

Role of mir-185 and SEPT5 Genes in Pathogenesis of Parkinson's disease in animal model

Kambiz Hassanzadeh and Arman Rahimmi
Kurdistan University of Medical Sciences, Iran

Backgrounds and aim: The pathophysiology of Parkinson's disease (PD) has been under immense investigations for more than a century. However, there are still many unknown mechanisms toward the disease. Clarifying the molecular mechanisms involved in PD, can assist in developing novel and efficient therapies. Recently, studies showed genes located on the human chromosome location 22q11.2 might be involved in development of PD. Therefore, our research aimed to evaluate the role of two genes located on the chromosomal location (mir-185 and SEPT5) which were the most probable candidates based on our bibliography.

Methods: Male wistar rats were divided in two groups, randomly (n = 8). One group received rotenone injections (1.5 mg/day s.c.) for 45 consecutive days. The other group (control) only received rotenone injection vehicle (sunflower

oil). Behavioral tests including rotarod, rearing and bar tests were performed at baseline and 45th day. Substantia nigra and striatum were extracted from the animals' brain. The expression of mir-185 and SEPT5 genes were measured at mRNA level using syber green real-time PCR technique.

Results: the results of behavioral tests showed significant decrease in performance of rotenone treated group compared to control group (P< 0.05). The level of mir-185 and SEPT5 genes also decreased significantly in substantial nigra of rotenone treated group compared to control group (P< 0.05). However, there was no significant difference between two groups in expression of mir-185 and SEPT5 genes (P< 0.05).

Conclusion: the results of current study introduce mir-185 and SEPT5 genes as novel genes participating in pathophysiology of PD.

e: kambizhassanzadeh@gmail.com