9th Yazd International Congress and Student Award on Reproductive Medicine with 4th Congress of Reproductive Genetics

Poster Presentations

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Evaluation of sperm parameters and DNA integrity following different incubation times in PVP media

Nabi A[1], Entezari F[1], Miresmaeili SM[2], Lorian K[1], Anbari F[1], Motamedzadeh L[1].

1.Andrology Research Center, Yazd Reproductive Sciences Institute, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

2.Department of Biology, Science and Art University, Yazd, Iran.

Email: ali.nabi67@yahoo.com

Background: Polyvinylpyrrolidone (PVP) is a chemical material used in intracytoplasmic sperm injection program.

Objective: The aim of this study was to investigate the ideal time that sperm can be safely incubated in PVP with less structure and DNA damage.

Materials and Methods: Thirty-one oligoasthenoteratospermia samples were used. Sperm samples were prepared by discontinuous density-gradients method and incubated in 10% PVP at different time intervals (0, 5, 10, 15, 20, and 30 min). The effect of PVP was assessed on sperm DNA fragmentation and viability via sperm chromatin dispersion assay and Eosin-nigrosin staining.

Results: Data showed there was a significant increase in sperm DNA fragmentation after 10 min (36.76 ± 7.99, $p < 0.001$), 15 min (37.81 ± 8.11, $p < 0.0001$), 20 min (38.62 ± 8.00, $p < 0.0001$), and 30 min (40.05 ± 7.69, $p < 0.0001$) compared to 0 min. The viability rate also significantly reduced after 10 min (57.71 ± 10.85, $p = 0.04$), 15 min (55.81 ± 10.87, $p < 0.0001$), 20 min (53.19 ± 11.44, $p < 0.0001$), and 30 min (50.24 ± 11.81, $p < 0.0001$) compared to 0 min.

Conclusion: As a result, sperm samples could be incubated with PVP for 10 min with less DNA damage. While, prolonged incubation may significantly damage the sperm DNA integrity and viability.

Key words: *Polyvinylpyrrolidone, Oligoasthenoteratospermia, Sperm, DNA fragmentation, SCD test, Viability rate.*