

How do transsexual people cope with their wish for a child?

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Introduction.

In the past transition and reproduction seemed to be mutually exclusive for transsexual people. To many, loss of reproductive potential seemed the "price to pay" when transitioning. Even today, many medical experts - even those involved in the care of transsexual and transgendered people - are still critical when discussing possible procreation after gender reassignment.

More and more, people are diagnosed and treated for their transsexuality at an early age, when they still do not have any children nor possibly wish for a child. Recent reproductive techniques, however, have made it possible that germ cells can be preserved for future use, so that in theory transsexual people may make use of their germ cells after transition. Already a few years ago Anne Lawrence discussed the "reproductive needs" of the transsexual patient, so in line with her ideas, the purpose of this paper is to discuss what is already technically possible now, and what may be possible tomorrow. Of course, we may expect that a profound medical and ethical debate will take place before these new techniques may be implemented routinely.

The right to procreate.

In modern reproductive medicine it is generally accepted that every person has the right to procreate - except maybe when the interest of the child may be seriously at risk - but for the transsexual patient this does not seem obvious. The problem is that hormonal and/or surgical treatment have rendered procreation biologically impossible. In daily infertility practice, however, there is another example where procreation is impossible by natural means. Reproduction within lesbian couples is nowadays widely accepted and both simple donor inseminations and cross- over in vitro fertilisation (IVF) (one woman provides the oocytes, which after fertilisation in vitro are transferred to her partner) are widely performed to help fulfill the wish for a child of lesbian women. The argument that the transitioning transsexual patient has deliberately chosen to abandon his or her reproductive potential, is of the same nature as saying that a woman becomes a lesbian by choice. If we accept that lesbianism is not a matter of choice and we accept that lesbian mothers-to- be may well be helped with their wish for a child, why would we refuse to offer the same to transsexual people ?

Sperm banking in transsexual women.

It is well known of course that feminising hormonal therapy will induce hypospermatogenesis (reduction of sperm production) in transsexual women, and ultimately will lead to azoospermia (no sperm cells present in the ejaculate). This azoospermia may be considered

irreversible after some time, and furthermore gender reassignment surgery with removal of the testes obviously leads to irreversible sterility.

The only option, therefore, is to perform sperm preservation by freezing a number of semen samples, preferably prior to starting hormonal therapy. This banked sperm can then possibly be used later to inseminate a female partner if the quality is good, or else be used to perform IVF.

In case of a future male partner the situation is the same as with homosexual men today, and there is little help available except when an egg donor and surrogate mother are involved. Especially since many transsexual women are sexually orientated towards women after transition, sperm banking should routinely be offered to people considering hormonal and/or surgical gender reassignment treatment. Any man undergoing a treatment that will damage his reproductive potential (such as chemo- or radiotherapy for a malignancy) is offered to bank sperm, so why would the transsexual person not have the same right ?

Transsexual men.

For transsexual men the same principles apply. Masculinising hormonal therapy will lead to a reversible amenorrhea but ovarian follicles will remain in place. Of course castration will provoke an irreversible ovarian failure. To preserve procreational potential three options are available: oocyte banking, embryo banking and ovarian tissue banking.

Oocyte banking.

Oocyte banking requires hormonal stimulation and oocyte retrieval (as for IVF) and subsequent freezing of the oocytes. Although this option would be very interesting, mature eggs seem very vulnerable as to chromosomal damage by the freezing and thawing process. The very poor survival of the eggs after thawing, and poor fertilisation and implantation results after IVF make this a non-realistic strategy. Only a few births have been reported in the world and the technique of oocyte freezing has virtually been abandoned. Oocyte banking besides would also require the use of donor sperm and a recipient uterus of a future female partner on one hand, or a surrogate mother in case of a male partner. The latter case would lead to a genetic own child to the couple.

Embryo banking.

Embryo banking requires hormonal stimulation and oocyte retrieval (as for oocyte banking or IVF) and it also requires sperm from a male partner (or donor) with subsequent freezing of the embryos. Embryo freezing is now a routine procedure in IVF and yields reasonably good results (10-20% pregnancy / transfer). It of course also would require a recipient uterus (female partner or surrogate mother).

Ovarian tissue banking.

Ovarian tissue banking probably has the most potential for the future and is already being used for women who undergo chemo- or radiotherapy for a malignant disease. Ovarian tissue banking requires no hormonal stimulation nor IVF, and is technically as easy as sperm freezing. Through means of a laparoscopy ovarian tissue can be removed, and it is probably so that the ovaries retain usable follicles even after hormonal therapy, - although there is some

discussion as to whether a PCO-like condition (polycystic ovary syndrome) is induced by androgen therapy. Since probably androgen therapy, however, does not adversely affect the ability to obtain follicular development and/or oocyte maturation in vitro after freezing and thawing, removal of ovarian tissue can well be performed at the time of ovariectomy.

Ovarian tissue banking would also require donor sperm and a recipient uterus of a future female partner or a surrogate mother in case of a male partner. The problem of ovarian tissue banking is not the freezing but the question what to do with the tissue after thawing. One has the option to graft the ovarian tissue in the patient himself (of course this is not an option for transsexual men), in another patient (problem of immune rejection) or in another animal (such as the mouse, but here may arise some serious ethical objections). In these three scenarios follicular growth and ovulation should still be induced and probably IVF would be needed to obtain fertilisation. As a fourth possibility, in vitro culture of the tissue fragments, with follicular growth and oocyte maturation in vitro seems to lead to poor results. So, although ovarian tissue banking seems to be the option to choose, much research will still be needed to bring this in practice for transsexual men.

The future.

Of course, in the future there may be other asexual ways of procreation awaiting. Since the birth of Dolly it has been shown possible to obtain an individual starting from an adult cell. Now already many other animal species have been cloned and theoretically the human species will probably not be difficult to clone either. Although cloning may offer great potential to medicine in general and may have many useful applications, reproductive cloning (reproducing a copy of a given individual) probably does not seem of interest. Indeed, no two clones would be really identical and at best one could obtain similarities such as the ones that exist between monozygotic twins that would be raised at different times and in different places.

Finally, a remote possible application of reproductive cloning would be the creation of chimeras from two different cloned embryos (by simple merging) so that an individual may consist of the genetic make-up of two different individuals. This could in theory for instance lead to an XX/XY intersexed chimera or true hermaphrodite. Whether such strategy would one day be admissible to society is another question.

Conclusion.

In conclusion, several reproductive options are technically already, or soon will be available to help transsexual people fulfill their wish for a child. The medical world, legislation and society at large will need time to accept the concept of transsexual reproduction and allow treatment. We think, however, that sperm and ovarian tissue banking should already be discussed and offered to transsexual people undergoing gender reassignment treatment, so that future treatment may be possible if wanted. Experience with lesbian couples shows that when new techniques are available, new treatment options are sought and offered, and there is no reason why transsexual people should be refused these new possibilities.