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An Ethical Analysis of IVF Alternatives after UTx

Andrew S. Kubick

Absolute uterine factor infertility (AUFI) is a condition whereby a woman's uterus is either malformed or completely absent, resulting in the inability to conceive and experience pregnancy. It occurs congenitally, such as in the case of Mayer-Rokitansky-Küster-Hauser syndrome, or is acquired due to hysterectomy. While the prevalence of AUFI varies per study, one estimate is that 1 in 4,500 women have congenital uterine factor infertility,[1] and a far greater number have acquired uterine factor infertility.[2] For reproductive-age women diagnosed with AUFI who meet specific criteria, uterus transplantation (UTx) is the only treatment that may enable them to experience both genetic and gestational motherhood. To date, at least one hundred uteri have been transplanted around the world, resulting in thirty-one live births.[3] Those uteri were procured from both living and deceased donors. Following successful transplantation and observable graft stability, an embryo or embryos will be transferred with the hope of establishing pregnancy.

In the following essay, I analyze four alternatives to the universally-practiced UTx protocol that requires in vitro fertilization to conceive. This analysis is important because IVF is an objectively immoral act that corrupts UTx as it is currently accomplished.[4] There are other UTx protocols that must be analyzed also, for example, procurement and transplantation, but those analyses exceed the scope of this essay. Finally, it should be noted that I presuppose in this essay that the recipient in question is a genetic female in a sacramental marriage who intends to use her own eggs and her husband's sperm to procreate.

In Vitro Fertilization

Before considering four alternatives to IVF, it is critical to affirm why it is an objectively immoral act. The *Catechism of the Catholic Church* teaches,

> Techniques involving only the married couple (homologous artificial insemination and fertilization) are perhaps less reprehensible [than heterologous insemination and fertilization], yet remain morally unacceptable. They dissociate the sexual act from the procreative act. The act which brings the child into existence is no longer an act by which two persons give themselves to one another, but one that "entrusts the life and identity of the embryo into the power of doctors and biologists and establishes the domination of technology over the origin and destiny of the human person. Such a relationship of domination is in itself contrary to the dignity and equality that must be common to parents and children."[5]

IVF is fraught with immoral and imprudent acts. For example, it violates the principle of inseparability when it is preceded by an immoral means of sperm retrieval, most commonly masturbation. Another example is its violation of the principle of sacredness of human life, specifically, "the dignity and right of the child to be conceived … by his own parents."[6] In IVF the causal agent of the child's life and wife's pregnancy is a technician who appropriates the natural processes of the conjugal act to control conception.

The human embryos undergo intense scrutiny whereby only those considered most fit are maintained. They are transferred immediately or cryopreserved, while those deemed unfit are discarded. That is an act of abortion according to the Congregation for the Doctrine of the Faith (CDF).[7] A similar fate awaits human embryos and fetuses who fail further scrutiny when the mother experiences a multi-fetal pregnancy.

Much more can be said on the subject of IVF, but suffice it to say that it is an act that ought never to be committed.

Insemination and Gamete Transfer

The first alternative to consider is intrauterine insemination. IUI begins by determining when ovulation will occur, whether naturally or induced by fertility drugs. As the woman nears a luteinizing hormone surge, her husband's sperm are retrieved by way of masturbation. Other methods to retrieve sperm may be used, but masturbation is the most common. Once retrieved, a sufficient number of high-quality sperm are isolated using a washing method and then saved. Shortly after ovulation, the sperm are aspirated into a catheter. That catheter is inserted into the woman's vagina and through her cervix, where the sperm are released. The married couple has the option to engage in the conjugal act directly before or immediately following IUI so that the assisted-reproductive technology (ART) is proximate to intercourse and there is at least the appearance that fertilization can occur naturally.[8] A pregnancy test is administered nearly two weeks after IUI to determine whether fertilization and implantation were successful.[9]

