Cell Stem Cell
Letter

Impracticality of Egg Donor Recruitment in the Absence of Compensation

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Unfertilized oocytes of many mammalian species can reprogram somatic cells to a pluripotent state. Human oocytes might therefore be useful for producing patient-derived pluripotent stem cells. Because they would carry the patient's genotype, these stem cells may be useful for the production of autologous transplants. Such cells could also be used to determine whether the epigenetic (Lister et al., 2011) and genetic (Gore et al., 2011) changes detected in induced pluripotent stem cells (iPSCs) are universally found in reprogrammed cell lines or instead are unique to iPSCs. In addition to their importance for the study of reprogramming and nuclear transplantation, human oocytes have significant utility for research aimed at the establishment of new infertility treatments. Therefore, there is ample scientific rationale for the use of oocytes in research. However, due to the unresolved ethical and political debate surrounding nuclear transfer and stem cell biology, it has been difficult for institutions to determine how best to responsibly proceed with research that depends on the availability of high-quality oocytes. In an attempt to resolve this uncertainty, the National Academy of Science (NAS) published guidelines that suggested that for stem cell research, only altruistic egg donors willing to participate without compensation should be recruited (National Research Council, 2005).

Due to our interest in nuclear transfer, we developed research protocols for oocyte donation that were consistent with both NAS stem cell guidelines and applicable state laws. These protocols were approved by the participating academic institutions' committees on the use of human subjects in research, by their stem cell research oversight committees, and by the Western Institutional Review Board, an Associate of the Accreditation of Human Research Protection Programs.

With IRB approval, from May 2006 to March 2007, we advertised extensively for our study, attempting to recruit altruistic women willing to undergo hormone-induced superovulation followed by surgical egg retrieval in exchange for reimbursement of only their direct expenses. To attract attention to our study, we advertised in area newspapers and magazines, and on public transportation and the Internet. Initial response rates were high, with 239 potential donors contacting our study coordinator. One-hundred and sixty-eight of these women answered all questions regarding eligibility for the study and seventy-nine met all study criteria, including age (25–35), normal menstruation, and other indicators of good health. However, only one of these women entered the protocol. Following hormone-controlled superovulation, six oocytes were surgically retrieved from this woman and utilized for an unsuccessful attempt at nuclear transfer.

Because we could not recruit enough egg donors to enable controlled nuclear transfer experiments, we sought to better understand why women were not enrolling in our study. With IRB approval, we recorded each of the concerns raised by 52 qualified, prospective donors during their conversations with our study coordinator. The absence of financial compensation was mentioned most frequently (25 times), followed closely by the medical procedures involved (18 times, including medications, injections, surgery, and potential side effects). The significant amount of time required for participation was also commonly raised (17 times). Hesitation to participate in stem cell research was not mentioned by prospective donors as a potential reason for opting out of our study. Because constraints on recruitment imposed by the NAS guidelines and state law did not allow us to address concerns raised by potential donors, we closed our research protocol in October 2008. In summary, it was our experience that it is impractical to recruit "altruistic" oocyte donors and it suggests that investigators located in states or countries that limit compensation for egg donation are likely to encounter similar difficulties.

Oocyte donation for assisted reproduction is an established part of clinical practice at in vitro fertilization (IVF) clinics. In this context, oocyte donors typically receive compensation of between $5000 and $8000 (Ethics Committee of the American Society for Reproductive Medicine, 2007). A recent study has shown that a majority of oocyte donors believe that similar compensation should also be provided regardless of whether the resulting oocytes are used for research or assisted reproduction (Klitzman and Sauer, 2009).

The International Society for Stem Cell Research (ISSCR) (Daley et al., 2007) and the Ethics Committee of the American

Society for Reproductive Medicine (ASRM) (2007) have recently published guidelines that allow remuneration for research oocyte donation. Under these frameworks, remuneration could be provided in the form of direct compensation to women undergoing oocyte retrieval for the sole purpose of providing oocytes to research. Alternatively, arrangements could be made whereby part of the costs for the donor's own IVF treatments are covered by research funds in exchange for donation of a fraction of the resulting oocytes, so called egg sharing. The Human Fertilisation and Embryology Authority (HFEA) have also considered the possibility of compensating egg donors in the UK, and although they fell short of recommending direct compensation, they did opt to allow egg sharing (HFEA, 2007).

Importantly, preliminary results suggest that compensating donors for their time and effort would increase the number of women willing to participate in egg donation for research (Cibelli et al., 2002). Furthermore, direct compensation has now been successfully employed to obtain oocytes for nuclear transfer that had demonstrated utility in reprogramming (Noggle et al., 2011).

Both ASRM and ISSCR guidelines state that financial considerations should not result in an undue inducement for women to participate in egg donation. We firmly agree that compensation for egg donors must be limited to sums that do not tempt women to discount the physical and emotional risks of the procedure they are considering. However, we believe that if payments for research oocyte donation are contingent on the approval of appropriate oversight committees, and that if the health of oocyte donors is carefully monitored during their participation, the guidelines approved by HFEA, ASRM, and ISSCR, as well as those proposed in a recent position paper (Hyun, 2011), should protect donor safety. We propose that if any of these newer guidelines were more widely adopted by academic institutions and funding agencies, it could significantly accelerate stem cell research and progress toward novel IVF treatments while still protecting the safety of donors.

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