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Debate concluded

Frozen embryos: too cold to touch?

Spare embryos: symbols of respect for humanity and freezing in the pronuclear stage

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Introduction

Spare embryos have been a reality since the beginning of in-vitro fertilization (IVF), and have stirred ethical, legal and social concerns. The same holds true for freezing of embryos. Discussions on spare embryos and freezing are moreover bathed in an atmosphere of profound emotions, wild imaginations and sensation. This is to some extent reflected in the title 'too cold to touch'. From these discussions, at least one conclusion seems to be clear: there is no consensus There will probably never be a consensus, since spare embryos, freezing and donation are so fundamental to humankind, that the answers will inevitably reflect religion, education, social and cultural background.

Central to the ethical discussion on spare embryos and freezing is the attitude towards and the respect for the beginning of human life. Moreover, freezing raises social and legal problems of responsibility, ownership, age and pregnancy, duration of freezing, etc. as discussed by Saunders *et al.* (1995).

A pragmatic clinical attitude

Unfortunately spare embryos cannot yet be avoided without jeopardizing a couple's chances of a pregnancy. Up to now fertilization, and implantation in IVF remain random phenomena which cannot be predicted with absolute certainty in the individual oocyte or patient, whereas oocytes cannot yet reliably be frozen. Considering these problems, I (P.K.) strictly adhered to the policy of freezing pronucleate oocytes only. It should be stressed that this is a personal attitude and decision which does not necessarily reflect the opinion of the institution, where the institutional ethics review board had decided that freezing of embryos could be performed.

Following fertilization the fusion of the male and the female nucleus does not occur before some 24 h (Balakier *et al.*, 1993). Between 9 and 20 h both nuclei remain visible as distinct entities. This pronuclear stage is in fact used to evaluate fertilization of an oocyte. Crucially important is that up to the pronuclear stage the entire process remains reversible, at least in rabbits where the male pronucleus can be removed and replaced by another pronucleus. We therefore concluded that, if genetic material had to be disposed of, it would be preferable to do so with oocytes, with sperm cells, or in a pronuclear stage. Following fusion of the pronuclei and exchange of genetic information, with the formation of a new and probably unique genetic code, we felt that an increased respect was mandatory and that destruction caused greater concern. In order to emphasize this, we have always used in publications the term 'pronucleated oocytes' instead of 'embryos' (Van der Auwera *et al.*, 1990a,b, 1992, 1994).

Freezing was considered preferable to destruction, both ethically reflecting respect for the developing embryo, and medically in order to optimize the probability of a pregnancy in a couple considering the effort spent in IVF. Since freezing could technically be done in the pronuclear stage with a success rate which is comparable to freezing embryos, it was decided to freeze in the pronuclear stage only and to assume all the consequences of this decision. Indeed selection of embryos at the moment of embryo transfer would no longer be possible and freezing should be performed (Van Steirteghem *et al.*, 1993) also during the weekend and holidays, which is a serious burden for the laboratory In order to optimize freezing of pronucleated oocytes, a research programme was started in mice (Van der Auwera *et al.*, 1994).

Now, many years later, time has come for reflection on these decisions. Weighing the difficulties and concerns expressed by Saunders *et al.* (1995), we feel that the choice for freezing in the pronuclear stage, makes the inevitable decisions about continuation of freezing, donation or destruction, less difficult. This debate reminds us clinicians that the introduction of new technologies often creates new problems and that it is preferable to try to discuss and evaluate these before a new technology is introduced.

