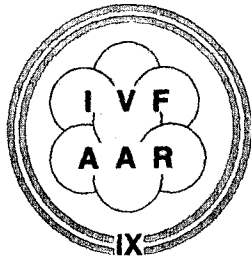


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IX

Pregnancy rates (PRs) decrease in oocyte donors but not in their respective recipients especially with advancing age in a shared oocyte program

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SUMMARY

Because the expense of in vitro fertilization (IVF) may be prohibitive to some patients, our program offers the opportunity for a woman in need of IVF-embryo transfer (ET) to share half of her own oocytes retrieved with a woman in ovarian failure (recipient) in exchange for the recipient covering her costs to undergo the procedure. One question frequently asked by patients is what donor age might have an adverse effect on pregnancy rates (PRs). The study presented herein was initiated to evaluate the effect of the age of the donor on PRs in a shared donor oocyte program. Our data suggests, that although the PR/transfer will be reduced (though not statistically significantly), a recipient should not reject a donor based only on age if between 35 and 39 years.

INTRODUCTION

Historically, in vitro fertilization-embryo transfer (IVF-ET) programs obtain eggs for donation from women who have undergone hyperstimulation at the time of tubal ligation, or women themselves

undergoing oocyte aspiration, who altruistically donated oocytes to other couples (1-4). Oocyte donations are also sometimes made by sisters, however, there is frequently no sister available or able to donate (5). The burden often then falls on the couple where the woman is in ovarian failure to seek out a friend, relative or stranger. The cost of anonymous donors can also be prohibitive to some couples. Some IVF centers have difficulty in obtaining a sufficient number of donors, therefore, many centers do not perform this procedure.

Our shared-oocyte program provides an already available source of oocyte to women in ovarian failure, those of a woman herself undergoing IVF-ET, who, in exchange for financial assistance from the recipient, is provided coverage of her expenses in exchange for half of the oocyte obtained from her retrieval (6). The donor is made aware of the fact that her own pregnancy rate (PR) may be reduced by sacrificing half of her own eggs, but is also afforded the opportunity to undergo this procedure which otherwise may have been unaffordable to her.

Since women ages 35-39 would not be expected to produce as many oocyte following controlled ovarian hyperstimulation (COH) as younger women, we initiated our study to evaluate whether increasing age of oocyte donors (35 < 40 years) in a shared oocyte program would have an adverse effect on subsequent PRs.

MATERIALS AND METHODS

All women <40 years of age are eligible to be donors in our IVF program. The recipient may accept or reject any prospective donor. Information on donors is given to recipients, including age, physical characteristics, family history, reason for infertility, any previous IVF cycles and outcome and number and date of previous pregnancies. All recipients were in complete ovarian failure or had very limited ovarian function (elevated gonadotropins). All donors used the luteal phase leuprolide acetate (LA) 2+2 human menopausal gonadotropin (hMG) COH protocol, after ten days of LA alone (dosage of LA reduced 1/2 while hMG given). Recipients received 2mg estrace (EstraceTM) for five days beginning day six of LA of the donor then increased to 4mg for four days and then increased again to 6mg. On day of donor's human chorionic gonadotropin (hCG) estradiol was increased to 8mg and 50mg progesterone (P) IM was given daily. When possible, four fresh embryos were transferred to both recipients and donors 48 hours following retrieval. The remaining embryos were cryopreserved and transferred on subsequent cycles. One hundred-thirty two donors were included in the study. Donors were divided into three groups as follows: Group I (n=32) 24-29 years of age, Group II (n=69) 30-34, and Group III (n=31) 35-39.

RESULTS AND CONCLUSIONS

Mean number of oocyte retrieved for Grps I, II, and III were 20, 16.2, and 15.2, respectively. A mean of 3.8 embryos were transferred in Grp I, 3.5 for Grp II and 3.2 for Grp III. Mean number of oocyte frozen were Grp I = 4.2, Grp II = 2.0, and Grp III = 1.2. There were 10 pregnancies in 32 Grp I retrievals (31.2%), 24/116 (34.8%) for Grp II, and 9/48 (29%) for Grp III. A higher ratio of male factor problems were

found in the older age group, as reflected by fewer transfers/retrieval (77.4%) vs 87.5% for Grp I and 84.1% for Grp II. The PR/transfer was 17.8% for Grp I, 20.6% for Grp II and 18.8% for Grp III. Spontaneous abortions occurred in 2/10 Grp I patients (20%), 6/24 (25%) for Grp II, and 3/9 (33%) for Grp III.

Thus, the live birth rates/retrieval were 25.0% for Grp I, 26.1% Grp II, and 19.4%, Grp III. There were 20 frozen embryo transfers for Grp I with 2 pregnancies (10%), 6/27 (22%) for Grp II, and 2/12 (16.6%) for Grp III. The total predicted pregnancies (observed and expected frozen embryo pregnancies) considering an average of 5 thaws/transfer were Grp I = $8 + 0.1x(137.5)$ or 10.7, Grp II = $24 + 22x(139/5)$ or 30.1, and Grp III = $9 + .166x(37/5)$ or 10.2, and the respective predicted PRs were 33.4%, 43.6%, and 32.9%.

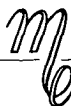
The PR/transfer divided into donor (D) and recipient (R) rates were: Grp I 14.8% (D) and 20.6% (R); Grp II 15% (D) and 26.7% (R); Grp III 15.3% (D) and 27.2 (R). There were no donors age 38 or 39 in Grp III.

These data demonstrate that a shared oocyte program still provides a reasonable PR for both donor and recipient. These data also suggest that donors age 35-37 should be advised that their PR/transfer will be reduced (though not statistically significant) but also that a recipient should not reject a donor based solely on an age range of 35-39 years in a shared oocyte program.

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