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## NOVEL INSIGHTS IN THE TREATMENT OF PARKINSON'S DISEASE

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**P**arkinson's Disease (PD) is the second most common neurodegenerative disorder worldwide effecting 1% of the population over 60 years of age. In addition to its restrictive effects in motor function, autonomus nervous system and cognitive functions are also effected. When levodopa is combined with peripheral decarboxylase inhibitors, symptom relief has been observed for a couple of years, however, many adverse effects including dyskinesias occur. Amantadine, anticholinergics, entecapone/tacapone, selegiline, dopaminergic receptor agonists all work for a limited period of time. Gene therapy, fetal substantia nigra tissue implantation have all been tried, however, the results have been inconclusive. Antiapoptotic drugs, glutamate antagonists and antiinflammatory drugs were used for their antioxidant effects and deep brain stimulation has also been applied as functional neurosurgery. Some vaccines have also been tried after the significant role of neuroinflammation has become evident. In the studies conducted in our laboratory, the anticonvulsant drug valproic acid has been found to be effective by producing antioxidant and antiapoptotic effects. Epigenetic modulation was also effective. In an animal model of Parkinson's disease developed in rats stereotaxic injection of 6-OHDA (8µg/2µL) or saline (2µL) to the right substantia nigra pars compacta was done. The following coordinates of substantia nigra pars compacta was used: (AP) = -4.8 mm, (ML) = -1.8 mm and (DV) = -8.2 mm. Only the rats showing pronounced rotational behaviour (more than 5 contralateral turns) were included in the study after apomorphine (0.5 mg/kg sc) test. The effects of valproic acid were compared with levodopa. The studies are underway to study the molecular mechanisms behind Parkinson's disease.



### Biography

Ece Genç has been with Yeditepe University Department of Medical Pharmacology since 2004 where she teaches Medical as well as Dentistry students and conducts research. Previously she has an experience as a Professor at the Pharmacology Department of İstanbul Faculty of Medicine, Visiting Professor at Clinical Neuroscience Branch of National Institutes of Health USA, Lab Manager at Department of Pharmacology of University of California Irvine, instructor at California State University Los Angeles. She was a Post-doctoral fellow at Max-Planck Institute for Experimental Medicine Biochemical Pharmacology Department. Her major areas of interest are Neuropharmacology and Pharmacogenetics.

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