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Mutational Analysis in *SNCA* and Chromosomal Aberration in Parkinson's Disease (PD) Patients of Tamil Nadu Population

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ABSTRACT Parkinson's disease (PD) is an age-related disorderwhich deteriorates dopaminergic neurons that control balance and movement. The study aimed at identifying the chromosomal alterations and SNCA mutation in *n*=126 PD subjects with equivalent number of control subjects. The subjects were characterized as late-onset (n=92), early-onset (n=22) and juvenile (n=12). In this study primarily, severity and stages of PD were analysed using the Unified Parkinson's Disease Rating Scale (UPDRS) and Hoehn and Yahr (HY) scale. The UPDRS shows significant values in all the three age groups whereas HY scaling showed significancy in late-onset alone. Cytogenetic analysis with 22q11.2 deletion was observed in late-onset subject with higher significance and point mutation in *SNCA* with A53T and A30P was significant in late-onset and early-onset subjects. Therefore, the researchers conclude that genetic alterations have strong correlation with PD and it is necessary for therapeutic researches in PD.