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Factors determining the use of intracytoplasmic sperm injection in women without male factor infertility

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Background & Objective: Intracytoplasmic Sperm Injection (ICSI) technique was primarily used to treat couples with male factor infertility. Despite questionable evidence of benefits over conventional *in vitro* fertilization (IVF), ICSI use has markedly increased in recent decades among couples without male factor infertility. The reasons for this increasing trend of ICSI use are unknown.

Method: A retrospective cohort study was conducted in 83,868 women diagnosed without male factor infertility, using 2006-2010 data from the Society for Assisted Reproductive Technology Clinic Outcome Reporting System (SART CORS).

Result: Between 2006 and 2010, overall ICSI use in women without male factor infertility increased from 53.0% to 59.2%. The factors associated with an increased use of ICSI were Hispanic ethnicity (adjusted odds ratio [aOR]: 1.3, 95% confidence interval [CI]: 1.2-1.4), obesity (aOR: 1.1, 95% CI: 1.1, 1.3), those women who had prior history of ART treatments with fresh eggs (aOR: 1.4, 95% CI: 1.3, 1.6 for 4 and more treatments), and women diagnosed with diminished ovarian reserve (aOR: 1.2, 95% CI: 1.2, 1.3) and other factor for infertility (aOR: 1.4, 95% CI: 1.3, 1.5). Multigravida, women with prior history of miscarriages, and women diagnosed with tubal factor infertility were less likely to use of ICSI.

Conclusion: ICSI procedures were performed among more than half of couples without male factor infertility. Although several demographic and reproductive factors were found to be associated with an increased use of ICSI, the questions remain whether its use is necessary or justified in women without male factor infertility.

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