Cost-effective analysis of oocyte cryopreservation: stunning similarities but differences remain

Dear Sir,

Recently, our two groups independently used decision analysis to estimate the cost effectiveness of oocyte cryopreservation for social reasons (van Loendersloot et al., 2011; Hirshfeld-Cytron et al., 2012). Although we both employed similar decision analysis techniques, striking differences were obtained in the results, with the US-based study of Hirshfeld-Cytron et al. noting that oocyte cryopreservation cost an additional $135,520 per live birth, while the European study of Van Loendersloot et al. noted that if 61% of women utilized their frozen gametes, oocyte cryopreservation was cost effective at an additional $24,600 per live birth.

A detailed review of our methods reveals several differences that contributed to the remarkable differences in our findings. For example, Hirshfeld-Cytron et al.’s model was based on a 25-year-old woman who undergoes one cycle of oocyte preservation and who, attempting to conceive for 6 months at age 40, then uses the cryopreserved oocytes. If still unsuccessful, she then turns to IVF for four cycles. In contrast, Van Loendersloot et al. had a 35-year-old woman undergo three oocyte preservation cycles and then use these directly at age 40. If still unsuccessful, then the next strategy was natural conception for 3 years. This group also incorporated miscarriage costs into the analysis. Cost estimates were different between the two studies, the costs of IVF and frozen embryo transfer being much lower in the European study. Probabilities of success with cryopreserved oocytes (36% live birth per cycle compared with 25% live birth rate per cycle) and IVF (38% after three IVF cycles compared with 30% after four IVF cycles) at age 40 also were more optimistic in the European analysis.

These differences in clinical scenarios, cost and probability estimates likely reflect practice differences and interpretation of data that are available in the literature.

Despite differences in the results of our studies, we both agree on the need to begin to study these clinical scenarios before drawing conclusions with regard to the cost efficacy of the technique. The differences in our results also reflect the need for larger collaborative studies reporting on oocyte cryopreservation success over a wide range of ages with IVF costs. Ultimately, new technology needs to be investigated before implemented. Likewise, accurate estimates of oocyte cryopreservation success and cost are imperative for societal allocation of resources and patient consultation. We believe that continued decision analysis on the incorporation of assisted reproduction techniques, unlikely and difficult to study in randomized control fashion, is imperative to continue to move the field forward.

References


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Reproductibility of AMH

Sir,

We read with interest the paper by Rustamov et al. (2012), which assesses the performance of the AMH DSL and Gen II assays and questions the validity of previous papers (Kumar et al., 2010; Wallace et al., 2011). In accordance with National Committee for Clinical Laboratory Standards Guidelines, the correct way to compare and validate the AMH assays is by simultaneous testing of the two methods in the same serum samples as previously reported (Kumar et al., 2010; Wallace et al., 2011). The study by Wallace et al. was carried out in three separate centres and clearly demonstrated how robust the test is when conducted in well-controlled environments. This result was then confirmed by a further independent laboratory (The Doctors Laboratory) with these additional results reported in the Beckman Coulter Technical Bulletin UK2010-MIB-004. Comparing two sequential populations whose constitution may have changed over time and draw conclusions regarding the relative concentration values measured by tests performed at different times by different personnel possibly under different conditions is not an