

November 1979

President's Page

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Recommended Citation

Diamond, Eugene F. (1979) "President's Page," *The Linacre Quarterly*: Vol. 46 : No. 4 , Article 3.
Available at: <https://epublications.marquette.edu/lnq/vol46/iss4/3>

President's Page



A Call for a Moratorium on In Vitro Fertilization

The Technique

On July 25, 1978 at Oldham District Hospital in England, Gilbert Brown rejoiced at the birth of his daughter, Louise, delivered of his wife, Lesley, by their obstetrician, Dr. Patrick Steptoe. Louise, an apparently healthy infant, was the alleged first successful outcome of an in vitro fertilization. As of the time of this birth, the techniques used had not been released to the medical profession for the very good reason that Dr. Steptoe subsequently described at the Pan American Conference on Fertility and Sterility, to wit: "Lesley Brown was pregnant and we realized that we didn't know exactly why. We thought we had done exactly the same with the others but we kept failing."¹ The technique involved the use of a laparoscope to harvest mature ova from the ovaries of the "egg donor." Previous reports indicated that various measures were taken to increase the likelihood of finding mature ova. Human menopausal gonadotrophin was given on the third, fifth, seventh, and ninth days of the cycle and human chorionic gonadotrophin was given on day 11, all to encourage superovulation. Some patients also received clomiphene. Recently, however, these measures have been eliminated in favor of a "natural cycle." The laparoscopy is timed to coincide with the peak of luteinizing hormone levels, usually 20-21 hours after the onset of the LH "surge."

Meanwhile, concentrated sperm is placed on a petri dish under paraffin. If the egg removed by Dr. Steptoe passes a microscopic inspection by his colleague, Dr. Robert Edwards, it is mixed with a 0.2 ml

droplet of sperm. Fertilization occurs within 12-14 hours. When the fertilized ovum reaches the 8 cell stage (3rd day) or the 16 cell stage (4th day), it is placed in the uterus through a tube inserted through the cervix, aiming at a point approximately 2 cm from the fundus of the uterus. The canula is inspected to make sure the embryo is not still in it but there is no way of knowing if it is, in fact, in the uterus. Conflicting reports have been published as to the use of hormones after attempted implantation. The use of norethindrone from two days before until four days after implantation has been reported. The use of progesterone by tampon after insertion has been "contemplated," according to Dr. Steptoe, as has the use of prostaglandin synthetase inhibitors (aspirin or indomethacin) to inhibit uterine contractions. The empirical nature of the technique is emphasized by the report that the two initial successes of the method were followed by eight straight failures.

Dr. Steptoe's colleague, Robert Edwards, a reproductive physiologist, is the apparent developer of the chemical strategies to increase the likelihood of nidation. In their report to the Royal College of Obstetricians and Gynecologists, Steptoe and Edwards reported that, as of January, 1979, they had attempted 32 such implants. Four had been successful but two had aborted spontaneously, one at 11 weeks of gestation (this fetus was reportedly abnormal) and another at 20 weeks of gestation (reportedly normal except for prematurity). In addition to Louise Brown, Alastair Montgomery, born in January, 1979 gave the procedure an approximately 6.2% success rate in terms of the birth of term infants. It has been estimated, however, that Drs. Steptoe and Edwards discarded 99.5% of all fertilized ova produced in their laboratories over a period of 12 years because of obvious abnormality, development beyond the optimum stage, or some other technical indication. While this may be an exaggerated estimate, still the "success rate" should be computed to include discarded ova.

The Problem

The benefits of in vitro fertilization would accrue primarily to the couple in which the woman is infertile as a result of tubal pathology. Dr. Alvin Goldfarb, president of the American Fertility Foundation, estimates that there are 650,000 married women in the United States with this kind of infertility.² Current state-of-the-art surgery could result in term pregnancies for only about 30% of such women. This would leave approximately 455,000 infertile women who might envisage in vitro fertilization as their only recourse. This number is likely to increase, rather than decrease, because of certain developments in the society. These would include 1) the pandemic of venereal disease with its attendant increase in pelvic inflammatory disease; 2) increase in late childbearing; and 3) tubal disease related to the widespread use in

intrauterine devices. There will be, in addition, large numbers of women who have been sterilized by the deliberate production of oviductal obstruction who will decide for any number of reasons that they wish to have more children. Surgical procedures to reverse a previous tubal ligation will be effective in only a minority of cases.

