The Ethics of Uterine Transplantation

Obstetrics and Gynecology Grand Rounds, IWK Health Centre
Wednesday January 28, 2015

Angel Petropanagos, Ph.D.
Novel Tech Ethics, Faculty of Medicine, Dalhousie University
Angel.p@dal.ca
Objectives

1. Outline the current state of uterine transplantation (UTx)

2. Consider physician’s ethical obligations relating to UTx
The Plan

1. Survey of UTx
2. The Canadian Context
3. The Ethical Physician
4. Discussion
Survey of UTx

Patient Population

• Congenital or Acquired Uterine Factor Infertility (UFI) (absolute or relative)

• 3-5% of women

(Akar et al 2015)
Survey of UTx

UTx Technologies

- Cadaver UTx
- Live-donor UTx
- Bioengineered uterus.

(Lefkowitz et al 2012; Hellström et al 2014)
Survey of UTx

History of UTx

- Apr 2000 Saudi Arabia
- Aug 2011 Turkey
- Sep 2012 - Apr 2013 Sweden

(Johannesson and Enskog 2014)
Survey of UTx- Swedish Trials

Brännström and colleagues 2012-2014

(Johannesson et al 2015)
Survey of UTx- ... Success

Vincent- born October 2014

Additional pregnancies (unofficially) reported in Swedish UTx trial
The Canadian Context

- # of women with UFI
- State of adoption and surrogacy in Canada
- Part of a global context—cross-border travel may be a future option
- Current research in Canada
Driving Question

How does the ethical physician engage with UTx?
Survey of UTx

- CMA code of ethics/ SOGC Guidelines
- 2009 FIGO Guidelines
- Dec 2011 Indianapolis Consensus
- 2012-2013 Montreal Criteria for Ethical Feasibility of Uterus Transplantation
Montreal Criteria

(Lefkowitz et al 2012)
The Ethical Physician

• What do you do when a patient with UFI inquires about UTx?
The Ethical Physician

Advocate

- Benefits to Donor
- Benefits to Recipient
- Benefits to Fetus/Offspring
- Benefits to Society
The Ethical Physician

Advocate

• Benefits to Donor
  • Altruism
  • Grandchild/ family

OR

• Bioengineered Uterus- N/A
The Ethical Physician

Advocate

- **Benefits to Recipient**
  - Reproductive autonomy
  - Stigma/harm of infertility
  - Stigmatized identity (Landau 2007)
  - Experience pregnancy
  - ‘Only’ chance
  - Avoid legal/religious concerns
The Ethical Physician

Advocate

- Benefits to Fetus/Offspring
- Life
The Ethical Physician

Advocate

• **Benefits to Society**
  • Scientific discovery
  • Avoid ethical and legal challenges with surrogacy
The Ethical Physician

Dissuade

- *Harm to Donor*
- *Harm to Recipient*
- *Harm to Fetus/Offspring*
- *Broader Social Concerns*
The Ethical Physician

Dissuade

*Harm to Donor*

- Surgical Risks - radical Hysterectomy
- Anesthesia
- Obtaining informed consent
- Compromise identity, sexual function
- Sense of failure

(Carter et al 2010; Kisu et al 2012)
The Ethical Physician

Dissuade

- **Harm to Recipient**
  - Immunosuppressants
  - The potential for infection and thrombosis in the transplanted uterus
  - Potential development of pre-eclampsia, preterm contractions and acute rejection of the uterus
  - Risks associated with preterm delivery
  - Risks associated with eventual removal of the transplanted organ
  - Emotional rejection/ alienation/ pregnancy
  - Cost
  - Informed Consent
  - Multiple surgeries

(Shah and Blake 2014; Lefkowitz et al 2012)
The Ethical Physician

Dissuade

- *Harm to Fetus/ Offspring*
  - Organ rejection/ abortion
  - Immunosuppressant drugs

(McKay and Josephson 2006)
The Ethical Physician

Dissuade

- **Broader Social Concerns**
  - Distributive justice/ access
  - Social justice
  - Cost to healthcare system (research/ service)
  - Reinforces pronatalism

(Shah and Blake 2014)
The Ethical Physician

Neutral

- Give unbiased information to women who inquire about UTx
- Medical risks and benefits
- Costs
- Social Considerations
The Ethical Physician

Is there an obligation to tell all eligible patients about UTx?

• Yes…
• No…
Background Principles

• Faming matters: ART vs. Organ Transplantation
• Reproductive Right (positive or negative)
• Research vs. therapy
• Western-centric

(Catsanos, Rogers, and Lotz 2013; Kisu et al 2010)
Ethical Challenges

- Informed consent- Emotional issue
- Cultural, Ethical, Religious diversity
- Cross-border healthcare- after care
- OBGYN role as ART expert
- Similarities to other experimental technologies
Discussion

Thank you
References


References


• Myazaki, K and T Maruyama- (2014) Partial regeneration and reconstruction of the rat uterus through recellularization of a decellularized uterine matrix. Biomaterials 35: 8791-8800


