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Uterine transplantation: Subjects have 'adjusted well to their new life situation'

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In October last year the Gothenburg, Sweden, group of Mats Brännström, announced the world's first live birth following the transplantation of a donated uterus.[1] In an editorial accompanying the report, *The Lancet* listed this remarkable achievement as comparable to only three other landmarks in the history of reproductive medicine: "the arrival of in-vitro fertilisation (IVF) in the late 1970s; the development of intracytoplasmic sperm injection (ICSI) in the early 1990s; the first ovarian transplant a decade ago; and [now] the first live birth after uterine transplantation".

The results were reported as "a proof of concept for this treatment of uterine factor infertility", which Brännström, later described as "the last untreatable form of female infertility". It later emerged that nine women in the project had received a uterus from live donors - in most cases the recipient's mother but also other family members and close friends (as in the first successful case).

With a strict policy of anonymity applied throughout the programme, little is known about the nine women and how they responded and adjusted to this sudden restoration of their fertility. But now, a psychological evaluation of the patients performed by interview 12 months after the first transplantation indicates that the nine women in the trial did adjust "psychologically well to their new life situation" during the first year after transplantation.

By then, there had been two transplantation failures, and today three of

the remaining seven women of the group have delivered healthy babies. The median age of the women was 33 years, ranging from 27 to 38.

Results of the study are presented this week as a poster at the Annual Meeting of ESHRE in Lisbon by psychologist Dr Stina Järvholm and colleagues from the Sahlgrenska University Hospital in Gothenburg, Sweden.

Results of the evaluation showed that all nine participants - including the two women whose transplantations had failed - were content with their decision to join the programme and had incorporated this decision and their new circumstances into their daily lives. All remained loyal and committed to the project throughout its first year.

Dr Järvholm said that a "master theme" emerged from her evaluation: "A chance to hope". Women in the trial said they now had the same opportunities for a family as others, that the main "obstacle to fertility no longer exists". Even one participant with transplantation failure said: "I put great hope into the transplantation, it was the only way to go, the solution for me . . . " Other comments made by the subjects ("A body like anyone else's") suggest that the programme had important social implications too, restoring not just their fertility but also their place in everyday life.

The evaluation focused on four themes - psychological well-being, relationship with the donor, follow-up, and social aspects - and in her analysis Dr Järvholm found that the year's wait between the transplantation surgery and attempting pregnancy was seen as a transition phase, with both hope and stress. "Well, there have been many turns and uncertainties," said one participant, "a big deal with no certainties."

Participants with both viable grafts and "graft failure" say the procedure mainly had a positive effect on their quality-of-life, and gave them hope.

But it also put a new focus on pregnancy and children which they previously had tried to avoid - and this, they said, was sometimes a strain.

Relationships with the donor (most frequently the mother) was usually described as "back to normal", with the relationship "as it was before, or better" - whether the transplantation was successful or not. Some of those who had other close relatives or friends as donors expressed worries about the donor's health and their own debt of gratitude, with one saying:. "I do feel stress about my donor, when she's not feeling well . . . I get feelings of guilt sometimes."

Brännström, emphasised at the time of the initial reports that uterine transplantation was not yet a technique for mainstream treatment, and success thus far no more than proof of a concept. However, the technique will eventually allow women without a uterus (either from birth or following hysterectomy) to be fertile, and then, says Dr Järvholm "it will be of the utmost importance to have knowledge of psychological strengths and strains".

More information: 1. Livebirth after uterus transplantation. *Lancet* 2015: 385: 607-616.

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