Gamete intrafallopian transfer is the second alternative. GIFT is similar to IUI except here the egg or, more commonly, eggs are retrieved in addition to sperm. Once the most mature egg is selected and the sperm are washed, the gametes are aspirated into a catheter and separated by a pocket of air, which ensures that the

gametes will not intermingle until they are deposited inside the fallopian tube. The catheter is inserted into a small incision made in the woman's abdomen where it meets the end of the fallopian tube nearest the ovary, (i.e., the fimbriated end), and the gametes are deposited. Once again, the married couple has the option to engage in the conjugal act directly before or immediately following GIFT so that intercourse is proximate to the ART and there is at least the appearance that fertilization can occur naturally. A pregnancy test is administered nearly two weeks after GIFT to determine whether fertilization and implantation were successful.[10]

The third alternative is akin to GIFT. Gamete intrauterine transfer (GIUT) follows many of the same protocols as GIFT except the gametes are deposited in the uterus rather than in the fallopian tubes.

IUI and GIUT may be effective alternatives to IVF for UTx. They are effective because pregnancy can occur under the current UTx protocol, which excludes the transplantation of a fallopian tube or tubes. The presence of the uterus is sufficient. Pregnancy following GIFT, however, is not possible, because the very anatomical conduit in which fertilization occurs is absent. If a fallopian tube or tubes are transplanted with the uterus, then GIFT may be effective also.

Ethical Analysis

Are IUI, GIFT, and GIUT moral alternatives to IVF? Admittedly, the fertilization of a wife's egg with her husband's sperm inside the uterus or fallopian tube is nobler than fertilization in vitro.[11] Moreover, the United States Conference of Catholic Bishops (USCCB) indicated that IUI and GIFT, for example, are neither "approved nor disapproved" by the Catholic Church when certain conditions are met.[12] These include when sperm are retrieved through vaginal intercourse not masturbation and, in the case of GIFT, when a single egg is deposited rather than multiple eggs. With GIFT there is also the requirement that a pocket of air separate the gametes while in the catheter. While not included explicitly in the USCCB's analysis, it is reasonable to extend the application of those conditions to GIUT as well. When those conditions are met, and in the absence of any definitive Church teaching, Rev. Nicanor Pier Giorgio Austriaco, OP, writes, "Individual Catholics may choose to use these procedures according to the dictates of a rightly formed conscience and the virtue of prudence."[13]

Those conditions given by the US bishops are intended to uphold the principle of inseparability and satisfy the instruction from the CDF: "Homologous artificial insemination within marriage cannot be admitted except for those cases in which the technical means is not a substitute for the conjugal act but serves to facilitate and to help so that the act attains its natural purpose."[14] Whether the use of a perforated condom to retrieve sperm and the subsequent washing of that sperm, in conjunction with egg retrieval and uterine or fallopian deposit, are assistance or substitution is an ongoing debate among moral theologians and ethicists faithful to the Magisterium.

The following summary will provide some context to that debate, although it is not exhaustive. The morality of using a perforated condom to retrieve sperm hinges on several factors. For example, the use of a perforated condom during the conjugal act is considered a moral means to retrieve sperm for diagnostic testing, provided some of the semen escapes the condom and deposits inside of the wife's vagina. Moreover, a perforated condom may assist a man who is diagnosed with hypospadias to ejaculate inside his wife's vagina rather than outside of it, which is very common with that condition because the opening of the urethra is on the underside of the penile shaft rather than at the tip of the glans.[15] In the case of hypospadias, the intention of the husband is to direct the sperm to the vagina rather than to withhold them.

