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microICSI PERFORMS COMPARABLY TO CONVENTIONAL ICSI AND DEMONSTRATES EASE OF USE FOR NEW USERS

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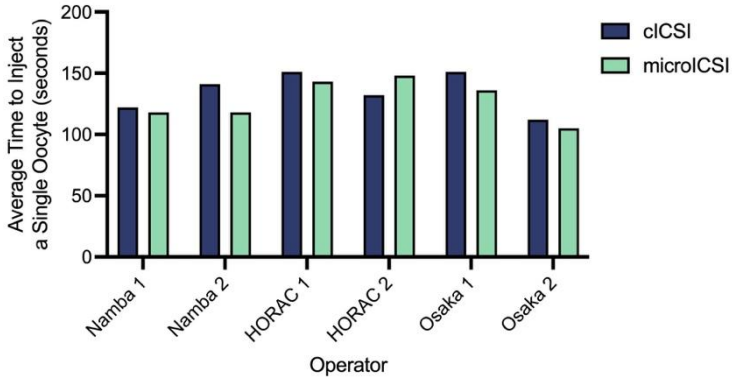
Introduction: microICSI is a new intracytoplasmic sperm injection (ICSI) device developed by Fertilis Pty Ltd that simplifies the procedure by using only one set of micromanipulators. It eliminates the need for a holding pipette through a microwell design that stabilizes the oocyte during injection. Previous studies in porcine models and human discarded oocytes suggested improvements in developmental and procedural efficiency.

Objective: To evaluate the ease of use and subsequent fertilization outcomes of microICSI compared to conventional ICSI (cICSI) with research-only human MII oocytes.

Methods: Vitrified, delayed maturation human MII oocytes (n=106, obtained with informed consent) were randomized into either cICSI (n=52) or microICSI (n=54). ICSI was performed by 5 embryologists across 3 different clinics over 2 separate days. Injection setup and procedure times were recorded. All materials were disposed of after evaluation. Statistical analysis performed using Fisher's exact test (proportions) and t-tests (procedure times).

Results: The normal fertilization (2PN) rate was 57% for microICSI and 58% for cICSI. Total fertilization rates were 80% for microICSI and 73% for cICSI (P=0.49). Oocyte lysis rates trended lower with microICSI (3%) compared to cICSI (10%), though the difference was not statistically significant (P=0.26). These outcomes were consistent with previously published ESHRE2025. Average setup+ICSI times (min:sec):

- cICSI: 02:42
- microICSI: 02:32
  Average injection time alone was marginally shorter for microICSI. Notably, at one site (Namba Clinic), microICSI was consistently faster.



Conclusion: Embryologists using microICSI for the first time were able to achieve results comparable to conventional ICSI, with only minimal training. This highlights its usability and low training burden.