OBJECTIVES OF THE PRESENT STUDY

1. To induce Parkinson's disease model in rats using unilateral 6-OHDA infusion and to study the effect of 5-HT, GABA and BMC treatment individually and in combinations.

2. To investigate the behavioural changes in control and experimental rats using apomorphine induced rotational analysis, limb use asymmetry test, rotarod test, swim test, Y-maze and radial arm maze.

3. To analyse glutamate content, total glutamate and NMDA receptors alterations in the brain regions of control and experimental rats and also to study DA content in the SNpc of control and experimental rats.

4. To study the NMDAR1, NMDA2B, mGluR5 glutamate receptor subtypes and GLAST glutamate transporter gene expression in the brain regions of control and experimental rats using real time PCR.

5. To study the IP3, cGMP and cAMP content and gene expression status of Bax, α-synuclein, TNF-α and CREB in the brain regions of control and experimental rats.

6. To examine the bone marrow cell differentiation pattern using PKH2GL cell linker dye, Nestin and GFAP.

7. To study the localisation and expression status of NMDAR1, NMDA2B, mGluR5 and Tyrosine hydroxylase using confocal microscope by immunofluorescent specific antibodies in the brain slices of control and experimental rats using Confocal microscope.