

Stem cell therapy could be breakthrough against type 1 diabetes

June 25 2024, by Dennis Thompson



An experimental stem cell therapy can essentially cure type 1 diabetes by

restoring insulin production in some patients, early clinical trial results show.

Seven out of 12 patients no longer needed daily insulin shots after receiving a full dose of the gene therapy, dubbed VX-800, researchers reported Friday at the American Diabetes Association's annual meeting in Orlando, FL.

Another two needed about 70% less insulin daily to keep their blood sugar stable, results show.

"This positive data adds to the growing body of evidence for VX-880's potential to revolutionize the treatment of type 1 diabetes," said researcher Dr. Piotr Witkowski, director of the pancreatic and islet transplant program at the University of Chicago.

People with type 1 diabetes aren't able to produce enough insulin to keep blood sugar levels stable. Type 1 diabetes occurs when the [immune system](#) mistakenly targets and attacks the [islet cells](#) in the pancreas that generate insulin.

VX-880 works by introducing fresh islet cells that have been derived from [stem cells](#), with the aim that those cells will restore pancreatic function.

For the early-stage clinical trial, researchers recruited 12 people with poorly controlled type 1 diabetics. All had average hemoglobin A1C levels of 7.8%, a level at which there's an increased risk of complications from diabetes. They'd also experienced [severe hypoglycemia](#) two to four times in the prior year, and used about 40 units of insulin a day to try and stabilize their blood sugar.

A single infusion of VX-880 eliminated severe hypoglycemic events in

all 12 patients and drove their hemoglobin A1C levels below 7%, results show.

The findings indicate that the VX-880 stem cell-derived islet cells function like a person's own islet cells, researchers concluded. The trial has been expanded to enroll a total of 37 participants, researchers said.

"We hope to see this treatment become a pivotal development in type 1 [diabetes](#) care," Witkowski said in a meeting news release.

Still, because these findings were presented at a medical meeting, they should be considered preliminary until published in a peer-reviewed journal.

More information: The American Diabetes Association has more on [type 1 diabetes](#).

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Citation: Stem cell therapy could be breakthrough against type 1 diabetes (2024, June 25) retrieved 17 July 2024 from <https://medicalxpress.com/news/2024-06-stem-cell-therapy-breakthrough-diabetes.html>

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