



THE COMPARISON BETWEEN FRESH AND FRESH+THAW SPERM SAMPLE TO FERTILIZATION RATE IN ICSI CYCLES

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INTRODUCTION

Aside from female factor, male factor also plays an important role in achieving a successful IVF cycle. In patients with male factor infertility, cryopreservation of the sperm is thought to increase the treatment options. The impact of cryopreservation of the sperm on IVF cycle has been evaluated, of which many studies suggest that the fertilization rate is comparable between freshly retrieved and frozen-thawed sperm sample. However, no study has ever compared the fertilization rate between fresh and fresh+thawed sperm sample. The aim of this study is to compare the fertilization rate between fresh and fresh+thawed sperm sample in patients with oligoasthenozoospermia and severe oligoasthenozoospermia.

MATERIALS AND METHODS

A retrospective analytical study was conducted in 74 couples who underwent IVF-ICSI cycles in Halim Fertility Center, Indonesia from January-November 2019. Samples were male patients who were diagnosed with either oligoasthenozoospermia or severe oligoasthenozoospermia. The patients were then divided into 2 groups, group 1 was patients who were asked to collect only fresh sperm sample through masturbation on the day of oocyte retrieval; group 2 was patients who were asked to collect fresh sperm sample through masturbation on the day of oocyte retrieval which will be mixed with their frozen sperm sample afterwards. The method of sperm processing was washing for both groups. The fertilization check was assessed in 17±1h after ICSI.

RESULTS AND DISCUSSION

Based on Table 1 below, the sperm density in group 1 and group 2 were 1.58±2.32 and 1.53±1.68, respectively. The number of oocytes retrieved in group 1 and group 2 were 8.70±8.62 and 9.15±5.19, respectively, while the number of mature oocytes were 6.09±5.73 and 6.90±3.89, respectively. The result showed that the fertilization rate in group 1 and group 2 were 72.42±29.69 and 76.16±23.16, respectively. Although the fertilization rate in group 2 was found higher than in group 1, the result showed no significant difference in this study (p=0.200).

Table 1. Distribution of parameters between two groups

Parameter	Fresh Sperm Sample (n=33)	Fresh + Thaw Sperm Sample (n=41)	p value
Sperm Density (mean±SD)	1.58±2.32	1.53±1.68	
Number of Oocyte Retrieved (mean±SD)	8.70±8.62	9.15±5.19	
Number of Mature Oocyte (MII; mean±SD)	6.09±5.73	6.90±3.89	
Fertilization Rate (mean±SD)	72.42±29.69	76.16±23.16	0.200

Falah (2019) stated that in case of obstructed azoospermia and non-obstructed azoospermia, no statistically significant differences were found between the use of fresh and frozen-thawed testicular sperm for ICSI regarding to fertilization rate, clinical pregnancy rate, and live birth rate. Ulug et al. (2005), Kalsi et al. (2010), and Zhe et al. (2018) also stated in their studies that no significant differences were found in fertilization rate, embryo quality, implantation rate, as well as pregnancy rate between the fresh sperm group versus the frozen-thawed sperm group.

CONCLUSION

The use of fresh and thaw sperm sample altogether may give a better fertilization result than fresh sample alone in patients with male factor infertility. There is no significant difference found between the two groups, but further study may be required with larger samples.

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