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Comparison of outcomes of intra-cytoplasmic sperm injection using ejaculate sperm and surgically retrieved sperm

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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 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 sperm sample on the day of Oocyte Retrieval (OR). 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 surgically removed sperm versus ICSI using ejaculated sperm in our centre. From January 2016 to June 2017, a total of 308 couples underwent IVF treatment with ICSI using fresh sperm ejaculate. The sperm was selected for ICSI based on the morphology and viability. 19 couples underwent IVF treatment with ICSI using surgically retrieved sperm. The immotile testicular sperm was first activated using GM501 SpermMobil before selection for ICSI. For the group of patients using ejaculate sperm, the fertilization rate was 67.9%, embryo cleavage rate was 99.1% and pregnancy rate was 40.9%. The fertilization rate for the group of patients using surgically retrieved sperm was 56.4%, embryo cleavage rate was 97.4% and pregnancy rate was 33.3%. 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.

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