Spain starts ambitious trial to cure HIV using umbilical cord stem cells

Published: 23 Oct 2015 09:21 GMT+02:00 Updated: 23 Oct 2015 09:21 GMT+02:00

**Doctors in Spain have announced the world's first clinical trial to cure five HIV patients within three years using transplants of blood from umbilical cords.**

Spain’s National Organization of Transplants (ONT) announced a plan that will be the world’s first of its kind to cure five people with HIV over the next three years, recreating the case of the only known person to be completely cured of the virus.

Plans for the clinical trial were unveiled at a [haematology conference in Valencia on Thursday.](http://www.ont.es/prensa/NotasDePrensa/22%20octubre%202015%20La%20ONT%20identifica%20los%20cordones%20CCR5%20Delta%2032%20para%20uso%20frente%20al%20Sida.pdf)

The project seeks to be the world’s first clinical trial of its kind by recreating the success of Timothy Ray Brown - the only living person ever to be completely cured of HIV, known as "the Berlin patient".

The 157 donors selected by ONT together with national blood banks all have a genetic mutation which allows them to resist HIV.

"This project can put us at the cutting edge of this field within the world of science," said José María Moraleda, president of the Spanish Society of Hematology and Hemotherapy.

"It will allow us to gain more knowledge about HIV and parallely offer us a potential option for curing a poorly diagnosed malignant hematological disease."

Brown the Berlin patient was an HIV-positive American living in Berlin in 2006 when he was diagnosed with leukemia. He needed a transplant to treat the cancer, so his doctor decided to use a donor with a certain cellular mutation that is resistant to HIV.

After Brown received two stem cell transplants from the donor’s bone marrow, his levels of HIV decreased dramatically. Now, he is cancer-free and only traces of the virus can found, but they cannot reproduce.

While a little over a dozen others worldwide have been functionally cured - meaning they still harbor the virus but do not need therapy - Brown is the only one known to have a sterilizing cure because the virus is no longer found in his body.

Doctors last year said they [successfully performed a similar procedure](http://www.thelocal.es/20141106/doctors-cure-hiv-patient-with-blood-transplant)on a man in Barcelona with lymphoma, but he died of the cancer not long after and they were unable to verify whether the disappearance of the virus was long-term.

Spain is diving into this ambitious project because it is still not completely understood how exactly Brown fought off the virus.

To see if Brown’s and the Barcelona patient’s cases can be replicated, the ONT project will look for HIV patients who also have leukemia, lymphoma, or similar illnesses.

The treatment will be more similar to that of the Barcelona patient because doctors will transplant umbilical cord blood into the patients, rather than Brown’s stem cell transplant procedure.

Doctors hope to begin treatments for the first patient between December and January in Madrid.