

Fertilization Rate by Intracytoplasmic Sperm Injection (ICSI) of Human Oocytes

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Background and Objectives: The intracytoplasmic sperm injection or ICSI is high efficiency and acceptable all over the world in treatment of severe male factor infertility, unexplained infertility, in-vitro maturation of oocytes and reinjection in non fertilized oocytes of conventional IVF method. The objective of this study was to determine the fertilization rate of human oocytes, cleavage rate and pregnancy rate in ICSI method.

Methods: This was a retrospective descriptive study conducted by collecting data from reproductive biology unit, Srinagarind hospital, Khon Kaen university, Khon Kaen, Thailand. Total of 1,053 human oocytes from 164 cycles which undertaken for ICSI treatments between January 1, 2012 to May 31, 2014. The number of retrieval oocytes, sperm injected oocytes, fertilized oocytes, cleavage rate and pregnancy rate were analysed by poisson statistic and STATA program version 10.0.

Results: In 164 treatment cycles were included for ICSI procedure. Total of 1,053 oocytes were collected. The

average of oocytes obtained per retrieval was 6.5 ± 5.5 . During the study period, 876 mature oocytes had been ICSI of 156 cycles (average 5.6 ± 4.9 per cycle). The fertilization rate and cleavage rate were 82.7 % and 94.5 %, respectively. The fertilization rate were not statistically significant different between indication group and non-indication group (74.3% and 87.2 %, $p=0.1101$). The overall of pregnancy rate in ICSI was 13.3 %. The pregnancy rate of indication group and non indication group were 11.8 % and 14.9 %, respectively.

Conclusion: In this study fertilization rate and cleavage rate by ICSI were good. ICSI is an alternative method to use in treatment of infertile couples due to low quality sperm.

Keywords: ICSI, Fertilization rate, Cleavage rate, Intracytoplasmic sperm injection

