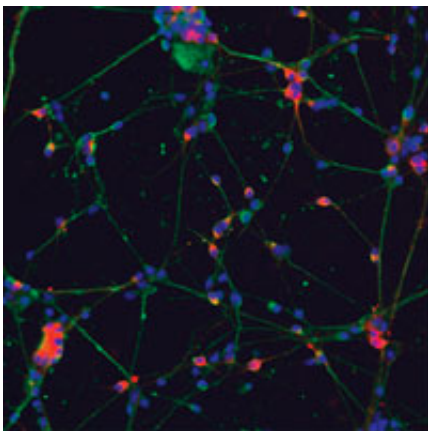


Initiative hopes to expedite cell-based treatments for Parkinson's

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In cell transplantation procedures for PD, undamaged dopaminergic neurons (shown here in red, with other neurons in green) are used to replenish those that are lost or dying. Credit: Rocio Laguna Goya, Centre for Brain repair

(PhysOrg.com) -- A unique initiative which brings together some of the world's leading Parkinson's researchers, aims to reduce further delays in using cells to treat Parkinson's disease. The initiative will focus on refining cell-based therapy, which replaces the diseased cells with healthy cells.

Although the technique for using cell-based therapy to treat Parkinson's has been around for over two decades, it has had dramatically varying outcomes. After treatment, some patients have been able to go drug-free with markedly improved symptoms and signs for many years. Other

patients develop side effects from the treatment which can cause further distress and problems.

Researchers in this field recognised that there was a lack of consistency in previous trials as to when the treatment was administered (patients were of varying ages, different stages of the disease, etc). This prompted these experts to launch an initiative to examine why some procedures are successful and others are not. By reassessing the earlier trials, they intend to put together a protocol to increase the likelihood of success.

"There has been huge variability in patients' stage of disease and medication history; the clinical techniques used for cell delivery; the viability and durability of the cells being transplanted; and even in how outcomes were measured. It's easy to see how difference in average improvement could be obscured within the data," says Dr Roger Barker from the Centre for Brain Repair at the University of Cambridge, who is leading the programme.

Dr Barker will head the five-year research programme called TRANSEURO, which brings together experts from 13 institutions across five European countries and will also work closely with American research groups. TRANSEURO aims to coordinate research methods in order to develop safer and more reliable practices for cell transplantation in patients with [Parkinson's disease](#).

"Our goal is to provide the impetus to push the field ahead to a new phase of cell therapy trial in Parkinson's disease," says Dr. Roger Barker.

Parkinson's disease affects 1% of adults over the age of 65, and is incurable. It causes the death of the brain cells including those that produce Dopamine, a chemical which is required by the brain to carry out ordinary activities such as voluntary movement and cognition.

Since the 1970s, scientists have been experimenting with new ways to replace the lost cells in order to alleviate some of the most severe symptoms of Parkinson's disease, and their results have been highly variable. Whilst in some cases trials have led to significant improvements in the condition of patients, in others the therapy has failed, causing side effects requiring further surgery. Trials ceased at the beginning of this century after two in the United States concluded there was no major benefit to cell transplantation in Parkinson's disease.

However, scientists believe that transplantation is still the way forward for treatment of this disease. Dr. Barker and colleagues believe that data from these earlier trials holds information that was previously overlooked, and part of the TRANSEURO programme will involve reassessing this data with the help of experts involved in the previous trials.

Additionally, developments in the understanding of Parkinson's disease within the last decade have enabled researchers to identify sub-types of the disease, and this could prove key in establishing better transplant criteria, and identifying optimum patient groups. TRANSEURO will also investigate the [side effects](#) of the transplant procedure.

But the use of foetal tissues, stem cells, and other emerging cell based therapies are not without controversy, and work of this type often raises many ethical issues. It is for this reason that a separate project will run alongside the scientific and clinical work to consider the ethical questions posed.

It is anticipated the programme will eventually recruit at least 150 patients from across the TRANSEURO network, of which 20 will be entered into the first set of transplant trials in 2011/12. It is expected that the study will pave the way for larger trials in which the transplant cells will eventually be derived from stem cells.

"We regard TRANSEURO as a stepping stone that will refine the clinical methods needed for any kind of cell-based therapy, whatever the source of cells," says Barker. And whilst this will not actually cure the disease, such treatments would be invaluable to those affected.

"Reparative strategies used early in the disease could have the potential to give patients many drug-free years, which would be a major therapeutic step forward."

TRANSEURO is not currently recruiting patients for the trial as ethical approvals are not yet in place. The programme's main funders include Parkinson's UK, Cure PD and the European Union (FP7 grant).

Provided by University of Cambridge

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