When, however, a perforated condom is used with the intention to retrieve sperm for ART, the means are debatable. Proponents claim the conjugal act per se is open to procreation precisely because the married couple intends for some semen to escape the condom and enter the vagina. Therefore, the condom is not a barrier contraceptive in that instance.[16] Opponents claim the removal and subsequent washing of sperm is a second human act that terminates the causal relationship between the conjugal act and fertilization. If fertilization were to occur, it would be the result of a third human act that initiates a new causal process.[17]

IUI, GIFT, and GIUT require the technician to initiate a new causal process aimed at fertilization. On that, Rev. Tadeusz Pacholczyk concluded,

> [The] mechanical injection or insemination step itself would raise serious moral concerns. Clearly, a marital act would not cause the pregnancy, but at best would cause gamete (sperm) collection. The pregnancy itself would be brought about by a new and different set of causes, whereby the mechanical actions of a technician would substitute for, and thus violate, the intimate and exclusive bond of the marital act … [IUI] does not facilitate the natural act, but replaces it with another kind of act altogether, an act that violates the unity of the spouses in marriage, and the right of the child to be conceived in the unique and sacred setting of the marital embrace.[18]

While IUI, GIFT, and GIUT are usually performed independent of the conjugal act, it is possible for the spouses to have intercourse immediately before or after those procedures. Does the proximity to intercourse affect their morality? People who respond yes to that question do not discount the possibility that the sperm deposited by the technician will probably be the sperm that fertilizes the egg, but they note the remote possibility that the sperm from the conjugal act could be the active cause of fertilization. Moreover, they claim that the inseminated sperm may assist the conjugal act by fortifying the sperm ejaculated during intercourse. People who answer no would say that it is a near certainty that the sperm that fertilizes the egg is deposited by the technician. If the infertility of the married couple is accurately diagnosed, then they are unable to conceive after trying for at least twelve months of unobstructed vaginal intercourse. If the husband's sperm that were ejaculated during intercourse were unable to fertilize his wife's eggs for a year or more, then how is it reasonable to assume that his naturally ejaculated sperm will fertilize the egg rather than the washed, technician projected sperm?[19] I do not think that is a reasonable assumption.

While proponents claim that IUI, GIFT, and GIUT assist the conjugal act and permit fertilization to occur inside of the body, opponents counter with concerns about the method used to retrieve the sperm and the third act performed by the technician that will undoubtedly be responsible for fertilization if it does in fact occur. Rev. Benedict Ashley, OP, and Rev. Kevin O'Rourke, OP, agreed with opponents when they wrote, "It seems that even if fertilization occurs within the body of the woman, fertilization that is not the

direct result of the marital act but rather the result of the technician's manipulation does not meet the norms of the Church's teaching."[20] If the conjugal act is performed prior to or immediately following GIFT, for example, and the sperm directly deposited inside of the vagina during that conjugal act fertilizes the egg, that fertilization is "*per accidens*,"[21] according to William E. May, because it occurs simply by chance.

In Light of UTx

Returning to the context of UTx, only IUI and GIUT are effective alternatives to IVF in light of current UTx protocols that exclude the transplantation of a fallopian tube or tubes in order to eliminate the risk of pelvic inflammatory disease and ectopic pregnancy.[22] If an en bloc transplantation (i.e., of the vaginal vault, cervix, uterus, and fallopian tubes) is performed in the future, and there is still no formal instruction given by the Catholic Church on these matters, some theologians may argue for the moral permissibility of IUI, GIFT, and GIUT within the context of UTx. However, based on the preceding analysis, I think those methods are immoral means of achieving pregnancy and ought not to be used.

The fourth alternative is natural conception. This is the only alternative to IVF that is undeniably moral because it is the only means that upholds the dignity of the spouses and their child, the integrity of the marital union, the unitive and procreative natures of the conjugal act, the right and privilege of the husband to be the causal agent of his wife's pregnancy, and the truth that a child is a gift to be received. The *Catechism* teaches, "A child is not something *owed* to one, but is a *gift*. The 'supreme gift of marriage' is a human person. A child may not be considered a piece of property, an idea to which an alleged 'right to a child' would lead. In this area, only the child possesses genuine rights: the right 'to be the fruit of the specific act of the conjugal love of his parents,' and 'the right to be respected as a person from the moment of his conception.'"[23]

Even if a transplantation team decides to perform an en bloc transplant, there is uncertainty about whether the egg will be swept into the fallopian tube and travel through it following ovulation. Low tubal ovum transfer (LTOT) is a method that moves an egg from the recipient's own ovary to the low part of her fallopian tube, specifically, the ampulla or isthmus, where it is more likely to be fertilized following an unimpeded and uninterrupted conjugal act.[24] That is a true example of assisting the conjugal act rather than replacing it. If ectopic pregnancy is the concern, LTOT may be the ethical solution that encourages en bloc transplantation followed by natural conception, thus representing a moral means to conceive following UTx.

