

## Behind the Scenes

By Makiko Tatebayashi and Akihiko Kano  
Yomiuri Shimbun Staff Writers

**A** team from Keio University intends to apply to its ethics committee this year for permission to conduct a clinical study related to uterus transplants (see □) for women who do not have a uterus due to illness or other causes, so they can become pregnant and give birth.

While transplants offer hope to people born without a uterus, it also raises many issues in terms of ethics and safety.

#### Hope for having children

In April, a symposium on uterine transplantation was held at which two women without uteruses shared their stories. Atsuko Chito, 39, does not have a uterus because she was born with Mayer-Rokitansky-Kuster-Hauser Syndrome. This condition is said to affect one out of every 4,500 women. In Japan, about 130 people are born every year with this syndrome.

Chito discovered the abnormality during her first year of junior high school. Since she had not begun menstruating, her mother took her to the hospital, where the doctor told them her uterus had not developed. She had a tough time in her school days, especially when menstruation came up as a topic of conversation with friends. She managed to lie, and she blamed herself.

"Even though I was born unable to become pregnant, I wanted to have the choice to have children," Chito said.

Rie Anami, 35, had her uterus removed after developing cervical cancer. She said the inability to have children has a huge impact on women.

"If a woman can still have the option of having children even after losing her uterus, it could encourage her to go ahead with cancer treatment," Anami said.

#### Seeking ethics approval

In 2013, Keio University announced that a

monkey successfully gave birth after having its uterus removed and reimplanted during an experiment conducted in cooperation with the University of Tokyo and other institutions. Based on this basic research, Keio University's team plans to ask the ethics committee by the end of this year to approve a clinical study for the country's first uterus transplant.

If the clinical study is approved, the team will proceed with transplanting uteruses into five women with Mayer-Rokitansky-Kuster-Hauser Syndrome over three years. In the future, transplants may also be possible for women who have lost their uterus due to cervical cancer and other conditions. The team is examining whether a uterus can be provided by a relative such as a mother.

Sweden was the first country where a transplant patient successfully gave birth after receiving a uterus. In 2013, the University of Gothenburg's team transplanted a uterus from a 61-year-old woman into a 35-year-old patient without a uterus. She gave birth to a boy the following year. Nine people have undergone uterus transplants so far. Seven have become pregnant, and five of them have successfully given birth to six babies in total.

Team leader Prof. Mats Brannstrom said, "The uterus transplant procedure will be standard treatment within five years."

#### Potential risks

While there have been successful cases of this kind of transplant, there are not a few issues to be dealt with:

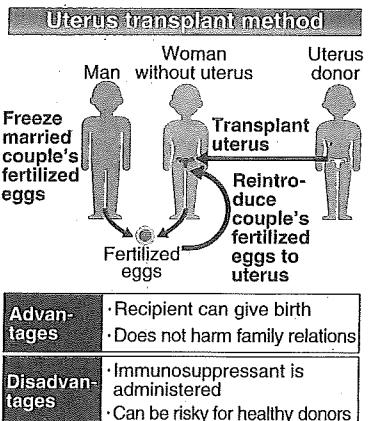
The purpose of the transplant is to have a child. Unlike a heart or liver transplant, it is not conducted to keep someone alive or improve their quality of life.

There is room for discussion as to whether it is acceptable to put physical and mental burdens on a healthy donor for the purpose of having a baby. Transplants are accompanied by high risks: There have been cases in which donors died due to liver and kidney transplants.

There are also concerns that the mothers of



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A woman talks about her hopes regarding uterus transplants at a symposium in Tokyo on April 9.



not only regarding a third party taking the risk of childbirth but also in complicating family relations.

In that sense, it has not been approved by the Japan Society of Obstetrics and Gynecology. Even though the project team of the Liberal Democratic Party drew up a bill to back surrogacy in limited cases, it has not yet been submitted to the Diet due to strong opposition.

Yuzawa, who is also deputy director of the Japan Society for Transplantation, added: "Both surrogate birth and uterus transplants have many issues that have not been solved. Experts in reproductive medicine should give priority to weighing up the suitability of both treatment, when giving women without uteruses the option of having children. Technical research by transplant specialists is secondary to that."

Some experts believe that we should turn our attention to choices other than reproductive medicine. According to Tetsuya Ishii, a professor at Hokkaido University, who is well-versed in bioethics, if infertility treatments do not succeed, many people tend to give up on having children. In fiscal 2015, there were only 544 cases in which people used the special adoption system that

allows them to form a legal parent-child relationship without blood ties. "It is desirable to have a society in which couples suffering from infertility consider adopting a child, without taking blood ties too seriously," he said. (Tatebayashi is a Yomiuri Shimbun Senior Writer)

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**Uterus transplant** The transplant of a uterus into a woman who was either born without a uterus or had the organ removed for cancer treatment or other reasons. The aim is to achieve pregnancy by placing eggs that were fertilized in vitro into a transplanted uterus. There are estimated to be 60,000 to 70,000 women in their 20s and 30s in Japan who could be eligible for this treatment. A uterus is able to grow a baby even after menopause, so middle-aged or older women could become donors.

The problem with productivity is measuring it in digital world