Repetitive oocyte donation

The Practice Committee of the American Society for Reproductive Medicine

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According to the 1997 U.S. results reported in the ASRM/SART Registry, donor oocytes were used in 6,643 cycles (approximately 9% of all ART cycles) (1). Women may choose to donate oocytes on a number of occasions. This discussion will address the issue of whether limits should be advised on the number of cycles/donations that a given oocyte donor may undergo. Although existing data cannot permit conclusive recommendations, a concern for the issues of safety and the well-being of oocyte donors warrants consideration.

INTRODUCTION

The practice of oocyte donation has potential risks. These include the possibility of transmitting an infection to the donor, her partner, or any resulting infant and the possibility that any offspring, who might be unaware of their genetic heritage, could potentially marry and procreate with an unrecognized half-sibling. The donor is subjected to the risks of controlled ovarian hyperstimulation and the oocyte retrieval procedure. Whereas the recipient derives a clear and tangible benefit from oocyte donation, the donor derives benefit only through a sense of altruism and/or financial compensation for her services. Thus, the question arises as to whether to limit the number of times that a given oocyte donor might donate her gametes. In the absence of definitive, long-term follow-up, there is nonetheless a motivation on the part of ART practitioners to develop a consensus for what could be considered a prudent approach. Unusual circumstances may be considered on an individual basis such as the case of a donor who would surpass the maximum number of donations proposed by a guideline if she were subsequently to donate oocytes to her own sister.

INADVERTENT CONSANGUINITY

Inadvertent consanguinity resulting from oocyte donation could occur if: [1] a given donor has donated to two or more families and [2] the offspring were unaware of their specific genetic heritage. Previous guidelines on therapeutic donor insemination and oocyte donation, published by the American Society for Reproductive Medicine, have advised an arbitrary limit of no more than 25 pregnancies per sperm or oocyte donor, in a population of 800,000, in order to minimize risks of consanguinity (2–4). This suggestion may require modification if the population using donor gametes represents an isolated subgroup or the specimens are distributed over a wide geographic area.

HEALTH RISKS TO THE OOCYTE DONOR

Controlled ovarian hyperstimulation entails both known and theoretical risks, which can only be obviated by the exclusive use of unstimulated cycles, an uncommon and inefficient practice. In the short-term, there is the risk of ovarian hyperstimulation syndrome (OHSS), which is reported to be associated with approximately 1% of cycles. The incidence and severity of OHSS may in fact be lower in oocyte donors (5), in part due to the absence of conception in their stimulated cycles.

There continues to be some concern that the use of controlled ovarian hyperstimulation might increase the long-term risk of ovarian cancer (6). Recently published data have not demonstrated an association between the use of ovulation-inducing agents and ovarian cancer (7), although definitive conclusions await further follow-up. The only study which specifically suggested that the repetitive use of fertility medications presented greater risk than short-term use addressed the administration of clomiphene citrate (and not exogenous gonadotropins). In that study, the risk of ovarian cancer was significantly increased only when treatment exceeded 12 cycles (8). Limitation of the participation of a given donor to approximately six stimulated cycles would appear reasonable, particularly as the donor might herself eventually require fertility therapy (e.g., in the event of delaying childbearing to her late reproductive years, or should a future partner have a severe male factor).

The oocyte retrieval procedure itself also poses some risks for the donor. The health risks associated with the low levels of anesthesia generally employed for oocyte retrieval in a young, healthy population should be very small. However, idiosyncratic reactions to anesthetic agents and other anesthetic complications (e.g., aspiration) may occur. At present, there is no documentation of any long-term sequelae of follicle aspiration. There is a real, albeit small, risk of acute complications including pelvic infection and intraperitoneal hemorrhage (9). It is expected that the aggregate risk of any of these acute adverse events after a given number of procedures is simply additive. It is not presently known whether repetitive follicular aspirations could affect the donor's future fertility. Lastly, oocyte donation may entail potential psychological risks (ambivalence, regret, etc.). These latter

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risks should be minimized by appropriate pre-treatment screening and counseling.

CONCLUSIONS

Currently, there are no clearly documented long-term risks associated with oocyte donation, and as such, no definitive data upon which to base absolute recommendations. However, because of the possible health risks outlined in the preceding discussion, it would seem prudent to consider limiting the number of stimulated cycles for a given oocyte donor to approximately six, and to further strive to limit successful donations from a single donor to no more than 25 families per population of 800,000, given concerns regarding inadvertent consanguinity in offspring. Clearly, restrictions on the number of stimulated cycles that a given donor should undergo will in most instances be the limiting factor.

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