

00037 Comparison of Outcomes of Intra-cytoplasmic Sperm Injection Using Ejaculated Sperm and Surgically Retrieved Sperm

Eunice Ong, Lee Shaw Ni Amy, Lim Mui Nee, To Chiou Fen, Tan Puey Leng, Wong Rui Shan Ruth, Yu Su Ling

Singapore General Hospital

Aims: Intra-cytoplasmic sperm injection (ICSI) is used in assisted reproductive technology to overcome male factor infertility. Ejaculated sperm is usually used for ICSI. In our Centre, surgically retrieved (SR) sperm is an option for patients who are Azoospermic, patients with high DNA fragmentation index and patients who are unable to give a fresh ejaculate semen sample on the day of oocyte retrieval. The techniques used in the surgical retrieval of sperm include Percutaneous epididymal sperm aspiration (PESA), Microsurgical epididymal sperm aspiration (MESA) and Testicular sperm extraction (TESE). This retrospective study compares the outcomes of ICSI using ejaculated sperm versus ICSI using SR sperm in our Centre.

Methodology: A total of 648 couples underwent IVF treatment with ICSI using fresh sperm ejaculate from January 2016 to December 2017. The sperm was selected for ICSI based on the morphology and viability. 30 couples underwent IVF treatment with ICSI using fresh or frozen-thawed SR sperm. GM501 SpermMobil was added 10 minutes before performing ICSI to activate the immotile SR sperm before sperm selection for ICSI.

Result: A statistical test comparing the fertilisation rate, embryo cleavage rate and pregnancy rate of patients who used ejaculated sperm and patients who used SR sperm was performed. The fertilisation rate was significantly higher in the group using ejaculated sperm (60.9% versus 51.1%, $p=0.00039$). The embryo cleavage rate was higher for patients using ejaculated sperm (85.4% versus 83.9%, $p=0.601$). The pregnancy rate for patients using SR sperm was higher than that of patients using ejaculated sperm, but this was not significant (50% versus 38.7%, $p=0.290$).

Conclusion: In conclusion, the use of surgically retrieved sperm for ICSI gives comparable outcomes to the use of ejaculate sperm. This further alleviates the problem of male factor infertility in IVF and improves the success rate of IVF treatments.