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Research on New Treatments for Parkinson's Diseases

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Research in Parkinson's disease has made significant progress. There is a hope that the causes, either genetic or environmental, are identified and the effects causes on function of the brain will be understood.

Researchers are continuing their work in developing different treatments for Parkinson's disease. Treatments give hope for individual who are suffering. Few treatments are currently being studied which involves in the foetal cell transplantation, stem cells use, and gene therapy [1].

Foetal cell transplantation is one of the method in which foetal cells are embedded into the brain of individual with the Parkinson's disease to replace the dopamine-producing cells. Although, this research area of is one of the most controversial method. Few studies found that foetal cell transplantation causes an increase in dyskinesia (severe involuntary movements) due to excess dopamine production in the brain. There are moral and ethical objections to use the foetal cell implants. Hence, other methods of treatments are being explored.

Stem cells are considered as the parent cells of all tissues in the body. It means stem cells can turn into any type of cell in the body. The expectation stem cells are able to make these cells into specific cells, like dopamine-producing neurons, which can be used to treat the disease. However, there is some risk of increase in involuntary movements. Resembling to foetal cell transplantation, stem cell therapy is surrounded by ethical and moral controversies. There is a hope which causes the genetic or environmental, those will be identified and the effects of these causes on brain function will be understood.

Researchers are investigating on the genes those code proteins which are responsible in dopamine production. By increasing the dopamine amount in brain, Parkinson's symptoms may become less.

Researchers are investigating on the drugs those may block the action of glutamate, an amino acid that destroys the nerve cells, as well as the role of the antioxidant coenzyme Q-10 in slowing down the progression of Parkinson's disease.

Earliest studies have shown that neural growth factor resuscitates the dormant cells which are needed to produce dopamine. Research is underway to understand better and how deep brain stimulation works in Parkinson's disease. Researchers are also studying improved ways of stimulating the brain [2].

Many therapies are currently under development. Dopaminergic and non-dopaminergic compounds are focused on the improvement of motor control, fluctuations and dyskinesias. Few approaches report the other clinical needs: specifically, disease modification, alleviating non-motor symptoms, and/or neuroprotection.

Prime points in the past and ongoing trials of disease-modifying or neuroprotective drugs are relying on the clinical assessment scales. Therefore additional efforts are needed in emergency to establish the validated biomarkers in Parkinson's disease [3].

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