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

Oral Presentations

O-13
Evaluation the effect of human sperm incubation time in polyvinylpyrrolidone on sperm structure reactive oxyen species, acrosome reaction, and mitochondorial membrane potential

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Background: Polyvinylpyrrolidone (PVP) is a chemical used in intracytoplasmic sperm injection for sperm immobilization. In human sperm, PVP has been shown to damage sperm membranes, DNA integrity, mitochondrial membrane, and destroy axonal tubules and fibrous sheaths.

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

Materials and Methods: Twenty-five normospermic samples were used. Sperm samples were prepared by swim-up method. Sperm samples incubated in 10% PVP at different time intervals (0, 15, 30, and 60 min). The effect of PVP was assessed on sperm structure, reactive oxyen species, acrosome reaction, Mitochondorial Membrane potential at different time intervals.

Results: Sperm parameters, DNA integrity and chromatin quality in 15, 30 and 60 min after incubation sperm with PVP were significantly changed compared to the 0 min. Moreover, in 30 and 60 min after incubation with PVP, above parameters were significantly changed compared to the 15 min. 60 min after incubation sperm with PVP, these parameters were significantly changed compared to the 30 min.

Conclusion: Sperm samples could be incubated with PVP for 15 min with less possible damage. While, prolonged incubation may damage the sperm parameters, DNA integrity and chromatin quality significantly.

Key words: *Polyvinylpyrrolidone, Sperm mithokondria, Sperm ROS.*