INFERTILITY
AND ARTIFICIAL REPRODUCTION

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Two years after their marriage, Mary and Joe decided to conceive a child. After trying to have a baby for several months, they became worried because things were not happening the way they had planned. They contacted their doctor who advised them to continue trying for some more months. When they visited the doctor six months later, he suggested to them to contact a specialist. The result of the diagnosis carried out by the gynaecologist was that they had to face problems to conceive a child.

Joe and Mary are one of many couples who are facing the problem of infertility shortly after marriage. Although estimates of the prevalence of infertility are not very accurate and vary from region to region, about one in every ten couples wishing to have a child experiences some form of infertility problem. Modern techniques of assisted reproduction have opened up new horizons and offered real hopes to couples who want to seal their marriage by having children but are unable to do so for various reasons.

Prevalence and Causes of Infertility

Infertility, generally defined as the inability of a couple to conceive after twelve months of sexual intercourse, is an important personal and social problem. Infertility is often an unexpected disappointment, for it frustrates one of the most basic human desires — that is, to have children.

The causes of infertility may be different from region to region. Among the most common factors which may be considered as contributing to infertility we find the following:

1. Infections with sexually transmitted diseases and resultant pelvic inflammatory

disease are important causes of damaged fallopian tubes and ovaries.
2. Hormonal disturbances which can arise from a number of different sources, and they can result in abnormal or non-existent ovulation.
3. The trend to delay child bearing to a later age makes the couple more at risk of reduced fertility due to advancing age.
4. The use of contraception — intentional, temporary infertility — is sometimes linked to unintentional, long-term infertility.
5. Among men, most cases of infertility are a consequence of abnormal sperm, impotence and low sperm count.

Techniques of Artificial Procreation

Since Louise Brown, the first so-called test-tube baby, was born in England in 1978, much attention has been focussed on new options available to help infertile couples form a family. During the last few years, every invention of a new technique brought new hope to childless couples. The following are the main methods used in artificial reproduction:

a) Artificial Insemination:
Probably the oldest and the most simple of the methods of assisted reproduction is artificial insemination. Sperm is obtained typically through masturbation and then inserted into the cervix whence they move to the fallopian tubes where fertilization may occur. Two types of artificial insemination are usually distinguished:
— Artificial insemination using the husband's sperm (AIH).
— Artificial insemination using a donor's sperm (AID).

AID is usually considered as an option by a couple when the husband has no viable sperm in his semen or when the husband does not want to transmit a genetic defect to offspring. Because AID involves the introduction of third-party gametes into the marital relationship, the use of this technique is a more complicated matter, both ethically and legally.

b) *In-Vitro* Fertilization/Embryo Transfer (IVF/ET):
This method is used to treat patients who are infertile as a consequence of tubal disease due to pelvic inflammatory disease. IVF involves various steps: a) the ovaries are stimulated by drugs to induce hyperovulation, which means that the woman develops many ova to maturity during one cycle; b) the eggs are ordinarily recovered by laparascopy; c) they are then coincubated with the sperm for around twelve to eighteen hours to allow fertilization to occur; d) after an additional forty-eight to seventy-two hours, the embryo (many scientists prefer the term pre-embryo) is transferred to the uterine cavity by a catheter. If the procedure is successful, implantation in the uterus will occur in two to three days and a pregnancy will be detectable at about ten to fourteen days following transfer.

If the gametes (egg, sperm) used during the procedure come from the husband and wife, the technique is known as the "simple case." No person outside the marriage is involved in this process of procreation. The "simple case" is performed to help a childless married couple to have its own genetic child. When the ova or sperm are donated, the procedure is known as the "complex case" because persons outside of the married couple are involved. The involvement of a third person who donates sperm occurs when a husband is sterile or has some genetic disorder that would constitute an unacceptable risk to progeny. Or again, if the wife lacks ovaries because of surgical removal or suffers from ovarian failure, donor eggs are sought. If both parties are afflicted with one or more of the medical indications mentioned, they might look for a donated embryo.

