



# The 1<sup>st</sup> International Neuroinflammation Congress and 1<sup>st</sup> Student Festival of Neuroscience

Shefa Neuroscience Research Center, Tehran, Iran, 11-13 April, 2017

*The Neuroscience Journal of Shefaye Khatam*

Volume 5, No. 2, Suppl 2

## Poster Presentation

### Study of the Association between Serum Level of Cystatin C and Behavioral Symptoms of 6-Hydroxydopamine – Induced Parkinsonism in Rat

Ali Sarbazi Golezari<sup>1,2\*</sup>, Nafiseh Rastgoo<sup>1</sup>, Ayda Faraji<sup>2</sup>, Tahereh Dargahi<sup>2</sup>, Gilda Khandan<sup>1</sup>, Arvin Babayan<sup>1</sup>, Hashem Haghdoust Yazdi<sup>2</sup>

<sup>1</sup>Student Research Committee, Qazvin University of Medical Sciences, Qazvin, Iran

<sup>2</sup>Cellular and Molecular Research Center, Qazvin University of Medical Sciences, Qazvin, Iran

**Published: 11 April, 2017**

#### Abstract

**Introduction:** Parkinson's disease (PD) is the second most neurodegenerative disorder which is characterized by a progressive loss of dopaminergic neurons in the substantia nigra pars compacta. Clinical symptoms do not appear until approximately 70% of dopaminergic neurons and 80% of the striatal dopaminergic terminals have been lost. Thus, detecting nonclinical factors such as detecting biomarker for PD is necessary. In this study, we evaluate the serum level of Cystatin C as a possible biomarker of PD in 6-hydroxydopamine (6-OHDA)-induced Parkinsonism in rat. **Materials and Methods:** Rats were divided into two groups: Parkinson and Control. 6-OHDA was administered by stereotaxic surgery into forebrain bundle. Severity of the Parkinsonism was evaluated by Apomorphine (APO)-induced rotational test at the third and sixth week's post-surgery. Also, serum level of Cystatin C was measured before surgery and at the third and sixth weeks post-surgery. **Results:** Although rats of control group didn't show a significant response to APO, rats of parkinson group showed significant rotations. The rotations at the sixth week's post-surgery were significantly more than the rotations at the third week's post-surgery. However, there was no significant difference between serum level of Cystatin C in rats of control and parkinson group. Also, there was no difference between serum level of Cystatin C in rats of parkinson group before and after the surgery. There was no difference between serum level of Cystatin C and severity of symptoms in rats of parkinson group. **Conclusion:** Our data show that in 6-OHDA animal model of PD, serum level of Cystatin C cannot predict onset or progress of PD and therefore this compound cannot consider as a biomarker for PD.

**Keywords:** 6-hydroxydopamine, Animal model of parkinson, Apomorphine-induced rotational test, Cystatin C

**\*Corresponding Author:** Ali Sarbazi Golezari

E-mail: [ali@doctor.com](mailto:ali@doctor.com)