The 1st International Neuroinflammation Congress and 1st Student Festival of Neurosience

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

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***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

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