

عنوان مقاله:

The effect of hyaluronic acid on motility, vitality and fertilization capability of mouse sperms after cryopreservation

محل انتشار:

مجله طب تولید مثل ایران، دوره 5، شماره 3 (سال: 1386)

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خلاصه مقاله:

Background: Various approaches have been used in the attempts to improve the quality of frozen-thawed mouse sperms. According to literatures, it seems that hyaluronic acid(HA) has an important role on the permeability and motility of sperms and their interaction with gametes.Objective: For evaluation of HA supplementation on sperm characteristics andfertilization capability, we investigated the effect of different doses of HA on mousesperm morphology, motility, vitality and fertilization capability after freezing and thawing. Materials and Methods: The cauda epididymes was removed from 6 male mice withaseptic method. The sperm samples were frozen in 1.8 ml cryotubes with 18% raffinose and 3% skimmed milk containing cryo-protectant solution. HA at the concentration of 750, 1000 or 1250 µg/ml was supplemented to frozen-thawed sperms. Sperm motilitywas measured with microscope, and fertilization rate was evaluated after routine IVF by counting the fertilized oocytes. For sperm morphology, papaniclau staining was usedwhile; Eosin B was used for the assessment of sperm viability rate. Results: HA supplementation (750 µg/ml) improved motility parameters ($p < 0.05$) and increased the fertility rate ($p < 0.05$). The effect of 1,000 µg/ml HA was also positive onthe sperms. But 1,250 µg/ml HA had negative effect on above mentioned characteristic. On the other hand, none of these doses had any effect on sperm morphology.Conclusion: The dose of 750 µg/ml of .HA has the greatest effect on the motility, vitality and fertility rate of sperms after cryopreservation

کلمات کلیدی:

Hyaluronic acid (HA), Cryopreservation, In vitro fertilization (IVF), Sperm parameters

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