

Advances in Brain rehabilitation

Halina Baran*

Karl Landsteiner Research Institute of Neurochemistry, Neuropharmacology, Neurorehabilitation and Pain Treatment Mauer-Amstetten LKM Amstetten-Mauer, Austria

Correspondence to: Halina Baran, Karl Landsteiner Research Institute of Neurochemistry, Neuropharmacology, Neurorehabilitation and Pain Treatment Mauer-Amstetten, LKM Amstetten-Mauer, Austria, Tel: 0043 7475 501 3600; E-mail: halina.baran@neuro-lab.eu

Brain rehabilitation

Brain injury can be in any form which causes damage to the brain either external force or after birth. A brain injury is generally classified in two types – traumatic brain injury and acquired brain injury. Traumatic brain injury (TBI) is defined as an alteration in functioning of brain caused by the external force. Acquired brain injury is defined as an injury caused to the brain after the birth. there are different types of brain injury – Concussion (TBI), Diffuse Axonal Injury (TBI), Contusion (TBI), Second Impact Syndrome (TBI), Coup-contre coup injury (TBI), Penetrating Injury (TBI), Hypoxic brain injury (ABI), Anoxic brain injury (ABI), Locked in Syndrome (TBI), Open and Closed Head Injuries, and Shaken Baby Syndrome (TBI). Rehabilitation helps people to relearn the functions lost in injury of brain.

For Every 15 seconds someone in the United States suffers with a traumatic brain injury.

Majority of traumatic brain injuries (TBIs) are single and uncomplicated and complete recovery is expected a subset of individuals experience persistent post-concussive symptoms (PCS) and substantial disability. Accurate and reliable biomarkers that are tied to the pathophysiologic mechanisms of TBI, and that track and predict neuropsychiatric outcomes.

To evaluate the serum neurofilament light chain (NF-L) levels in professional sports athletes with multiple concussions (ExPro) as a potential biomarker of neurodegeneration and disease progression.

A study from NIH (National Institutes of Health) confirms that the blood biomarker can predict brain injury and including people with acute or chronic concussions and clinic-based patients with mild, moderate, or severe traumatic brain injury (Figure 1).

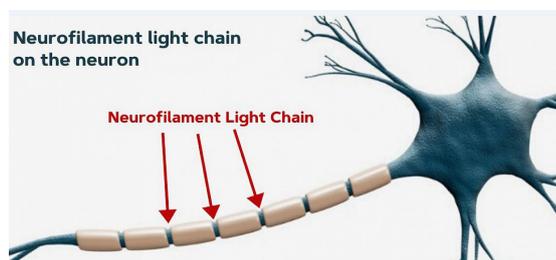


Figure 1: Neurofilament light chain on neuron.

Leighton Chan chief of the Rehabilitation Medicine Department at the NIH Clinical Centre said “Currently, there are no validated blood-based biomarkers to provide an objective diagnosis of mild traumatic brain injury or to predict recovery,”

The study examined multiple groups, professional hockey players in Sweden related with sports-related concussions, hockey players without concussions, hockey players with persistent post-concussion symptoms, non-athlete controls, and clinic-based patients who were healthy or with acute, sub-acute, and chronic mild traumatic brain injuries at the NIH Clinical Centre.

There are a widespread range of variable behavioural and observational tests to help determine a patient’s injuries but most of the tests rely on patient self-report signs and symptoms. Imaging has limitations with detecting micro-structural injuries in the brain.

The research was conducted by the scientists at NIH Clinical Centre, Bethesda, Maryland, and published in the July 8, 2020, online issue of Neurology.

Hyperbaric oxygen treatment has on outcomes following brain injury and preliminary studies have demonstrated that it may improve neurological recovery. Researchers at UC San Diego Health have joined a national research study called HOBIT (Hyperbaric Oxygen Brain Injury Treatment). Approximately, 14 hospitals nationwide will participate in the HOBIT study, including UC San Diego Medical Center in Hillcrest. UC San Diego Health physicians are collaborating with the U.S. Food and Drug Administration (FDA) to qualify Exception from Informed Consent (EFIC) by alerting the community of study.

How to cite this article: Baran H. "Advances in Brain rehabilitation". Int J Neurorehabilitation Eng 7 (2020) doi: 10.37421/ijn.2020.7.367

Received: July 23, 2020; **Accepted:** July 27, 2020; **Published:** July 31, 2020

Citation: Baran H (2020) Advances in Brain rehabilitation. Int J Neurorehabilitation Eng. 7:367. doi: 10.37421/ijn.2020.7.367

Copyright: © 2020 Baran H. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.