IVF/ET makes possible a variety of combinations of pregnancy and parenthood. It is now possible for a child to be born with five distinct parents: a genetic father, a rearing father, a mother who provides the egg, the woman in whose womb the embryo gestates, the mother who rears the child. Or again, an embryo could be frozen for a generation, then thawed and transferred to its sister — thus becoming the daughter of its sister. Variations like this are not mere fantasies.

c) Gamete Intra-Fallopian Transfer (GIFT):
This method is only used in women who have normal fallopian tubes but are infertile because of, for example unexplained infertility or an immunologic response to the male. The ovaries are hyperstimulated and ova retrieved as in IVF. Then, the sperm and the ova are transferred into the fallopian tubes so that insemination can occur *in vivo*. In this method no embryos are wasted.

d) Intra-Uterine Gametes Transfer (IUGT):
This method was developed lately at the San Raffaele Hospital of Milan. The method consists of allowing sperm and ova a minimal incubation period of 30 minutes (enough time for recognition to take place but not enough for fertilisation) before transferring them into the patient. In this case, fertilisation

takes place directly *in utero* and not in the test tube *(in vitro)*.

e) Surrogate Motherhood:
A woman may be inseminated by a male who is not her spouse. The surrogate mother then carries the pregnancy and relinquishes the child to the male and his spouse for them to raise. Surrogate parenthood arrangements are generally proposed when a wife, who wishes to bear and raise a child, is medically incapable of carrying a pregnancy. She may, for example, have been born without a uterus. Or she may be afflicted with a medical condition that would make pregnancy a life-threatening condition for her.

Ethical Issues

In the last few years, the new advances in medicine to alleviate the problem of infertility have created a host of ethical and legal issues. The most fundamental values at stake in artificial procreative techniques are the following;

- the meaning of the family
- the meaning of self-identity
- the meaning of sexuality
- the integrity of marriage and the family
- the sanctity of individual human life
- the child's fundamental right to life from the time of fertilization onwards.

The awareness of governments and public opinion of the problems posed by the increasing use of the new techniques of artificial procreation is the main reason why national ethical commissions were set up in many countries in order to study their ethical, legal and social implications. It has become evident that what is technically possible is not, for that very reason, morally admissible. Some applications of assisted procreation can be demeaning to the human person and threaten seriously the concept and practice of sexuality, marriage and the family.

During the last decade, various reports and documents were published by governments setting out the ethical principles that should guide the use of techniques in artificial reproduction. Among the most important reports published so far, we find the *Warnock Report* of England, the *Waller Report* of the state of Victoria, Australia, the *Benda Report* of Germany, the *CAHBI Report* of the Council of Europe, and the *Report of the European Parliament*.

The Catholic Church felt also the need to enter into public debate on the ethical issues of reproductive technologies. It is the Church's mission to engage herself in the world in order to safeguard those moral values which promote the dignity and rights of the human person at every stage of its existence, and to defend the integrity of marriage and the family. The Church's document on human procreation (*Donum Vitae* — 'The Gift of Life') was published in 1987.

These are the main ethical issues involved in the techniques of artificial reproduction:

• *The moral status of the embryo*. Human life begins, without doubt from fertilization, and develops without any qualitative leaps in a continuous process until death. The current techniques of *in-vitro* fertilization involves the wastage of embryos. Hyperovulation produces a large number of ova. Many of these ova are fertilized, but only some (three or four) are placed in the uterus. What happens with the spare embryos? They may be discarded, frozen for further use (cyropreservation), donated to an infertile couple or used for experimentation.

