Is Interleukin-1 Beta Correlated with Intra Cranial Pressure after Traumatic Brain Injury?

Sajad Sahab Negah1,2, Zabihollah Khaksar3, Ali Jahanbazi Jahan-Abad1†, Arezou Eshaghabadi1, Sayed Mostafa Modarres Mousavi1, Hassan Hossini Ravandi1

1Shefa Neuroscience Research Center, Khatam Alania Hospital, Tehran, Iran
2Histology and Embryology Group, Department of Basic Sciences, Faculty of Veterinary Medicine, Shiraz University, Shiraz, Iran

Abstract

Traumatic brain injury is a leading cause of disability and death from injury in the world. The Interleukin-1 (IL-1) is a family of cytokines that act as key mediators of the inflammatory response peripherally and centrally. Based on many studies, researchers found that the IL-1 is the well-known molecule in relation to acute TBI in the models of both focal and diffuse injuries. The IL-1 family includes the closely related agonists IL-1α and IL-1β. Interleukin-1 beta (IL-1β) is a pro-inflammatory cytokine with a key role in the inflammatory response following TBI and studies indicate that attenuation of this cytokine improves behavioral outcomes. IL-1β is measurable in the serum or CSF of healthy individuals. Although changes in IL-1β expression in CSF and serum following injury appear to be small, attempts have been made to correlate IL-1β levels with outcome. It have been reported that in severe brain injury patients, high concentrations of IL-1β in CSF were associated with poor outcome and increased intra cranial pressure.

Keywords: TBI, IL-1β, Intra Cranial Pressure.

*Corresponding Author: Ali Jahanbazi Jahan-Abad
E-mail: a.jahanbazi65@yahoo.com