Andrew S. Kubick is a postdoctoral ethicist fellow at The National Catholic Bioethics Center in Philadelphia; a research fellow at the Religious Freedom Institute in Washington, DC; and a research associate at Providence College in Rhode Island.

Endnotes

1. Dani Ejzenberg et al., "Uterine Transplantation: A Systematic Review," *Clinics* 71.11 (November 2016): 680, doi: 10.6061/clinics/2016(11)10.
2. US Department of Health and Human Services, "Hysterectomy," *Offoce on Women's Health*,last update April 1, 2019, https://www.womenshealth.gov/. The Office on Women's Health reports nearly 500,000 hysterectomies each year.
3. Elliot G. Richards et al., "Uterus Transplantation: State of the Art in 2021," *Journal of Assisted Reproduction Genetics* 38.9 (September 2021): 2251–2259, doi: 10.1007/s10815-021-02245-7.
4. *Catechism of the Catholic Church*, 2nd ed. (Washington, DC: United States Conference of Catholic Bishops/Libreria Editrice Vaticana, 2016 update), nn. 2376–2377; CDF, *Donum vitae* (February 22, 1987), II.B.5.
5. *Catechism,* n. 2377, citing CDF, *Donum vitae*, II.5.
6. CDF, *Donum vitae*, II.A.3.
7. CDF, *Dignitatis personae* (June 20, 2008), n. 22.
8. Assisted reproductive technology is written for the purpose of employing common medical language. However, if the technology replaces rather than assists the conjugal act, it ought to be called artificial. Note that the CDF instructs the following in *Donum vitae:* "By 'artificial procreation' or 'artificial fertilization' are understood here the different technical procedures directed towards obtaining a human conception in a manner other than the sexual union of man and woman."
9. Mayo Clinic, "Intrauterine Insemination," accessed July 16, 2019, https://www.mayoclinic.org.
10. See C. Mastroyannis, "Gamete Intrafallopian Transfer: Ethical Considerations, Historical Development of the Procedure, and Comparison with other Advanced Reproductive Technologies," *Fertility and Sterility* 60.3 (September 1993): 389–402, doi: 10.1016/S0015-0282(16)56148-2.
11. *Catechism,* n. 2377.
12. Hannah Klaus, *Reproductive Technology (Evaluation & Treatment of Infertility): Guidelines for Catholic Couples* (Washington, DC: USCCB, 2009).
13. Nicanor Pier Giorgio Austriaco, *Biomedicine* and *Beatitude: An Introduction to Catholic Bioethics* (Washington, DC: Catholic University of America Press, 2011), 100.
14. CDF, *Donum vitae*, II.B.6.
15. William E. May, *Catholic Bioethics and the Gift of Human Life*, 2nd ed. (Huntington, IN: Our Sunday Visitor, 2008), 90.
16. Elio Sgreccia, *Personalist Bioethics: Foundations and Applications*, trans. John A. Di Camillo and Michael J. Miller (Philadelphia: National Catholic Bioethics Center, 2012), 488.
17. May, *Catholic Bioethics*, 92.
18. Tadeusz Pacholczyk, "Is Artificial Insemination Wrong Even among Married Couples?" *Making Sense of Bioethics* (August 30, 2014), 2.
19. May, *Catholic Bioethics*, 92–93.
20 Benedict M. Ashley et al., *Health Care Ethics: A Catholic Theological Analysis,* 5th ed. (Washington, DC: Georgetown University Press, 2006), 87.
21. May, *Catholic Bioethics*, 94.
22. See Giuseppe Del Priore et al., "Uterine Transplantation — A Real Possibility? The Indianapolis Consensus," *Human Reproduction* 28.2 (November 2013): 289.
23. *Catechism,* n. 2378, emphasis original.
24. May, *Catholic Bioethics*, 90–91.

