

Transplant news offers hope for diabetes patients

By Judith Graham
Tribune staff reporter
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In a groundbreaking medical development, Japanese scientists have reversed diabetes in a 27-year-old woman by injecting her with insulin-making cells from her 56-year-old mother.

The advance, which has sparked worldwide interest, was reported Monday in the *Lancet*, a British medical journal.

Though results have not yet been replicated, the case establishes proof in principle that insulin-producing cells from living donors may one day become an important treatment for diabetes, a chronic disease that afflicts 18 million Americans.

"It's quite exciting," said Dr. Bob Goldstein, chief scientific officer for the Juvenile Diabetes Research Foundation.

He added a note of caution, however, observing that "this is a case of one" and "we need much more experience before we can draw conclusions" about its significance.

Although many parents of diabetic kids would want to donate part of their pancreas "tomorrow" if it would help, "this is not ready for use in children," Goldstein advised.

The Japanese patient, who had diabetes for a dozen years, has been symptom-free for two months after receiving an injection of pancreatic islet cells from her mother Jan. 19 at Kyoto University Hospital, the report said.

Islet cells help regulate the body's blood sugar levels, which are out of whack in people with diabetes. Complications of poorly managed diabetes include blindness, amputation, kidney failure and early death.

Since 2000, when Canadian researchers established that islet cell transplants could be done successfully, about 500 of these experimental procedures have been done worldwide, according to Dr. James Shapiro of the University of Alberta in Edmonton, Canada, a leading expert.

The Japanese case is the first to be performed successfully using cells from a living donor. Previous cases involved donors who had died or who used their own reprocessed cells, which are injected back into their body.

Results have fanned hope that patients with diabetes could one day be "cured" of the need for up to six insulin shots daily as islet cells rein in blood sugar levels. Some 80 percent of patients who have had transplants are insulin-free after a year, and although benefits wane, up to 50 percent remain insulin-free after three years, Shapiro said.

For recipients, the appeal of this minimally invasive procedure--which involves a needle stick into the vein that leads to their liver--is significant.

"Many people with diabetes want islet cell transplants because they would like a better quality of life," said Dr. Jose Oberholzer, director of islet and pancreas transplantation at the University of Illinois at Chicago Medical Center.

Donors, who agree to have half of their pancreas extracted, have less reason to be sanguine: they face a 1 percent risk of death and a 10 percent risk of developing diabetes.

Oberholzer started performing islet cell transplants at UIC's state-of-the-art laboratory in January for patients with Type 1 diabetes who are not overweight and who have complications from the illness. To date, seven patients have received transplants there from deceased donors or from their own pancreas, whose cells are processed, purified and then injected back into their bodies.

Oberholzer is in the process of setting up the Chicago Islet Consortium, which will bring together researchers from Northwestern Memorial Hospital, the University of Chicago and UIC to expand the procedure's availability in the city.

If these transplants become mainstream medical treatments as expected, the demand is likely to far outstrip the supply of suitable pancreases.

That's where live donors come into play. "We'll need another source of pancreatic cells, other than from deceased donors," Oberholzer said. That's already the case in Japan, where traditions strongly discourage organ donations from people who have died.

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