

COMPARISON OF EMBRYO QUALITY BETWEEN INTRACYTOPLASMIC SPERM INJECTION AND IN VITRO FERTILIZATION IN COUPLES WITH UNEXPLAINED SUB FERTILITY

U. K. N. A. Udunuwara

Postgraduate Institute of Science

University of Peradeniya

Peradeniya

Sri Lanka

The aim of the present study was to compare the quality of embryos derived from couples with unexplained sub fertility by In Vitro Fertilization (IVF) and Intra Cytoplasmic Sperm Injection (ICSI).

A comparative study was done where the quality of the embryo obtained by ICSI was compared with that obtained by IVF. The oocytes retrieved from each patient were collected and equally divided into two groups, IVF (group A, 156 eggs) or ICSI (group B, 132 eggs). Fertilization was confirmed by observation of two pronuclei 18-19 hours after IVF insemination or ICSI. Total fertilization rate per group was calculated as the total number of zygotes divided by the total number of oocytes. Percentage of embryos with ideal cleavage was calculated as the number of transferable embryos divided by the number of zygotes. Embryo morphology was graded before the embryo transfer, embryos with equal sized blastomeres, ideal cleavage (four cells on day two or eight cells on day three) and <10% fragmentation were considered as grade A; more or less than four cells on day 2 or more or less than eight cells on day 3 and <20% fragmentation were considered as grade B.

The fertilization rate for IVF 68.5% (107/156) and for ICSI 67.4% (89/132), cleavage rate for IVF 68.7% (72/107) and for ICSI 78.1% (67/89) and rate of high quality embryos IVF grade A 41.1% (44/107), ICSI grade A 43.8% (39/89) and IVF grade B 26.1% (28/107), ICSI grade B 31.4% (28/89) when compared by chi-square test revealed there is no significant different between mode of fertilization and the cleavage rate. Therefore embryo quality does not seem to be influenced by the mode of fertilization (IVF or ICSI). The results also showed no significant differences between IVF and ICSI groups in the rate of high quality embryos.

No association could be established between age and the number of eggs and between age and the fertilization rate.