Parkinson's disease (PD) is a progressive disease characterized by basal ganglia dysfunction caused by degeneration of dopaminergic neurons in the substantia nigra pars compacta (SNpc) and development of fbrillar cytoplasmic inclusions that contain alpha synuclein (-syn) and ubiquitin. Many pivotal works have plausibly linked autophagy and mitochondrial energy dysfunction with PD. In other neurodegenerative conditions, including Alzheimer's disease (AD) and Huntington's disease (HD), brain urea levels are elevated, although the relative cause for these changes is unknown. Several studies demonstrated that gut microbiota may contribute to PD, and these effects could increase -syn expression in gut tissue. While there is ample evidence that emphasizes the importance of both brain and gut pathological changes in PD, there is no definitive proof as to which organ is affected frst.

Rodent rotenone models of PD have been widely employed to explore molecular mechanisms involved in the disease pathogenesis and to test the effcacy of therapeutic drugs. However, it is unknown whether or not the impact of oral (po) and intraperitoneal (ip) rotenone promotes the same PD pathogenesis. To this end, we explored whether po and ip rotenone treatment induced a similar PD-like progression. We examined various protein and gene expression changes as well as urea levels in brain samples and the results indicate that sub chronic systemic rotenone administration altered -syn and tyrosine hydroxylase levels in the corpus striatum, data that are indicative of rotenone-induced neuronal damage. Gene expression changes in autophagy- and energy-homeostasis-related

Biography

SuchitraKavuri has completed her PG in Medical Biochemistry from Kasturba Medical College, Manipal University, India and completed her PhD from Saveetha University, India. She is working as Assistant Professor in the Department of Biochemistry at ASRAM Medical College, India since March, 2002 and actively involved in teaching Medical Biochemistry for medical graduates, paramedical and nursing students. She plays a role as Quality Manager in the Central Clinical Laboratory and maintains Quality Assurance Department as per ISO: 15189, 2012 at ASRAM Medical College & Hospital.

Publications

- 1. Oxidative stress and antioxidant status in rotenone induced rat models of Parkinson's disease
- 2. Evaluation of Haematological Alterations in Intraperitoneal and Oral Rotenone Induced Parkinson's Disease Wistar Rats.
- 3. A study of variations in the iron profle and vitamin b12 levels as predictive bio-chemical markers for gestational diabetes mellitus (gdm) in pregnant women (Funded work).
- 4. Comparison of Prothrombin Time and Activated Partial Thromboplastin Time between patients with diabetes mellitus and diabetics with hypertension.
- 5. Oxidative stress in pediatric nephrotic syndrome

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