The most persuasive arguments for various kinds of technocratic solutions to medical problems have been the rhetorical appeals to the dilemma of the hard cases (e.g., abortion as a solution to the problem of the woman pregnant as a result of felonious intercourse). In vitro fertilization, even now, is proposed primarily as a "treatment" for the "disease" of infertility. As Kass has pointed out,³ however, infertility is not a disease in the usually accepted use of the term. "Infertility" is a condition located in a marriage, either one of whose partners might conceivably enter into a "fertile" marriage with another partner. Even though the abnormality responsible is usually found in only one of the partners, it manifests itself only when they interact. Infertility is obviously not always an indication for treatment. Post-menopausal women and pre-menarchal unmarried girls, for example, are infertile but not in need of therapy for their condition. If we refer to infertility as a "disease" in the usual sense, then we disengage it from the covenant of marriage and in the process, do further damage to the place of childbearing as appropriate only within marriage. The condition to be corrected is a frustration of a woman's desire for children. It is not a disease, although it may be a symptom of certain diseases.

Louise Brown's mother was not "cured" of infertility by the embryo transplantation. Her infertility which was and is due to her tubal pathology, remains untreated. The surgical reconstruction of her obstructed oviducts would be a "treatment" of her tubal pathology. Her desire for children has been fulfilled by the birth of her child by artificial means. Mrs. Brown's desire to have children was in no way objectionable or unpraiseworthy; quite the contrary. It is in the context of a "response to a desire" rather than a "cure for a disease" in which in vitro fertilization would be appropriately evaluated. In this context, it will achieve its appropriate priority in a society which has many urgent and unmet health needs. The diffusion of medical practice over a broad group of social and economic discomforts has already resulted in the utilization of significant numbers of physicians in the performance of procedures which are not really "medical" in the strictest sense. There is ample evidence to indicate that this has left more important tasks undone.

The Experiment

Although the Steptoe-Edwards achievement was first revealed in a London newspaper (after the payment of a \$560,000 royalty for exclusive rights), there has been a predictable flurry of grantsmanship

in the scientific community to acquire funds to support similar experiments in the United States. The initial and "test case" grant application was submitted for review by the HEW's Ethics Advisory Board by Dr. Pierre Soupart of the department of obstetrics and gynecology at Vanderbilt University. It requests approval for studies of human preimplantation embryos to assess the genetic risks of in vitro fertilization.

In evaluating such experiments, the crucial step is to identify the *subject* of the experiment. It is not the couple desiring the child who are the subjects of the experiment, but rather the embryonic and pre-embryonic human individuals who result from in vitro fertilization. The risks for the woman who is the recipient of the transplant are minimal, essentially those of any pregnancy. The experiment consists in *necessary* and *deliberate* manipulation of the embryo. This results in an *inherent* risk of causing malformations which would violate the basic principle of all medical practice which is *primum non nocere*. Even with the birth of Louise Brown, human in vitro fertilization remains at a rudimentary stage of development and we have, unfortunately, no primate studies upon which to base any valid expectations for the near future. All accumulated evidence regarding human teratology, however, would lead to indicate that the fundamental risks of in vitro fertilization and manipulation are absolutely ineradicable. Perfection of techniques and improved understanding of processes might be expected to *reduce the frequency* of developmental abnormalities but never to eliminate them altogether. Unless we identify the product of in vitro fertilization as an experimental subject who can be discarded or aborted at the whim of the investigator, it is obvious that the rights of the experimental subject are violated. The risks of the procedure, in the instance of in vitro fertilization, do not accrue to a subject who exists but rather one who is brought into existence through the experiment itself. The consent to the experiment is a proxy consent given by the *prospective* parents who are, in effect, submitting to unavoidable risks a child who would not exist as an experimental subject without their prior permission. The basis for their giving permission is, as mentioned previously, their "desire" to have a child. In order to accept this desire as a compensation for inherent risks in a non-therapeutic experiment we would have to, as Ramsey has pointed out "presuppose that the mother has an absolute right to have a child."⁴ The fact that parents do not have an absolute right to submit even existing unborn children to deliberate risks is illustrated by Kass's example of the unacceptability of a pregnant woman deliberately ingesting thalidomide.⁵ Some, like Ingelfinger feel that benefits to "mankind" are overriding considerations even if the experiments are non-beneficial.⁶ Others suggest that proxy consent can be given for a child upon the presumption that there are "things we ought to do for others because we are members of the human com-

munity."⁷ Both of these positions, however, would presuppose minimal risks of a much lower order than those expected in in vitro fertilization.

If we accept that the subject of the in vitro fertilization experiment *will be* the developing human being who is the result of that experiment, then there is no question that the magnitude of risk would render such experiments unethical when measured by the standards of the Declaration of Helsinki, the Declaration of Nuremberg, or even the more permissive standards of the HEW regulations on fetal research.⁸ If the experiment is a success, the parents are the principal beneficiaries. If it fails, the unborn child accepts the risk. It is incredible to know that AMA representatives have testified before the HEW Ethics Advisory Board that in vitro fertilization is "ethical" on the basis of a 1978 House of Delegates resolution that required only "informed consent" of parents with no consideration of risks to the unborn.

