



The 2nd International Neurotrauma Congress & the 4th International Roads Safety Congress

Shefa Neuroscience Research Center, Tehran, Iran, 18-20 February, 2015

The Neuroscience Journal of Shefaye Khatam

Volume 2, No. 4, Suppl. 3

Workshop Presentation

A Controllable Brain Injury Model with a Defined Size for Evaluation of Tissue Engineered Products

Hadi Aligholi^{1,2*}, Maryam Safahani^{1,3}, Sajad Sahab Negah¹, Sayed Mostafa Modarres Mousavi¹

¹Shefa Neuroscience Research Center, Khatam Alanbia Hospital, Tehran, Iran.

²Department of Neuroscience, School of Advanced Technologies in Medicine, Tehran University of Medical Sciences, Tehran, Iran.

³Department of Nutrition, Tehran University of Medical Sciences, Tehran, Iran.

Published: 18 February, 2015

Abstract

Brain injury has a multiple pathophysiology for which there is no definite treatment. In this regard, tissue engineering is one of the probable strategies for repair of damaged tissue. But creating a proper model for testing the engineered products faced some difficulties, specially, when we want to evaluate the effects of a product on the volume of injury. The current brain injury methods couldn't provide defined brain tissue damage. We propose a new method to solve the problem. Previously, we introduced a new method for harvesting subventricular tissue from adult rat brain using a modified semi-automatic biopsy needle. We showed that a defined volume of tissue harvested from a specific area of brain without any adverse effect on other regions. We suggest using this biopsy procedure for creating a brain injury model with a defined size. Using this controllable biopsy method, we can test engineered products in a rat model of brain injury and assessed the volume of cavity after performing treatments in different groups.

Keywords: Brain Injury, Subventricular Tissue, Biopsy.

***Corresponding Author:** Hadi Aligholi

E-mail: aligholihadi@gmail.com