

New immunotherapy trial for Type 1 diabetes

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The search for a treatment for Type 1 diabetes (T1D) - which affects over 400,000 people in the UK – will be stepped up with the start of a new phase one clinical trial at Guy's Hospital in London.

The new immunotherapy treatment, called MultiPepT1De, is being developed to target the autoimmune attack that leads to the development of Type 1 [diabetes](#).

Type 1 diabetes is an autoimmune disease in which cells in the pancreas that make insulin are killed by the immune system. The new therapy, MultiPepT1De, will use fragments of proteins, known as peptides, in an effort to stop this process by 'switching off' the specific [autoimmune attack](#), and hopefully preventing further destruction of the pancreatic cells.

In laboratory testing, MultiPepT1De is more powerful than the first

generation treatment trialled last year and is designed to benefit a higher proportion of those with Type 1 diabetes than its predecessor.

MultiPepT1De was developed with funding from the Wellcome Trust by researchers at King's College London working in the National Institute for Health Research (NIHR) Biomedical Research Centre (BRC) at Guy's and St Thomas' and King's College London.

MultiPepT1De will be trialled on 24 people with Type 1 diabetes by autumn 2016 and the study team is hopeful of positive results that build upon their previous findings showing that the first generation of MultiPepT1De, called MonoPepT1De, is safe and well tolerated, with some evidence of positive effects in T1D patients.

Professor Mark Peakman, Principal Investigator at the BRC and Head of the Division of Diabetes and Nutritional Sciences at King's, said: "We are really looking forward to seeing the results from this new trial. What we are doing is a big step forward in precision medicine, taking a set of patients with a particular disease and genetic background and giving them an immunotherapy designed in the laboratory specifically for them. Obviously we will need to wait until we have the full results of the trial before we know if it is successful but at this stage we are hopeful."

Dr Stephen Caddick, Director of Innovations at the Wellcome Trust, said: "Type 1 diabetes is a very serious condition that normally requires lifelong treatment with insulin therapy, but this promising new form of 'immunotherapy' could be set to change that. By retraining the immune system to prevent it from attacking insulin-producing cells, it may be possible to slow progression of the disease or even stop it in its tracks. If this approach is proved successful in larger studies it has the potential to transform the lives of people with Type 1 diabetes."

In the last decade, the number of people in the UK with diabetes has

risen by around 65 per cent to 4m, according to Diabetes UK, with around 400,000 adults and children now suffering from Type 1 diabetes. Treating diabetes is estimated to cost the NHS around £10 billion per year.

MultiPepT1De is based on an area of study called peptide immunotherapy, which is currently being applied to a number of other diseases, including allergies and multiple sclerosis.

Jeremy Hunt, Secretary of State for Health, said: "This exciting new treatment has the potential to transform the lives of thousands of patients across the UK living with Type 1 diabetes. Thanks to our strong economy we invest over £1 billion every year in health research, helping us to lead the world in medical innovation and give NHS patients the latest cutting-edge treatments."

Provided by King's College London

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