To freeze or not to freeze for elective fertility preservation

One of the most challenging questions when discussing fertility preservation with patients is about the number of oocytes that need to be frozen to have a reasonable chance of having a future infant. This is not an easy question for many different reasons, but mainly because we can just provide a more or less accurate "guess." We do not know the quality of these oocytes when they are frozen -only the nuclear maturity-, the survival rate that will vary with patient age and quality, the quality of the sperm that will fertilize them in the future, and many other factors involved in a successful in vitro fertilization cycle. However, we need data to support our discussion with patients and correctly counsel them. Although we cannot guarantee a successful event—we freeze gametes, not fertility—we should be able to provide a good estimate at least.

The article by Cascante et al. (1) is an interesting and essential set of data that will be useful for clinical counseling. Most published data come from donor programs, who are significantly younger than women requesting fertility preservation to postpone maternity and may create over expectations. In addition, some existing models are based on a limited number of cycles. A retrospective cohort study of 605 thawed autologous egg cycles in 543 patients who underwent 436 embryo transfers provides real-life data to adequately counsel patients. The mean time for which the patients kept their oocytes frozen was 4.2 years, with a mean age of 38.2 years, similar to the previously published data (2–4).

Patients demand detailed information to make informed decisions. In areas such as fertility preservation, where unrealistic expectations can be easily generated, data are even more relevant. Meaningful information for patients comprises not only the number of oocytes obtained but also how many cycles they would require to reach this number, the probability of having a low or even no survival of the oocytes after the warming process, the probability of not reaching an embryo transfer, and the chances of not having a euploid embryo if preimplantation genetic testing is patients' will (4).

Cascante et al. (1) provide clinical outcome data showing pregnancy rates stratified by age subgroups according to the American Society for Reproductive Medicine. According to the investigators, today, the live birth rate obtained with vitrified oocytes is similar to that obtained with fresh oocytes, mainly relying on the age of the woman at the time of freezing.

There are some open questions that should be addressed in future studies. Will we be able to improve the mean survival rate? It may be that this is a marker of oocyte quality, and those oocytes that do not survive are due to their poor quality, but it might be related to the technique itself. Will automation in the in vitro fertilization laboratory improve these results? Data are required to validate the possibility. Will the results of vitrification of metaphase I be improved? What about pregnancy complications, especially during the second and third trimesters—will they be similar to those with fresh oocytes? Data are not worrisome, but larger data sets are needed. Similarly with the increasing use of preimplantation genetic testing worldwide but with fresh oocytes. Will the results be similar with frozen oocytes? All these are still open questions but definitely questions that will be answered shortly with new data being generated today.

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https://doi.org/10.1016/j.fertnstert.2022.04.032

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