

Dr. Bayrak and Colleagues Report High Pregnancy Rates With Egg Freezing Technology

Selective Vitrification of Euploid Oocytes Markedly Improves Survival, Fertilization and Pregnancy-Generating Potential.

Enthusiasm for oocyte cryopreservation has been limited by poor pregnancy rates per thawed metaphase II (MII) oocytes (<4%) and low implantation rates per embryos. The reasons relate to technical limitations in the freezing process, and the fact that <40% of oocytes are euploid and unable to produce 'competent' embryos. Comparative genomic hybridization was performed on the first polar body (PB-1) of 323 MII oocytes retrieved from 16 donors. Of these, 111 were euploid, and were vitrified. Seventy-five of 78 vitrified oocytes (96%) survived warming and were fertilized using intracytoplasmic sperm injection. Thirty-one (41%) subsequently developed into expanded blastocysts, of which no more than two were subsequently transferred per uterus to 16 out of 19 prospective embryo recipients. Twelve of 19 (63%) recipients produced 17 healthy babies (eight singletons, three twins, and one set of triplets) One twin pregnancy miscarried in the late first trimester The birth rate per transfer of a maximum of two blastocysts to 16 recipients was 75%. The implantation rate per vitrified euploid oocyte was 27%. This study showed a six-fold improvement in pregnancy rate per cryopreserved oocyte over previous reports and a marked improvement in implantation rate. If independently validated, this approach could open the door to commercial egg cryobanking, significantly expanding women's reproductive choices.