65th Annual Meeting of the ASRM

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Data are submitted for a separate scientific abstract and video presentation: No

Awards:  
IRB Approval: The study material in this abstract has been approved by the local Institutional Review Board (IRB) if any human subjects or any human material was utilized.  
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Accept Complete Responsibility: I accept complete responsibility for the data at the time of submission.

Title: Hyaluronan expression and sperm DNA fragmentation as indicators of conventional intracytoplasmic sperm injection (ICSI)

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Objective: Hyaluronic acid (HA) recently introduced as a basis for selecting sperm with superior maturity and DNA integrity. ICSI may be the only option for infertile men with poor sperm quality. Our aim was to examine the HA expression and DNA fragmentation in infertile couples undergoing ICSI.

Design: Prospective study.

Materials and Methods: Semen samples were collected from 20 male partners of infertile couples with no female factor undergoing ICSI. An aliquot of semen was used for semen analysis, HA binding assay, and sperm DNA fragmentation by TUNEL using flowcytometry. Another aliquot was used in ICSI. Scoring and transfer of 2-3 embryos were done according to the lab protocol. Laser assisted hatching was done for embryos with thick zona (n=4) or for previous ICSI failure (n=6). Pregnancy test was done after 2 week from embryos transfer.

Results: Pregnancy was related to TUNEL+ (r=-0.72, p<0.001). HA expression was not related to pregnancy (r=0.12, p=0.63) or TUNEL+ (r=-0.34, p=0.14). DNA fragmentation was and pregnancy rate (PR) was 56.3 ± 28.9 and 50% in 2nd attempt (n=4); 83.5% and 0% in 3rd (n=1) and 94% and 0% in 4th attempt (n=1).

Comparison of ICSI predictors in pregnant vs. non-pregnant groups (Results...
Conclusions: HA may not be a predictor for ICSI outcome in severe male factor cases. Pregnancy may occur with high sperm DNA fragmentation depending up the oocyte repair capacity. Repeated ICSI failure is related to sperm DNA damage.

Support: None.

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