

Evaluation of sperm inserted mouse oocytes using sperm that failed to fertilize by intracytoplasmic sperm injection.

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INTRODUCTION: The objective was to investigate the sperm nuclei that failed to fertilize oocytes with the aid of intracytoplasmic sperm injection (ICSI). This was accomplished by injecting these failed sperm into mouse oocytes.

METHOD(S):

DESIGN: Mouse oocytes were used to study human sperm.

SETTING: Private ART institute and faculty of agriculture of university.

SUBJECT(S): Oocytes from B6D2F1 female mouse. The sperm of infertile men.

INTERVENTION(S): The sperm that failed to fertilize by ICSI was inserted into mouse oocytes with piezo-micromanipulator. Sperm chromosome inserted into mouse oocytes were stained.

MAIN OUTCOME MEASURE(S): Estimation of pronucleus (PN) formation after infertile sperm was injected via ICSI into mouse oocytes and activated by strontium chloride (SrCl). Evaluation of the morphology of the inserted sperm nuclei in the mouse oocytes.

RESULT(S): The survival rate of infertile sperm inserted oocytes was 92.0% (46/50), 2PN formation rate was 0% (0/46). Control fertile sperm inserted oocytes's survival and 2PN formation rate was 90% (9/10) and 88.9% (8/9), respectively. 2PN formation rate from infertile sperm inserted oocytes by activation increased by 90.3% (28/31) in spite of spontaneous PN formation of 0%. Sperm chromosome in oocytes was recognized premature chromosome condensation (PCC) figure.

CONCLUSION(S): This study suggests that infertile sperm had low potential to induce spontaneous activation effects, so infertile men of unformed 2PN sperm by ICSI may be consecutively rescued following activation in oocytes after ICSI and then in vitro culture.