mTBI. Specifically, age may influence the type of effects that Veterans and service members with repeated mTBI experience.

Mouzon, B. Saltiel, N., Ferguson, S., Ojo, J., Lungmus, C., Lynch, C., Algamil, M., ... & Crawford, F. (2018). Impact of age on acute post-TBI neuropathology in mice expressing humanized tau: A chronic effects of neurotrauma consortium. Brain Injury, 1-10.