Legal Considerations

The principal concern from the legal standpoint is an incurred jeopardy to suits for "wrongful life" if the product of in vitro fertilization is born defective. This possibility is discussed at length by Dr. Steptoe's colleague, Dr. Edwards, in a 1974 article.⁹ Following a discussion in which he downplays the risks of the procedure, Dr. Edwards goes to great lengths to emphasize the risks of wrongful life suits for all participants including the "semen donor." The burden of proof for defendants in such a suit would be the almost impossible task of proving that abnormalities in the child did not result from the manipulation carried out in the laboratory. In this regard, it is interesting to note that the New York Appeals Court in two recent decisions (*Becker v. Schwartz*, *Park v. Chessin* 47LW2426, 12/27/78), while denying the basic "wrongful life" cause of action, nevertheless held the physicians responsible for damages resulting from the expense involved in caring for defective children.¹⁰

Another case before the Federal District Court in New York involves a \$1.5 million suit brought against Dr. Raymond Van de Weil by Mrs. Dolores Del Zio who alleged that the doctor had discarded "her embryo" which had been conceived in vitro. This raises question as to "ownership" of a pre-implanted blastula and the physician's prerogative to destroy it even if he feels that it is grossly abnormal.

Finally, if the "semen donor" in an in vitro fertilization is other than the husband of the "ovum donor," then there is question as to whether the child is legally "legitimate" and a possessor of rights of inheritance. A long English common law tradition, principally resulting from cases related to donor artificial insemination, would place the legal status of such progeny in doubt.

Moral Reservations

Although in vitro fertilization is an issue which goes beyond the issue of artificial insemination, some of the pertinent moral considerations involved in the discussion of the morality of artificial insemination are applicable to the ethics of embryo transplant. May has thoroughly discussed current teaching on artificial insemination, including the views of various modern theologians.¹¹

The basic magisterial pronouncements are contained in three addresses by Pius XII. These were the "Address to the Fourth International Convention of Catholic Doctors" on Sept. 29, 1949; the "Address to the Congress of the Italian Catholic Union of Midwives" on Nov. 26, 1951 and his "Address to the Second World Congress on Fertility and Sterility" on May 19, 1956. The position of Pius XII is developed with increasing clarity in these three allocutions. In condemning artificial insemination, whether by donor sperm or husband's sperm, he alludes to the following considerations:

1. Insemination outside the natural act of intercourse would convert the "sanctuary of the family into nothing more than a biological laboratory."
2. Artificial insemination separates the unitive and procreative meanings of sexual intercourse, sundering by human action what is divinely intended to be inseparable.
3. Artificial insemination entails immoral means for procuring sperm (masturbation).
4. Artificial insemination using donor sperm violates the marriage covenant requiring that "procreation of new life can only be the fruit of marriage."

The only allowable exceptions to the basic prohibitor of AID and AIH, according to Pius XII, were those situations of AIH in which 1) the sperm was procured by a method other than "acts contrary to nature," and 2) where the act involved "the use of certain artificial means designed only to facilitate the natural act or to enable that act, performed in a normal manner, to attain its end." The licit treatment of male subfertility would operate within these two guidelines.

Although the principles used by Pius XII in condemning artificial insemination are largely applicable to in vitro fertilization, he demonstrates his prophetic instincts, over two decades before the fact, with the 1956 statement "on the subject of the experiments in artificial human fecundation in vitro, let it suffice for us to observe that they must be rejected as immoral and absolutely illicit" (May 16, 1956).

Many Protestant theologians, while basically in agreement with the papal prohibition of AID would accept AIH, even when involving masturbation, in the exceptional instance where it is the only way an otherwise sterile couple can achieve procreation. Some Catholic theo-

logians would share this view (e.g., Haring, Curran, Dedek). McCormick raises a word of caution about such a position when he states, "If there are problems with donor insemination and in vitro fertilization, perhaps the first wrong step was AIH itself."¹²

Fears for the Future

When one rereads *1984* and *Brave New World*, it is striking how many of the futuristic projections of Orwell and Huxley have become today's realities. With this background, those who speculate about the possibility that in vitro fertilization may be the first step toward the substitution of laboratory generation for human procreation cannot be ignored. Nor can we ignore the possibility of surrogate motherhood or "womb-for-hire," or the possibility of the sale of laboratory-grown embryos, or the possibility of federally or foundation-supported experiments in eugenics. Since we seem to be embarking on perilous and ever-widening forms of technical manipulation of human lives and government intrusions into family integrity, strong words of caution and outcries of alarm will truly serve the total community. A call for a moratorium on in vitro fertilization at this time will serve science as part of that community.

— Eugene F. Diamond, M.D.

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