

INTRODUCTION

In an ART treatment, **oocyte donation (OD)** is a process in which a woman (donor) allows their eggs to be collected after ovarian stimulation, and that can be used for another infertile woman (recipient) get pregnant by IVF. The first report of a child born through this procedure occurred in Australia in 1983 (1), since then, many women could become mother and demand for this treatment modality is increasing substantially (2). The oocyte donation (OD) solved the problem for women that **have ovarian insufficiency, repeated implantation failure *in vitro* fertilization (IVF) or recurrent pregnancy loss**. In a shared oocyte donation program, donors and recipients **divided the eggs obtained by de donors**, that have the cost of their cycles received as compensation.

This is a retrospective cohort analysis of **586 first fresh shared oocyte donation** cycles performed from 1/2002 to 12/2018 at a private clinic in Southern Brazil. The outcomes of **290 cycles from donors and 296 cycles from recipients**, resulting in **473 fresh embryo transfers**, were compared. **The egg division was equally made, whereas, at odd amount, the donor always had preference**. The data were collected from an electronic database. Statistical analysis: Chi-square test, Fisher's exact test, Mann-Whitney U-test or Student t-test depending on the data distribution, and multivariate logistic regression, considering significative $p < 0.05$.

RESULTS

The donors' age was 30.6 ± 3.3 years old, and the recipients' age was 43.4 ± 4.9 y/o ($p < 0.000.1$). The male age also was higher on recipients cycles (42.9 ± 6.6 vs. 35.5 ± 6.1 , $p < 0.000.1$). While primary infertility was higher among donors (88.5% vs. 77.1%, $p < 0.000.1$), number of previous abortion was significantly higher in recipients (72% vs. 31%, $p < 0.000.1$). The demographic and clinical characteristics of oocyte donors and recipients are presented in **Table 1**.

The mean number of oocyte inseminated was 6 (4-8) in donors and 5 (3-7) in recipients groups. Fertilization rates were 72.0 ± 21.4 vs. 74.6 ± 24.2 respectively ($p < 0.001$), without clinical significance. The number of D3 good quality embryos, blastocysts, and embryos transferred was similar in both groups. Donor's and recipient's endometrial thickness was 11.0 ± 2.0 vs. 10.2 ± 1.9 , ($p < 0.001$), without clinical significance. The cycle characteristics for oocyte donors and recipients are presented in **Table 2**.

The number of fresh embryos transferred was statistically higher in recipients than donors (2 ± 0.7 and 2.2 ± 0.9 respectively, $p = 0.003$), but this was not clinically relevant. Implantation, clinical pregnancy and live birth rates by were similar between groups, as well miscarriage ectopic pregnancies (2.6% vs. and multiple births rates The clinica outcomes in oocyte donation fresh cycles are presented in **Table 3**.

Table 1. Demographic and clinical characteristics of oocyte donors and recipients

	Donors (n=290)	Recipients (n=296)	p
	mean±SD	mean±SD	
Female age (y)	30.6±3.3	43.1±4.9 (n:292)	<0.001*
Male age (y)	35.3±6.1	42.9±6.6 (n:291)	<0.001*
BMI(kg/m2)	23.9 ± 3.5	23.3± 3.3	0.054*
	median (25 th -75 th)	median (25 th -75 th)	
Duration of infertility (y)	4.0 (3-6)	4.0(3-6)	0.562**
	n (%)	n (%)	
Type of infertility			<0.001***
Primary	255 (88.5)	225 (77.1)	
Secundar	35 (11.5)	71 (22.9)	
Previous parity	17 (5.8)	38 (12.8)	0.006***
Previous spontaneous abortion	31 (10.6)	72 (24.3)	<0.001***
Previous ectopic pregnancy	7 (2.3)	7 (2.4)	1.000***

*t-student test; **Mann-Whitney test; ***chi-square test

Table 2. Cycle characteristics for oocyte donors and recipients

	Donors (n=290)	Recipients (n=296)	p
	median (25 th -75 th)	median (25 th -75 th)	
Oocyte aspirate	14 (10-21)	NA	
Oocyte mature	11 (8-16)	NA	
Oocyte mature after donation	6 (4-8)	5 (3-7)	
Oocyte fertilized	4 (3-6)	4 (3.6)	0.953**
D3 embryo	4(2-6)	4(3-5)	0.787**
Good quality D3 embryo	2(2-3)	2(2-4)	0.446**
D5 embryo	4(3-5)	4(3-6)	0.840**
D5 blastocyst	3(2-4)	3(2-4)	0.128**
	mean±SD	mean±SD	
Endometrial thickness (mm)	11.0±2.0	10,2±1,9	<0.001*
Fertilization rate*	72.0±21.4	74.6±24.2	<0.001*

*t-student test; **Mann-Whitney test; ***chi-square test

Table 3. Outcomes in oocyte donation fresh cycles

	Overall (n=473)	Donors (n=234)	Recipients (n=239)	p
	mean±SD	mean±SD	mean±SD	
	n (%)	n (%)	n (%)	
Fresh embryo transferred	2.1±0.8	2±0.7	2.2±0.9	0.003*
Implantation rate	224/473 (47.4)	108/234(46.2)	116/239(48.5)	0.670***
Biochemical pregnancy	224/473 (47.4)	108/234(46,2)	116/239(48,5)	0.582***
Clinical pregnancy	188/473 (39.7)	98/234(41.9)	90/239(37.7)	0.398***
Live birth	143/188 (76.0)	78/98(79.6)	65/90(72.2)	0.548***
Multiple birth	38/143 (26.6)	20/78 (25.6)	18/65(27.7)	0.931***
Miscarriages	28/188 (14.0)	16/98(16.3)	12/90(13.3)	0.792***
Ectopic pregnanc	11/473 (2.3)	6/234(2.6)	5/239(2.1)	0.982***

*t-student test; **Mann-Whitney test; ***chi-square test

CONCLUSION

OD is often the way donors can access IVF, and for recipients may be the only option for pregnancy.

A shared oocyte donation program that offers good and comparable results is fair e worth to be stimulated.

The patients' demographics and clinical characteristics did not impact results.

REFERENCES

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Talita Colombo

Fertilitat - Center for Reproductive Medicine - MedPlex Santana. Rua Gomes Jardim, 201, Torre Norte, 15º andar. Porto Alegre - RS, Brazil

talitacolombo.go@gmail.com / +55 (51) 3339-1142/ + 55 (51) 99194-4491.

✉ ferticiencia@fertilitat.com.br

📷 @fertilitatrs