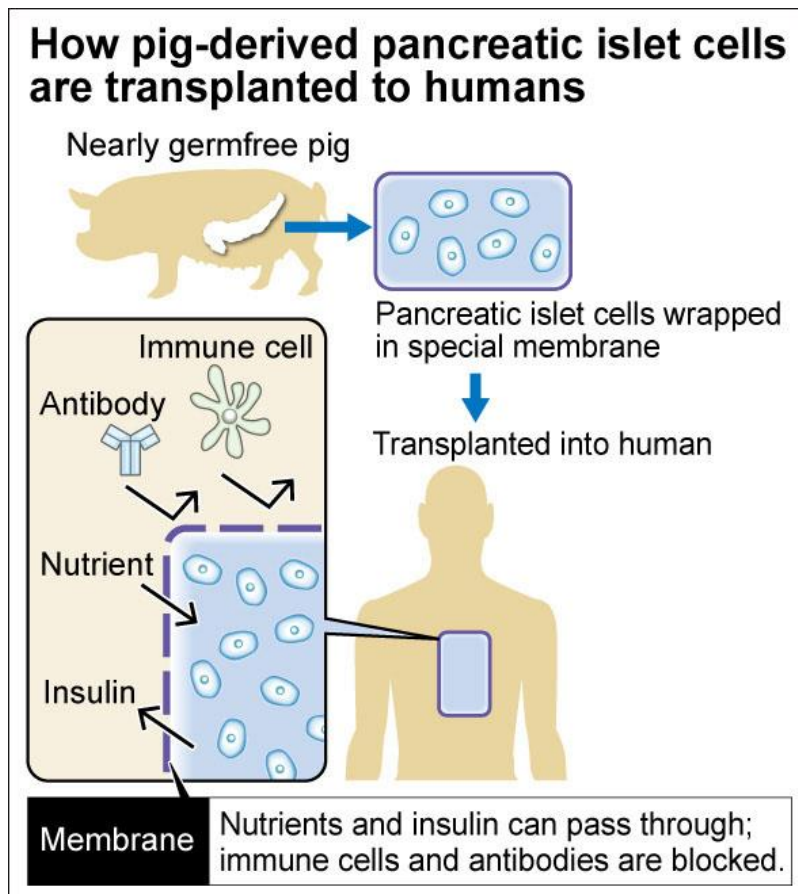


Ministry to lift ban on pig cell transplants for diabetes patients

By RYOSUKE NONAKA/ Staff Writer

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[The Asahi Shimbun](#)

Animal organs and cells will be permitted to be transplanted in humans with type 1 diabetes and other diseases when the health ministry revises its guidelines, sources say.

Although the existing guidelines effectively ban xenotransplantation, the process of transplanting organs or cells between different species, a ministry research team headed by Tetsuro Matano, director of the AIDS Research Center of the National Institute of Infectious Diseases, is expected to soon revise the conventional policy.

A Japanese research group plans to transplant pig-derived cells into patients with type 1 diabetes--a disorder in which the pancreatic islet cells are destroyed and insulin, a hormone that keeps the blood glucose level stable, stops being secreted--in a few years.

One to two in 100,000 people are estimated to develop the disease annually in Japan, resulting in patients needing to inject insulin regularly for the rest of their lives.

Although type 1 diabetes patients can be treated by transplanting pancreatic islets from human donors, the opportunity to do so is extremely rare.

If the planned transplantation of pig-derived cells to type 1 diabetes patients works, the troublesome task of regularly taking insulin injections could be eliminated.

Xenotransplantation has been studied across the world as a possible way to resolve the issue of the human donor shortage.

Because pigs' organs are suitable in size and easy to manage, swine cells are regarded as the main target of the research.

A technology to prevent strong rejection responses against transplanted cells has recently become clinically available, and the technique has already been adopted to treat people overseas.

However, in Japan, a health ministry research team described a genetic virus known as porcine endogenous retrovirus that pigs obtained in the process of evolution as "a pathogen whose risk of causing infection in humans should be eliminated" in its fiscal 2001 guidelines.

As it is difficult to remove the virus, no transplants of pig-derived cells have been conducted in Japan.

But there have been no reports of the virus causing infection in humans and monkeys outside Japan to date.

Based on that fact, and other factors, the ministry reassessed the risk of xenotransplantation.

In the revised guidelines, physicians will be allowed to transplant pig-derived cells to humans, provided that they monitor patients' progress for 30 years after the transplants.

The decision is expected to be reported to a ministry working group in May or later, effectively lifting the conventional ban on xenotransplantation.

The first clinical study on xenotransplantation in Japan will be conducted by a group of scientists mainly from the Research Institute of the National Center for Global Health and Medicine in Tokyo's Shinjuku Ward.

The group is moving ahead with a plan to transplant pig-derived pancreatic islet cells that secrete insulin to human patients with type 1 diabetes.

Under the plan, the swine cells will be transplanted subcutaneously to patients after being wrapped in a special membrane that does not allow human immune cells and antibodies to pass through it so that rejection can be prevented.

Working with a company that raises pigs for experimental use, researchers will also make efforts to establish a system to supply nearly germfree swine.

The research group plans to conduct xenotransplantation within two or three years, after consulting a third-party committee on safety and ethical issues associated with the use of animal cells for humans.

"We want to solve the issue of the shortage of pancreatic islets (donors) through xenotransplantation," said Masayuki Shimoda, who heads the pancreatic islet cell transplantation project at the research institute.

<http://www.asahi.com/ajw/articles/AJ201604280002.html>

ヒトへの「ブタ細胞」移植が解禁か ブタチンポ [無断転載禁止]@2ch.net
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近い将来、豚の細胞を人に移植する治療が行われるようになりそうだ。

2〜3年後に移植を計画

朝日新聞の報道によると、厚労省が動物の臓器や細胞を移植する「異種移植」を事実上解禁する方針だという。

5月にも事実上解禁とし、2〜3年後には1型糖尿病患者に移植する計画だ。

30年間の経過観察が条件

ブタの細胞をヒトに移植することは、豚の遺伝子に取り込まれたウィルスを取り除くことが難しいとして指針で禁じられている。

しかし、このウィルスがヒトやサルに感染したという報告がないことから指針を見直し、移植後30年間経過観察することを条件に認める新たな指針を定めるという。

<http://irorio.jp/nagasawamaki/20160411/314014/>

<http://hitomi.2ch.net/test/read.cgi/poverty/1461836920/l50>