A specific respect for every specific human life (Borghgraef and Schotsmans, 1993)

The integration of the three fundamental values of humanity (uniqueness, intersubjectivity and solidarity) is our anthropological starting point for an ethical analysis of the way we will treat spare embryos. Intersubjectivity is the basic condition for fertilization and procreation; uniqueness is the potential promise of the embryo, the value of basic solidarity requires that no single, individual human being may be sacrificed for the needs of others From the moment the zygote has formed onwards, the dynamics of the process of growing into a unique human being have already started, and the quality of specific human life must be recognized The human zygote cannot be treated as mere human biological material Our anthropological frame of reference offers here an important perspective: the reason why we give so much importance to the respect for the human embryo

lies exactly in the fact that as humans we can not dispose of our equals. One of the fundamental characteristics of the other is indeed that he or she has an ethical claim on his/her fellow human beings, which is the basic idea of relational anthropology (Levinas, 1974; Buber, 1983). The fact that we cannot dispose of zygotes as we please is precisely connected to the fact that in dealing with human zygotes, we touch upon a part of our being human from which one or even many poles of reciprocity may spring, just as each one of us is also a pole of reciprocity. The willingness to dispose of the human embryo is equivalent to giving in to the temptation to decide who may be our equals. This would imply that we ourselves are willing to dispose of the limits of a whole to which we belong by our own disposition. It would at the same time mean the denial of the existence of the other. Even more, with this we would disclaim that the existence of the other is finally the condition for the possibility of our own existence.

The human zygote thus claims from us a specific respect, even in the pronuclear stage; if we do not respect human life in its first moments of its existence, then we would deny recognizing that the human beings we are ourselves are only there thanks to the existence of other human beings that we had not chosen ourselves. To eliminate those of our equals that do not suit us, or to dispose of them as we please, would, because of the ontological solidarity of the human entity, imply that we deny ourselves in our essence, or in other words, that we would disclaim the most essential character of our condition of being. It would mean that we refuse to recognize that we ourselves had our origin thanks to others, organically through the genetic patrimonium that has been given to us by our begetters, psychologically through the network of relations in which our parents have raised us, symbolically through the mother tongue, the culture and the tradition that we inherited from them (Malherbe and Bone, 1985).

Spare embryos: three options

With regard to the couples, only stable couples who provide the gametes themselves should be considered. Every procreational intervention should take place in a quantitative relational environment.

With regard to the spare embryos these couples will be confronted, or are yet confronted, with three possible choices: experimentation, adoption and defreezing. For the moment, under the present circumstances, I (P.S.) will defend the option that the defreezing is the optimal expression of respect as required from an anthropological point of view.

It is possible that certain therapeutic experiments can be performed on zygotes, embryos, fetuses or neonates. As with all medical interventions on patients, one must uphold as allowable procedures only those carried out on the human embryo which respect the life and integrity of the embryo and do not involve disproportionate risks, but are directed towards its healing, the improvement of its condition of health, or its individual survival (Encyclical, 1995). No single human being may therefore be sacrificed for the needs of others. We can never treat embryos as mere objects, but must always value them as potential subjects. Researchers who consider experimentation on human embryos, therefore, must submit to the same code that applies to the whole of medical experimentation on human subjects.

Adoption (some called it 'prenatal' adoption) could be considered by our anthropological approach as ethically more appropriate than any other solution being presented. However, an option is, in our view, only ethically acceptable when it achieves more advantages to the embryo than disadvantages. It is impossible not to consider the disadvantages produced by large adoptional programmes: such as the destruction of filiation and parental linkages. For these reasons, I would be rather reluctant to accept this solution too easily or too early.

In 1996, couples who had embryos cryopreserved in 1986 will face the dilemma of choosing a fate for their presumed redundant, frozen embryos (Saunders *et al.*, 1995). The 'minus malum' of possible options would in our opinion be that they express their respect for (potential) humanity by withholding any intervention and by accepting the inevitable, namely that these embryos have no future with regard to the development of their potentiality and therefore should perish. This 'minus malum' option is inspired from an attitude of respect for the fundamental ethical claim, present in all (potential) humans. Every choice requires a sacrifice; this choice requires a dramatic sacrifice. An ethical position has to be taken in the complexities of sometimes dramatic or tragic conditions. As we respect the dying patient in the inevitable process of dying by changing from cure to care and by withholding or withdrawing technological interventions, so should we respect the inevitable reality that these embryos have no future in the future plans of these families.

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