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INTRODUCTION

The Alpha Scientists in Reproductive Medicine and ESHRE Special Interest Group of Embryology recently recommended not inseminating oocytes affected by SERc, since they might be associated with an increased risk of abnormal outcome. Several reports focusing specifically on SERc+ oocytes have indeed shown negative outcomes in terms of fertilization, embryo development and pregnancy rates as well as compromised obstetric and neonatal outcomes. However, a more recent publication demonstrated that healthy babies could result from SERc+ oocytes. Therefore, information regarding the clinical significance of SERc+ oocytes is still controversial.

MATERIALS AND METHODS



For the investigation of implantation, only cycles in which none (0%) or all the embryos transferred had implanted (100%) were included in the analysis

RESULTS

167/7609 oocytes presented SERc (2.2%)

Predictive variables	OR (CI)	p-value
Maternal age (y-old)	1.02 (0.99-1.07)	0.226
Total FSH administered (IU)	1.01 (0.99-1.01)	0.793
Estradiol level (pg/mL)	1.01(1.00-1.01)	0.790
Aspirated follicles	1.03 (1.02-1.04)	<0.001
Retrieved oocytes	1.03 (1.01-1.04)	0.002

Table 1. Binary regression analysis' results for the predictive factors of SERc
Note: SERc, smooth endoplasmic reticulum clusters; OR, odds ratio; CI, confidence intervals; IU, international units.

Variable	SERc- group (n=7442)	SERc+ group (n=167)	p-value
Maternal age (y-old)	34.1 ± 4.01	34.5 ± 3.9	0.214
Total FSH administered (IU)	2,252 ± 614	2,264 ± 563	0.776
Aspirated follicles	23.6 ± 11.4	27.7 ± 11.2	<0.001
Retrieved oocytes	17.7 ± 8.8	19.9 ± 8.2	0.001
Mature oocyte	13.4 ± 6.7	15.0 ± 5.8	<0.001
Fertilization rate	76.2	76.4	0.447
High-quality embryos rate (D2)	50.0	53.9	0.570
High-quality embryos rate (D3)	43.1	46.1	0.433
Blastocyst formation rate	43.2	43.8	0.722
High-quality blastocysts	82.5	73.8	0.076
Transferred embryos	2.2 ± 0.6	2.2 ± 0.5	0.833

Table 2. Comparison of ICSI laboratorial outcomes between SERc- and SERc+ groups.
Note: SERc, smooth endoplasmic reticulum clusters; IU, international units.

Out of the 767 blastocysts transferred, 745 derived from SERc- oocytes and 22 from SERc+ oocytes
The mean implantation rate per transferred blastocyst in the SERc- group was 20.5%, whereas no blastocyst derived from SERc+ oocytes had implanted

CONCLUSION

In this study, although oocytes displaying SERc normally reached the blastocyst stage, no blastocysts derived from SERc+ oocytes implanted. If transfers of embryos derived from ICSI SERc+ oocytes are performed, they should be approached with caution and only when no alternative embryos of sufficient quality are available.