

Potential New Blood Test For Chronic Traumatic Encephalopathy Measures Plasma Tau Levels

MedicalResearch.com Interview with:



Mr. Jim Joyce

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Chairman and CEO of Aethlon

MedicalResearch.com: *What is the background for this study? What are the main findings?*

Mr. Joyce: Our research into the neurodegenerative disease Chronic Traumatic Encephalopathy (CTE), was inspired by the death of Tom McHale, who was a former teammate and the second person diagnosed with CTE by our colleagues at the Boston University CTE Center. CTE is characterized by exposure to repetitive head trauma and at present, can only be diagnosed post-mortem, thus creating a significant need for a non-invasive method to diagnose and monitor CTE in living individuals.

The aim of our study was to examine exosomal tau levels in plasma as a potential CTE biomarker. Our research team originally discovered the presence of exosomal tau in circulation and then established methods to quantify exosomal tau, which we refer to as a TauSome™, which we believe to be the first potential blood test to detect CTE living individuals. For this study, researchers examined 78 former National Football League players and 17 former athletes of non-contact sports, with preliminary findings suggesting that exosomal tau in plasma may be a noninvasive, accurate biomarker for CTE. The study results, published in the journal of Alzheimer's disease, can be accessed here: <http://content.iospress.com/articles/journal-of-alzheimers-disease/jad151028?resultNumber=7&totalResults=48&start=0&q=exosome&resultsPageSize=10&rows=10>.

Mr. Joyce: According to the study, plasma exosomal tau was significantly elevated in the group of former NFL players compared to the control group ($p < 0.0001$) and that, within the former NFL

player group, TauSome levels significantly correlated with performance on standardized tests of memory ($p = 0.0126$) and psychomotor speed; the higher the TauSome level, the worse the performance. While the results are preliminary, this study marks the first of several steps necessary to validate a TauSome test to detect Chronic Traumatic Encephalopathy, and potentially monitor its progression based on changes in TauSome levels.

MedicalResearch.com: *What recommendations do you have for future research as a result of this study?*

Mr. Joyce: All subjects in this study were participants in a larger project that was funded by a grant from the National Institutes of Health and other institutes as a means to establish a candidate biomarker that could detect Chronic Traumatic Encephalopathy in living individuals. We have agreed to provide follow-up TauSome testing for participants who participated in the study and will additionally initiate TauSome testing as part of a larger \$16 million study grant from the NIH that will be overseen by our colleagues at Boston University.

MedicalResearch.com: *Is there anything else you would like to add?*

Mr. Joyce: Chronic Traumatic Encephalopathy has been an increasing concern in the medical community, and has been making headlines recently due to concern for former NFL players. In addition to addressing the very immediate needs of CTE patients who are going undiagnosed and untreated, the ability to diagnose CTE during life will allow researchers to better determine its incidence and prevalence, and would set the stage for the introduction of candidate therapies to treat Chronic Traumatic Encephalopathy.

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Citation: J Alzheimers Dis. 2016 Feb 10. [Epub ahead of print]

Preliminary Study of Plasma Exosomal Tau as a Potential Biomarker for Chronic Traumatic Encephalopathy.

Stern RA^{1,2,3,4}, Tripodis Y^{1,5}, Baugh CM¹, Fritts NG¹, Martin BM^{1,6}, Chaisson C^{1,5,6}, Cantu RC^{1,2,3,7}, Joyce JA⁸, Shah S⁹, Ikezu T^{2,10}, Zhang J¹¹, Gercel-Taylor C⁹, Taylor DD⁹.

Note: Content is Not intended as medical advice. Please consult your health care provider regarding your specific medical condition and questions.

Mr. Jim Joyce (2016). Potential New Blood Test For Chronic Traumatic Encephalopathy Measures Plasma Tau Levels *MedicalResearch.com*