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Title

DO SAME SEX COUPLES AND SINGLE WOMEN UNDERGOING OVULATION INDUCTION WITH ORAL AGENTS AND INTRAUTERINE INSEMINATION HAVE OUTCOMES COMPARABLE TO INFERTILE HETEROSEXUAL COUPLES?

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Objective

Although most same sex (SS) couples and single women do not have a medical diagnosis of infertility, fertility treatments are needed to achieve their goal of childbearing. In fact, SS couples and single women are treated similarly to infertile couples. The study sought to compare whether a difference in outcome was found when comparing SS couples and single women to heterosexual couples that undergo ovulation induction (OI) with oral agents and intrauterine insemination (IUI) using cryopreserved sperm.

Design

Retrospective cohort study

Materials and Methods

The study included patients who underwent OI with clomiphene citrate or letrozole and subsequent IUI between 2002 and 2017. Patients were segregated into two groups: SS/single women and women with male partners. Patient age, BMI, ovarian reserve testing, sperm source



(donor or intimate partner), and number of mature follicles and endometrial thickness at time of trigger were recorded. All sperm samples were previously cryopreserved. Data was analyzed using chi square, fisher’s exact test, student’s t-test and multivariate logistic regression. The study had 80% power to detect a 6% difference in implantation rate (IR) (sample size required 460 per group) assuming a baseline IR of 9%.

Results

A total of 460 SS or single women and 570 women with male partners underwent OI/IUI. SS and single women had a lower day 3 FSH (7.74 ± 3.0 vs 8.19 ± 3.4 , $p=0.049$) and lower total number of mature follicles (1.69 ± 0.86 vs. 1.82 ± 0.92 , $p=0.02$) compared to women with male partners. Age, BMI, and oral OI agent used were similar between groups. There was no significant difference in implantation (OR 1.23, 95%CI 0.7-2.2), ongoing pregnancy (OR 1.43, 95%CI 0.8-2.7), multiple gestation rate (OR 1.94, 95%CI 0.27-13.9) or clinical pregnancy loss rate (OR 0.57, 95%CI 0.12-2.7) between the groups after adjusting for confounders.

Conclusions

SS couples/single women and infertile heterosexual couples have similar pregnancy outcomes after OI/IUI cycles. As a means to enhance fertility rates in women of advancing age undergoing donor IUI, oral OI agents may be utilized to achieve superovulation without increasing risk of a multiple gestation pregnancy. Given the societal and biological barriers SS and single women face in reaching their goal of childbearing, early access to reproductive care may facilitate improved pregnancy outcomes. Providers may help empower SS and single women to initiate care through community outreach and education about reproductive options.

Support

None.

Table 1. Patient Demographics and Cycle Characteristics and Outcomes

	Same Sex/Single Women (n=460)	Women with Male Partner (n=570)	P Value
Age (y)	37.7 ± 4.2	38.1 ± 4.5	NS
BMI (kg/m^2)	25.6 ± 5.4	25.8 ± 5.5	NS
Day 3 FSH (IU/mL)	7.74 ± 3.0	8.19 ± 3.4	0.049
Anti-mullerian Hormone (pmol/L)	2.91 ± 3.3	2.39 ± 2.7	NS
Basal Antral Follicle Count	11.6 ± 6.9	11.2 ± 8.4	NS
Gravidity	0.58 ± 1.0	0.79 ± 1.1	0.03



Parity	0.16 ± 0.43	0.20 ± 0.5	NS
Endometrial Thickness at time of Trigger (mm)	8.63 ± 1.6	8.64 ± 1.4	NS
Total Number Mature Follicles at time of Trigger	1.69 ± 0.86	1.82 ± 0.92	0.02
Clomid Use	68.9% (310/460)	69.1% (394/570)	NS
Letrozole Use	32.6% (150/460)	30.9% (176/570)	NS
Implantation Rate	10.4% (48/460)	10.0% (57/570)	NS
Ongoing Pregnancy Rate	7.2% (33/460)	7.5% (43/570)	NS
Clinical Pregnancy Loss Rate	31.3% (15/48)	24.6% (14/57)	NS
Multiple Gestation Rate	8.3% (4/48)	10.5% (6/57)	NS