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COMPARATIVE CHARACTERISTICS OF PATIENTS WITH INFERTILITY WHEN APPLYING MELATONIN IN COMPLEX PREPARATION FOR ASSISTED REPRODUCTIVE PROGRAMS

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Objective of the study was to conduct a retrospective comparative characterization of patients with infertility who took or did not take melatonin with assisted reproductive technologies (ART). 89 women were examined. The first (control) group included 13 healthy women oocyte donors who got pregnant on their own and gave birth to their own healthy children, the second group - 33 patients with infertility, who took 3 mg of the preparation "Vita-melatonin" produced by "Kyiv Vitamin Plant" at the same time before bedtime, two weeks before and during ovulation stimulation, the third group - 43 patients with infertility who did not take melatonin preparation before and during ovulation stimulation. There were no women who worked night shifts among the patients. Medical documentation of women of the control group and those with infertility, data of gynecological, ultrasound examination, hormones blood were analyzed. Ultrasound examination of the pelvic organs was performed on all patients with the device "Mindray DC-80 X-Insight", and measurements were performed using a transvaginal sensor. The thickness and structure of the endometrium were evaluated, and the number of antral follicles (NAF) ranging in size from 2 to 10 mm was counted in each ovary. All patients were tested for serum levels of antimullerian hormone (AMG), follicle-stimulating hormone (FSH), luteinizing hormone (LH), estradiol (E2), prolactin (PRL), progesterone (P), thyroid-stimulating hormone (TSH), triiodothyronine (T4) .

An average age of women in the first (control) group was 27.08 ± 12.38 years, the second (taking melatonin) - 33.12 ± 8.18 years, the third (not taking melatonin) - 30.95 ± 7.07 years > 0.05), i. e. the age of the patients of the examined groups was equal. It should be noted that in the examined patients of both groups, the occurrence of primary infertility exceeded the secondary infertility 2.7 times in the second group ($p < 0.05$) and 1.7 times in the third ($p < 0.05$).

Infertility factors such as reduced ovarian reserve, habitual miscarriage and infertility of unknown origin were more common in patients of the second group, and endometriosis, tubal factor and male factor in the third, although the difference was not significant. The available extragenital pathology did not differ in the patients of the examined groups. The number of antral follicles was significantly higher in both ovaries of women in the control group compared with patients of the second and third groups. While the thickness of the endometrium did not differ significantly in groups, although in women of the control group it was slightly less.

Regarding the study of hormonal status, it should be noted that we did not find a significant difference in the levels of hormones in blood of the women we examined. Exceptionally, there was a significant difference ($p < 0.001$) in progesterone content between the second (0.62 ± 0.052 nmol/l) and third (181.63 ± 13.87 nmol/l) groups. The patients of the third group had significantly ($p < 0.05$) higher levels of FSH in blood (8.25 ± 0.63 mUn/ml) compared with the control group (4.93 ± 0.69 mUn/ml).

Thus, the examined women in the control group, as well as infertility patients who received melatonin two weeks before the expected menstruation and during ovulation stimulation, and infertility patients who did not receive this preparation in similar programs, did not differ in age, occurrence of primary and secondary infertility, the factor that led to infertility, concomitant extragenital pathology, ovarian reserve and hormone levels of the reproductive panel. That is, they were equal in our study.