Cell Transplantation for Patients with Parkinson's Disease

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Abstract This chapter focuses on cell replacement therapies in Parkinson's disease (PD) and describes experimental data leading to clinical trials, as well as the methodology and efficacy of grafts of human embryonic nigral tissue in patients with PD. It also highlights some of the clinical problems the procedure presents and considers future alternative sources of donor tissue, including various forms of stem cells.
Introduction: Parkinson's Disease

Parkinson's disease is the second most common neurodegenerative disorder and affects almost 1% of the population above the age of 60 (Inzelberg et al. 2002). Patients primarily suffer from motor symptoms such as bradykinesia (slowness of movement), rigidity (muscle stiffness) and tremor at rest (for review see Lang and Lozano 1998a, 1998b; Samii et al. 2004). These symptoms progress over time and, in addition, most patients eventually exhibit vegetative