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Poster Presentations

P-7

Evaluation of the effect of folic acid and nicotinic acid on malondialdehyde levels of semen in Oligospermia men after cryopreservation

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Background: Reactive oxygen species and free radicals are one of the most important detrimental factors on sperm quality, especially during the freezing process. One of the important factor is reactive oxygen species which increases the lipid proxidation of cell membranes.

Objective: In this study, an attempt was made to measure the concentration of malondialdehyde levels in semen in oligospermia men before and after cryopreservation process and to evaluate the effect of folic acid and nicotinic acid on the malondialdehyde concentration after freezing.

Materials and Methods: For this purpose, semen

fluid sample was collected from 25 oligospermia men in the age range of 25 to 45 yr. Each sample was divided into 5 groups: fresh group, freeze group without antioxidants (control), freeze group with nicotinic acid (10 mM), freeze group with folic acid (50 nM) and freeze group with a combination of nicotinic acid (10 mm) + folic acid (50 nM). The concentration of malondialdehyde was measured in nmol/ml in each group.

Results: Our study showed that the concentration of malondialdehyde in the semen increased after freezing compared to before freezing ($p > 0.001$). Also, the concentration of malondialdehyde in the group of folic acid + nicotinic acid was lower compared to other groups after freezing ($p > 0.001$).

Conclusion: The combination of folic acid and nicotinic acid antioxidants with sperm freezing medium reduced the level of Malondialdehyde and lipid peroxidation of sperm membrane during the freezing process and thereby maintains the fertility potential in oligospermia men.

Key words: Cryopreservation, Sperm, MDA, Nicotinic acid, Folic acid.