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diff-quick staining) were analyzed before and after freezing, following the World Health Organization guidelines.
Results: A significant reduction was found in the mean sperm motility, viability, and normal morphology in the freeze group compared to the control group ($p = 0.001$). However, these parameters significantly increased in the freeze + selenium group when compared to the freeze group ($p = 0.001$).
Conclusion: Our data indicate that supplementing the freezing medium with selenium reduces the adverse effects of the freeze-thaw process on sperm quality in asthenozoospermic men, presenting a promising approach to increasing fertility outcomes in assisted reproductive techniques.
Keywords: *Asthenozoospermia, Cryopreservation, Selenium, Sperm parameters.*

P-61
Investigating the effects of melatonin administration on change in ovarian morphometric indices caused by light pollution in Wistar rats

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Background: Light pollution is one of the most important factors disrupting biological rhythms in animals. In adult female mammals, the hypothalamus-pituitary-ovary axis is controlled by biological rhythms, and the effects of disturbances in this axis are manifested in its terminal part, namely, ovarian cycles. As the most important hormone regulating biological rhythms, melatonin plays an important role in reducing the effects of disruption in biological rhythms.
Objective: In this research, the effect of melatonin hormone administration on body weight, correction of ovarian cycle irregularity, ovarian structure, changes in catalase enzyme level and total serum antioxidant capacity, under the conditions of exposure to night light, have been investigated.
Materials and Methods: In this experimental study, 30 female Wistar rats (220 ± 20 gr, 3-4 months) with a regular sexual cycle were divided into 6 groups (n = 5/each) including: control, control+melatonin, experiment 1, experiment 1+melatonin, experiment 2 and experiment 2+melatonin, respectively, under standard light conditions (12 hr light/dark cycle), short-term night light (16 hr light/8 hr dark) and long-term night light (20 hr light/4 hr dark) with free access to food and water. The groups treated with melatonin received melatonin as a solution in drinking water (At a dose of 0.8 µg/ml of water). During the test period, in order to evaluate the state of the sexual cycle, vaginal smear cytology was performed daily. At the end of the experimental period (day 42), under deep anesthesia, blood was taken from the rats first, and then the ovaries were removed and fixed in fixative solution. In the following, ovaries were used for histological investigations and blood serum was used to measure catalase enzyme level and total antioxidant capacity.
Results: The weight measurement of the rats showed that compared to the beginning of the test period, the weight of the rats decreased at the end of the test period and the administration of melatonin prevented weight loss in the rats. This effect is especially significant when comparing the control group with the control+melatonin group ($p < 0.039$). The data obtained from the daily cytology of the vaginal smear indicate that the treatment with melatonin significantly prevents the occurrence of irregularity in sexual cycles caused by night light ($p < 0.0006$). Examination of the structure of the ovary also showed that melatonin was able to prevent the decrease in the volume of the ovary ($p < 0.0019$), decrease the number of corpora lutea ($p < 0.0252$), and decrease the ratio of the area of the corpora lutea to the cut area of the ovary ($p < 0.0076$). Treatment with melatonin also caused a significant decrease in the serum level of catalase enzyme ($p < 0.0002$). At the same time, administration of melatonin did not significantly change the total serum antioxidant capacity.
Conclusion: Based on the obtained results, it can be concluded that melatonin hormone administration; 1) it prevents cyclic disorders in the hypothalamus hypophysis-ovarian axis caused by night light. 2) as a powerful natural antioxidant, it prevents tissue damage caused by oxidative stress, which is likely to occur during exposure to night light.
Keywords: *Light pollution, Melatonin, Ovary, Oxidative stress.*

P-62
Melatonin mitigates oxidative stress in asthenozoospermic men during freeze-thawing process

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Background: Asthenozoospermia, characterized by reduced or absent sperm motility, is a major cause of male infertility. Sperm cryopreservation, a vital technique in assisted reproductive technologies, induces cryoinjury, compromising sperm structure and function through oxidative stress, DNA damage, and apoptosis. Excessive reactive oxygen species (ROS) production during freeze-thaw cycles exacerbates oxidative stress, particularly in asthenozoospermic men, impairing semen quality and fertilization potential. Melatonin, a potent antioxidant, may mitigate these effects.
Objective: This study aimed to evaluate the effects of melatonin, on sperm biochemical parameters and intracellular ROS levels in cryopreserved samples from asthenozoospermic men.