

Preliminary experience of an oocyte cryopreservation program: Are patients presenting too late?

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Objective: Recent advances in oocyte cryopreservation have increased oocyte cryosurvival and improved pregnancy rates. The advent of this technology has widened reproductive options available to women. Unfortunately, given the rapid age-related decline in female fertility, the point at which many women seek to utilize oocyte cryopreservation may be past the age of peak reproductive potential. We undertook this study to review our initial experience at RMANY with elective oocyte cryopreservation in hopes of improving delivery of patient information and ultimately optimizing delivery of care.

Design: Retrospective Chart Review

Materials and Methods: From January 28, 2005 to April 28, 2006, 73 consecutive women presented to our fertility center to consider elective oocyte cryopreservation. After obtaining IRB consent, all patients underwent routine ovarian reserve screening including a transvaginal ultrasound to obtain a basal antral follicle count and a day three FSH and estradiol level. Patients underwent controlled ovarian hyperstimulation with a standard protocol. Controlled ovarian stimulation was monitored by serial transvaginal ultrasound and serum estradiol levels. When lead follicles reached 18 mm in diameter or greater, ovulation was triggered with 10,000 IU hCG and transvaginal oocyte retrieval was performed after 36 hours. Oocytes were cryopreserved with a slow freeze/rapid thaw protocol in which 1,2 Propanediol (PrOH) and sucrose were used as cryoprotectants (Oocyte Freeze/Oocyte thaw; Medicult, Denmark.) Patient data was analyzed with respect to patient age, ovarian reserve evaluation, cancellation rate, number of follicles and number of oocytes harvested. Data was evaluated using Statview. Chi-square analysis and nonparametric t tests were performed.

	N	Age in Years	FSH (mIU/ml)	E2 (pg/ml)
Patients Screened	67	37.8	8.9	42.0
Patients Cycled	20	36.8	8.2	43.4
Patients Not Yet Cycled	47	38	9.2	46.6

Table 1 Baseline characteristics of patients screened, cycled and not yet cycled

Results: Between January 28, 2005 and April 28, 2006, 73 women presented at our facility for elective oocyte cryopreservation. Ages ranged from 23-42 years (mean 37.8, median=39). Basal serum ovarian reserve screening (FSH and estradiol) were performed on 67 patients. Among those screened, basal FSH levels ranged from 4.2-30 (mean=8.9; median=7.4). 8 of the 67 women screened (11.9%) had an elevated FSH (>13mIU/ml), and two additional patients had elevated basal serum estradiol levels (>80 pg/mL).

A total of 25 oocyte cryopreservation cycles were initiated in 20 women. 6 cycles (24%) were cancelled due to suboptimal response. Of the 19 completed cycles, the number of oocytes retrieved ranged from 5-21 (mean 12.2; median = 12). Greater than 10 oocytes were retrieved in 11 cycles (57.9% of all complete cycles).

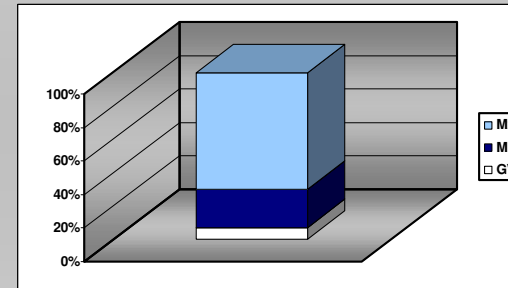


Figure 1 Mean number of oocytes frozen per completed cycle

Conclusion: A significant proportion of women seeking oocyte cryopreservation already bear a diagnosis of diminished ovarian reserve at the time of initial presentation. Though approximately half of the cycles were associated with an optimal oocyte yield (>10 oocytes total), the high number of patients who presented with signs of diminished ovarian reserve was quite notable. It is our recommendation that awareness of this emerging technology be promoted in women prior to diminution of ovarian reserve.