The debate on the wastage, experimentation and freezing of human embryos is whether they are human beings. When does human life begin? The church's document on bioethical issues contends that from the time of conception there comes into existence a new life, and a process of continuous growth begins. As the Catholic bishops of Britain said in January 1980: "Each such new life is not the life of a potential human being but of a human being with a potentiality". The Council of Europe also maintains that human embryos must be treated in all circumstances with respect due to human dignity. The fact that human embryos are alive, entirely human and members of the human species, demands that their right to life, being the most fundamental of all rights, must be respected. One of the resolutions of the European Parliament on artificial procreation explicitly recommends that the number of egg cells fertilized by *in-vitro* fertilization should be limited to the number that can actually be implanted. Another resolution of the European Parliament makes it quite clear that under no circumstances should it be possible to abuse *in-vitro* fertilization methods to select certain embryos.

• *Third-party involvement:* Most often this will take the form of donor sperm. Sometimes it could involve donor eggs, donor embryos, or donor wombs. Each has distinctive dimensions and problems that cannot be overlooked. Yet all share a common denominator even if in different ways: third party involvement. Does third party

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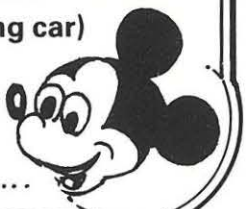

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involvement (via gametic donation or surrogate gestation) infringe on conjugal exclusivity? My answer is yes because I believe that the notion of conjugal exclusivity should include the genetic, gestational and rearing dimensions of parenthood. Separating these dimensions (except through rescue, as in adoption) too easily contains a subtle diminishment of some aspect of the human person. This view is supported by one of the resolutions of the European Parliament which states explicitly that it is to the child's advantage and interest to have a common biological, legal and emotional bond with both father and mother, and that the relationship between mother and child from the moment of pregnancy is extremely important. It is inconsistent to justify heterologous assisted reproduction by using the analogy of adoption. Modern adoption is no longer a means of giving a child to those who have none, but rather a means of giving parents to those who have none. It is, therefore, a solution to an undesirable situation (the absence of a true father and mother).

• *Rights and interests of the prospective child:* When assessing the ethical implications of the contemporary techniques of artificial procreation, one should keep clearly in mind not only the wishes and interests of the person who is seeking help of these techniques, but also those of the child to be born. It is in a child's interest to be conceived, carried in the womb, brought into the world and looked after by its parents. The child has the right to be brought up in a stable family. It is ethically unacceptable to consider assisted procreation for homosexual couples or single women, even when the procedure is carried out using a deceased husband's sperm. These modern techniques should never be used to produce artificial orphans.

• *Separation between procreative and unitive aspects:* The Vatican's document on biomedical issues *(Donum Vitae)* argues that the procreation of a person must be the fruit and the result of married love. Life is a gift from God and for this reason the child cannot be conceived as the product of an intervention of medical or biological techniques; that would be equivalent to reducing him to an object of scientific technology. Any technique to achieve procreation that replaces sexual intercourse is rejected as unworthy of the human person.

I think that two fundamental moral values should guide those who seek hope of assisted procreation: a) the human dignity of the child, especially the child's fundamental right to life from the time of fertilization onwards; b) the integrity of marriage and the family. Thus, non-marital and extra-marital application of assisted procreation should not be encouraged. The two techniques which are morally accepted by the Catholic Church are the GIFT and the IUGT. The other procedures of assisted procreation have become a controversial issue among theologians. While the church's document on bioethics rejects all techniques other than GIFT and IUGT, many moral theologians are supporting them under certain conditions.

They argue that only the application of these techniques in the "simple case" (husband and wife) is the most reasonable to accept ethically, provided that the gametes (sperm, ova) used belong to the married couple, and that the procedure in the case of IVF/ET does not involve 'spare' embryos. When used as a therapy to overcome infertility for married couples, reproductive technology should not be judged as domination and manipulation over the origin of life and the human person, but rather as a service and aid for the human person. Moreover, many theologians believe that sexual activity and reproduction, though physically disconnected, are morally bridged by the intentional and affective unity forged in the married couple's common desire of the child.

In conclusion, it must be emphasised that married couples facing the problem of infertility must feel responsible to consult not only a gynaecologist in order to discuss with him the medical options of assisted procreation, but also an ethicist in order to reach a right decision based on a well-informed conscience. □