

5<sup>th</sup> International Conference on

# PARKINSON'S DISEASE AND MOVEMENT DISORDERS

October 19-20, 2018 | New York, USA

## Evaluation of the neuroprotective effect of antioxidants against depression in mercuric chloride-treated Wistar rats

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**M**etal-borne pollution is one of the major risks in today's world. Mercury is also known to induce adverse effects on brain functions. The purpose of this work is to assess the antidepressant capabilities of the two antioxidant-rich medicinal plants in the face of mercuric chloride intoxication in Wistar rats. This is an experimental study conducted on 25 adult rats randomly divided into 5 groups each of 5 rats, the different groups of animals are treated by ginger extract and Nigella Oil one week before the administration of mercuric chloride for three weeks. On the 24th day of experimentation the rats are placed individually in the aquarium of the test of forced swimming for 15 minutes, this phase is used to provoke a mental depression, 24 hours after (25th day) a second session 5 minutes was carried out, during which time of immobility, swimming and climbing are measured. The results obtained showed that the administration of mercuric chloride significantly increased the time of immobility and decreased the time of travel compared to the control group, while the groups pretreated by the ginger extract and Nigella Oil can reduce the degree of depression. Ginger extract and Nigella Oil improve antidepressant behaviour in Wistar rats exposed to mercuric chloride and open an interesting research pathway to study the mechanisms of action of these antioxidants on Neurobehavioral effects of this metal.

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