

Stem cell stroke therapy assessed

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BBC News

18.01.2009

A Glasgow team is to launch a major trial to assess whether stem cells can be used to treat stroke patients, the BBC has learned.

They hope it will put the UK at the forefront of developing stem cell therapy for incurable disease.

Cells made from a human foetus will be injected into patients' brains.

It is hoped the cells will regenerate areas damaged by stroke, and increase patients' movements and mental abilities.

However, the idea has in the past been described by anti-abortion groups as a "sick proposal".

The trial, due to start in the middle of this year, will initially involve four groups of three patients over two years.

Doctors are primarily testing the safety of the procedure but there is the possibility that some patients may benefit from the treatment.

The first group will receive a low dose of two million foetal stem cells.

The dose will be gradually increased over the trial period and the final group will receive 20 million cells - which doctors think might be enough to begin regeneration.

Keith Muir, the consultant leading the trial at the Southern General

Hospital in Glasgow, said he was "very excited at the prospect of a genuine world's first".

He said: "If it works, as it has done in animal model systems, it may allow new nerve cells to grow or regeneration of existing cells and actual recovery of function in patients who would not otherwise be able to regain function."

Disability common

A third of stroke patients make a full recovery, but the rest either die or are left permanently disabled because their brain has been so damaged.

Currently the only treatment is physiotherapy to restore movement and brain function.

But Dr Muir believes the new therapy has the potential to benefit those for whom physiotherapy has been of limited help.

He said: "For the high proportion of patients who make an incomplete recovery it has the potential to put in new cells which will allow new growth.

"Otherwise you are trying to make the most of recovery in an area that is fundamentally damaged and cannot regenerate beyond a certain fundamental level.

"You can reorganise the brain, you can help that reorganisation with physiotherapy but you cannot cause new nerve cells to grow.

"The hope with stem cell therapy is that by putting in new cells and new tissue that you can further improve on that recovery."

Regulator satisfied

The company which developed the cells, Reneuron, first applied to begin trials in the US two years ago.

But it did not get the go-ahead from the US Food and Drug Administration.

Reneuron has, however, now satisfied the UK regulator - the Medicines and Healthcare Products Regulatory Agency - that the therapy is safe enough to try out on stroke patients.

Dr John Sinden, Reneuron's chief scientific officer, said the FDA has been very cautious, and had not given the go-ahead to a single trial involving stem cells.

But he said the attitude in the UK - both from the public and the regulators - was more positive.

Dr Sinden believes his success will mean that other companies frustrated by the FDA's slow processes will make applications in the UK and other parts of Europe for their stem cell trials.

He said: "Europe is going to be the centre in stem cells and regenerative medicine and that is very exciting."

Opposition

However, the use of an aborted human foetus to create the stem cells will disturb campaign groups who have opposed the use of embryos in this kind of medical research.

When Reneuron first announced that they would apply to the FDA for clinical trials the Society for the Unborn Child described the proposal as "sick".

A spokesperson said: "It involves cannibalising an unborn child.

"It is unethical in every way - killing one member of the human race to help another. We are totally opposed to this."

In response, Dr Sinden said: "We have only taken one donation of tissue to make this product.

"We have a technology that is able to scale up an individual cell into all of the cells that are required to treat thousands of patients.

We think this is a major plus in the technology we have and really negates the ethical concerns about the original use of foetal tissue.

"It would be ethically wrong to deny treatment."