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UTx with deceased donors also places risks and burdens on third parties

Heidi Mertes & Kristof Van Assche

While making the case for uterus retrieval from multi-organ donors, Bruno and Arora (2018) presume that it is self-evident that “uterus removal should occur only after procurement of vital organs.” However, they overlook that this conflicts with the current direction of clinical trials involving uterus transplantation (UTx) with deceased donors and that significant ethical concerns will still need to be addressed.

Surgeons performing uterus removal from multi-organ donors argue that the uterus should be obtained before cross-clamp and thus before the procurement of vital organs, offsetting a small risk in terms of the viability of other organs against a substantial improvement of uterus viability (Testa et al. 2018). Although there are concerns regarding blood loss and the viability of other organs, the argument goes that, when performed by an experienced team, uterus removal will not negatively impact the retrieval of lifesaving organs. However, note that in at least one case, albeit before the protocol was optimized, removal of the uterus before vital organs resulted in removing blood veins that were crucial for pancreas and liver transplant (Ozkan et al. 2013; Testa et al. 2018). The mere possibility that on occasion a vital organ could be lost, and a patient with end-stage organ failure would ultimately be denied this lifesaving treatment, counts heavily against the proposed procedure.

Even if we grant that, given an optimized protocol and an experienced team, the loss of vital organs can be avoided, a number of problematic practical implications remain. For instance, supplementary tests would need to be performed to determine whether the multi-organ donor also qualifies as a uterus donor and, depending on the jurisdiction, an additional specific consent might need to be sought from the next of kin. This may cause a delay in the removal and transplantation of vital organs, with potentially negative consequences for prospective recipients in urgent need. Moreover, since the proposed uterus retrieval protocol requires the procedure to be stopped in case of hemodynamic instability of the donor in order to save the vital organs, this presupposes that surgical teams responsible for the retrieval of those organs are at least on standby, if not physically present, up to 2h before they are scheduled to start their intervention. This may put a significant burden on the organ procurement teams and may further complicate the delicate coordination needed for optimal deceased organ donation and transplantation.

In light of these considerations, one may be tempted to conclude that uterus retrieval after the retrieval of vital organs is the better option after all. However, this is not necessarily the case. A worse uterus graft leads to more complications in the recipient and to lower success rates. Moreover, problems in vascularization can also have a detrimental effect on the health of the resulting child. It is therefore difficult to determine in which of both scenarios the least harm is done. UTx with living donors is equally problematic, given the many concerns for iatrogenic complications.

There is, however, an unmentioned option that avoids all risks and burdens: not performing uterus transplantation at all. UTx is a typical example of how the technological imperative works in medicine: There is a medical condition (uterine factor infertility) that we would like to cure, a technical fix (UTx) is possible, and therefore it must be implemented, sooner rather

than later. When the technical ability to perform a medical procedure has become its own rationale, it is time to question whether it should be performed at all.

Often, defenses of UTx are framed in comparison with surrogacy. UTx is then said to be better than surrogacy in terms of legal limitations and complications, respect for autonomy, and patient preferences, and to be more broadly accepted by the general public (Catsanos et al. 2013; Saso et al. 2016). In a second step, it is claimed that deceased donors are a better source of uteri than living donors, so as to avoid infringing upon the principles of nonmaleficence and voluntary consent (Bruno and Arora 2018). By comparing two options that cause ethical concerns of their own (i.e., surrogacy vs. UTx or living donor vs. deceased donor) instead of comparing them to the null hypothesis of nonintervention, there is no assessment of whether the intervention is itself desirable and many of the risks and burdens remain under the radar.

So let us take this opportunity to take stock: do the benefits of UTx with deceased multi-organ donors really outweigh the costs? Most analyses limit themselves to the “hard impacts”: the health risks for the recipients and their resulting child(ren). An *in vitro* fertilization (IVF) procedure and at least three invasive surgeries are needed for each patient: transplantation of the uterus, cesarean section, and removal of the uterus after child-birth, each with its “standard” risk of complications (e.g., thrombosis and infections). Additional complications are associated with organ transplantation (e.g., acute rejection of the graft, recurrent infections, chronic kidney disease) and with immunosuppression (e.g., liver toxicity, cancer). Moreover, specific issues are linked to patients with the Mayer–Rokitansky–Küster–Hauer syndrome (who are the primary candidates for UTx), a syndrome that is often accompanied by renal problems such as kidney malformation, single kidneys, or pelvic kidneys, which can cause additional risks during pregnancy and delivery, for example, preeclampsia, which is a life-threatening condition. While we accept each of these complications in other contexts, that does not necessarily make them acceptable for elective procedures. For the children, the main risks appear to be linked to preterm birth and the possibility of a rejection episode during gestation. While these risks are commonly brushed aside by referring to the informed consent of the uterus recipient and to the nonidentity argument (Robertson 2016), they remain problematic from a common health perspective (Mertes 2018). The goal should be safer, not riskier, childbearing and childbirth. As patients tend to downplay risks in procedures that are endorsed by their physicians (Saso et al. 2016), the primary responsibility of achieving this goal rests on the shoulders of health care professionals, not patients.

Next, substantial investments are involved, both in financial terms (for research and for the actual medical interventions) and in terms of the time and effort of medical professionals, given the multitude of procedures needed. In addition, significant costs may need to be borne by other patients. Promoting UTx raises severe concerns of fair resource allocation in times of austerity, certainly if this would mean that less time and money could be spent on helping other patients. Moreover, as indicated in the preceding, UTx with deceased donors carries a risk of delaying the removal and transplantation of vital organs, and even a risk of occasional loss of a vital organ, thereby potentially depriving other patients of optimal transplant opportunities.

Finally, the introduction of UTx leads to a number of soft impacts (Swierstra 2015), of which the most important is a reinforcement of the idea that the right to conceive and bear children is not merely a liberty right, but rather a claim right. This in turn reinforces the perception

that a life without one's "own" children (genetically linked and gestated by the mother) is a lesser life, in terms of either well-being or meaningfulness, although a multitude of sociological research has debunked this powerful myth (Hansen 2012).

Including these soft impacts in the analysis leads to the conclusion that although UTx is a dream come true for couples involved in the first successful clinical trials, their increase in life satisfaction might well be overshadowed by increased suffering by the unsuccessful uterus recipients, by those for whom UTx is not accessible, and by those who remain involuntarily childless due to causes other than uterine infertility. It should be noted that a common phenomenon in infertile patients is that their mourning process only starts after they have exhausted all available options (Daniluk 2001). This results in an ambiguous attitude: After each failed attempt at conception, patients hope that a new option will be offered, but at the same time they report relief when a physician indicates that their fertility treatment roller coaster has come to an end and the coping and grieving process can finally start (Daniluk 2001). As long as other options are still available, anticipated decision regret tends to prevent patients from giving up on their dream of becoming parents and they often go much further than they indicated they were willing to go at the start of their treatment. This puts the ideal of patient autonomy and the idea that more options are always better in a different perspective, especially when options are being presented that, while technically feasible, will remain inaccessible to many and thus prevent closure.

In conclusion, while deceased donor UTx may have benefits over living UTx and while UTx may have benefits over (certain types of) surrogacy, the conclusion is not necessarily that deceased donor UTx is to be pursued and introduced into routine clinical care. The current focus on patient autonomy obscures the wider impact of the procedure, which may result in more harm than benefit on a broader, societal level.

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