

Editorial

Oocyte Vitrification: Can we Change the Practice in France?

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Whether to cryopreserve the embryo or the oocyte should no longer be a matter of debate. When invited by the French Federation for the Study of Reproduction to state my position on oocyte vitrification at a recent annual meeting I wondered if I was not being asked to take up the case against embryo freezing. In fact, who better to ask than an old-timer like myself, someone who has lived through every age of ART since its inception, to pronounce on the current impediments to progress in our field?

The final two decades of the 20th century gave rise to great hope, first through the success of in-vitro fertilization techniques and then with the development of supernumerary embryo cryopreservation. The second breakthrough allowed us to improve the chances of achieving pregnancy in patients with a single IVF attempt. But it also raised a host of ethical issues surrounding the fate of the embryo. All kinds of opinions were expressed, ranging from fearful to wildly futuristic.

The first experts to discuss the subject in France, for formulation of the 1994 Law on Bioethics, were of the unanimous opinion that "...one should be able to perform a biopsy, for scientific purposes, on embryos considered as unsuitable for transfer due to obvious anomaly" [1]. However, nothing is simple when it comes to the embryo. The phenomenon of mosaicism which can intervene in the first stages of cell division calls into question this unequivocal point of view.

There are legal considerations. It is quasi-impossible to define the status of a human embryo (is it a human being, similar to, or a radically different entity?) and thus to decide on its use or its future. Embryo freezing is prohibited in some countries while others have considered the zygote stage as "non-embryonic." French law defines embryo status indirectly through limits placed on its utilization. Or in the words of the French attorney F. Salat-Baroux, the law is "limited to a framework of management" essentially borne by the medical corps. Of all the ethical issues surrounding ART, cryopreservation of the embryo is the one which has incited the largest debate and given rise to numerous official pronouncements.

It is easy to lose sight of the fact that when embryonic freezing was initially allowed in France (1994) as a response to patient/practitioner

demand; it was widely viewed as a temporary measure until oocyte preservation could be developed. It was believed the law would be soon outdated by the introduction of oocyte freezing which, in the words of Pr. Jean-Francois Mattei (past health minister), "does not raise the same ethical questions." Pr. Pierre Jouannet was sure that "oocyte auto-conservation will be developed very soon." Pr. Claude Sureau wrote, "We know that this technique would avoid the burden of embryo freezing." [1] (Pros. Jouannet and Sureau are currently members of the French Academy of Medicine.)

It puts a great psychological burden on couples who must, year after year, inform the IVF laboratory if they want to preserve their stock of frozen embryos. They continue to have "parental responsibility" over the embryos (even in the case of failure to conceive) and as a couple they are charged with ordering their destruction or releasing them for "adoption" (under French law the embryo is considered to be a potential human being and is therefore not to be "given" to another couple but rather "proposed for adoption"). Imagine the anguish for couples to receive that registered letter from their IVF centre every year. The lucky ones will have moved without leaving a forwarding address!

We need not be reminded of the drama surrounding the first of August 1996 British decision to destroy all embryos after five years of storage [2]. Or the Evans case where a woman, after waging a successful battle against cancer, was unable to recover her embryo because of opposition from her former husband [3]. "Sequestration" has to be the worst measure ever invented in its sheer disregard of the supposed beneficiary [4].

What we need, beyond calculating results, evaluating risks or determining costs, is a real philosophy of ART management.

As of 2011, French legislation requires us to limit the number of cryopreserved embryos per patient. To this end, we have several possibilities. We can allow natural selection to occur by prolonging embryo culture in the laboratory. Or we can use oocyte vitrification. This technique reduces the number of supernumerary embryos considerably -- statistically 46.3 percent are neither transferred nor frozen. Pr. Pierre Jouannet, a representative of our field at the French Academy of Medicine, has rightly declared [5]: "We create a huge number of embryos for the number of children who are born." He believes it is important to reduce the number of "useless" or "inefficient" embryos created during the IVF process. In 2011 there were over 130,000 embryos in France which were discarded -- that is, neither transferred nor frozen. Had they not been discarded, they might have produced babies though at a lower rate of success. Oocyte vitrification has allowed us not only to lower the number of discarded embryos but also to reduce their storage by 25 percent [6].

In France, IVF centers have been slow at adopting oocyte freezing in great part because of budgetary constraints. Practitioners and their

institutions find it difficult to keep up with innovation in the absence of proper research. In addition, we are struggling with regulations imposed by administrative authorities. The requirement to meet all sorts of norms often gets in the way of medical reflection on how best to serve our patients. Health authorities insist on “European Community-certified” embryos when couples only want children they can love.

This lack of progress means we must continue to propose embryo cryopreservation. However, it is clear that there will be no ART in the 21st century without oocyte freezing. Gamete preservation is the superior solution [6]. Major breakthroughs often present problems during the transition to widespread acceptance. As reproduction biologists we are proud of our results with oocyte vitrification [6-10], which produces embryos of the same quality without the ethical concerns surrounding embryo preservation. We believe cryopreservation of the oocyte will contribute to better patient management in every area of ART, including donation and fertility preservation. At some point, health authorities will be forced to acknowledge that. It is our role to help them see reason and our efforts are sure to be rewarded. In the meantime, we have the support and gratitude of our patients who come back relaxed and smiling for the oocyte warming cycle, knowing they have been spared hormonal treatment and surgery.

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