THE NATIONAL CATHOLIC BIOETHICS CENTER
600 Reed Road, Ste. 102, Broomall, PA 19008 www.ncbcenter.org

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A Note from Joseph Meaney on Fifty Years of the NCBC

Fifty years is a venerable age for a bioethics center, especially since the academic discipline only came into being in the 1970s. Originally named the Pope John XXIII Medical-Moral Research and Education Center, the NCBC was founded in 1972, the year before Roe v. Wade unleashed abortion-on-demand across the USA. We are fervently praying that this year the US Supreme Court reverses itself and allow states to ban abortion again. But no matter the outcome of the case, there are vast and growing areas where bioethical reasoning and guidance are needed in health care and biomedical research. The COVID-19 pandemic, for instance, has led to the busiest time in our Center's history.

It is interesting to note some of the bioethical milestones the NCBC has engaged along the way. The first birth of a "test-tube baby" in 1978 led to the swift development of in vitro fertilization (IVF) and numerous related ethical issues. The Church condemned IVF because it tramples on the love and dignity that should accompany the conception of a child and the pregnancy that follows. Creating human embryos in labs has led to myriad bioethical abuses, such as experimenting on or ripping apart these tiny humans for their stem cells.

The first stem cell was isolated in 1982, Oregon legalized physician-assisted suicide in 1994, and the human genome was first sequenced in 2003. A Chinese scientist, subsequently jailed for his criminal actions, performed the first germline gene editing of human embryos to be successfully brought to term in 2018. Scientific discoveries and unethical research continue to accelerate. Our modern world desperately needs sound ethical reflection and safeguards.

It is important to reaffirm that scientific research and biomedical treatments are great goods if they are at the service of humanity and respect the unique dignity of the human person. Ethical problems accumulate, however, when vulnerable persons are exploited for the benefit of others, using utilitarian or consequentialist ethics to suggest that "the needs of the many outweigh the needs of the one." There is a grain of truth in this, but one cannot kill a person for the good of others. Christ gave His life to redeem all of us, but it was a free gift and not something we could have ethically demanded.

One excellent example of the benefit of strongly defending ethical standards is the now abandoned practice of craniotomy, a horrific procedure used to save the lives of mothers with impacted labor by directly taking apart the skull of the preborn child. The CDF in the nineteenth century recognized this as the direct killing of the baby and declared that it could not be morally done. This spurred Catholic doctors to develop Caesarean section, a life-saving technique which may have only been developed much later.

Similarly, the extreme ethical violation of killing humans for their embryonic stem cells, and the fact that their use did not lead to the promised cures, encouraged research into alternatives. One Japanese scientist perfected a technique to create induced pluripotent stem cells from mature cells not tainted by the killing of embryos. Other scientists found ways to isolate adult stem cells from umbilical cord blood and other parts of the body. The latter two ethical scientific advances have yielded far more beneficial treatments than embryonic stem cells.

One recent case involved a pregnant mother who carried a child with tremendous health problems, some of which were incompatible with survival outside the womb. When she told her doctor that she would not consent to a direct abortion he was flabbergasted and did not know how to assist a mother with that kind of high-risk pregnancy. Medical knowledge had regressed because abortion had become the default "treatment" for these situations. The mother found a pro-life doctor and safely delivered her child who was baptized before he died.

The NCBC has for fifty years sought to defend and help form the consciences of individuals and institutions involved in health care and biomedical research. Ethical "grey areas" caused by complex medical circumstances can make it hard to know the best choices to make. We encounter this most frequently in end-of-life situations where the distinction between ordinary care and extraordinary care must be carefully discerned and applied. Similarly, extremely difficult cases can arise with maternal/fetal conflicts in pregnancy. We know what definitely cannot be done but assessing what extraordinary care to pursue is increasingly complicated as technology improves and treatment options increase.

We look forward to continuing our mission for many years to come.

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