EXPERIMENTAL VALIDATION OF TERLIPRESSIN ADMINISTRATION TO PREVENT COMPLICATION PROGRESSION OF OVARIAN STIMULATION

D. Aizyatulova

The experiments were carried out with females of ?BA×C57BL rodents. Animals of group I (n=12) were injected 20 IU of equine gonadotropin (EG) intraperitoneally and in 48 hours - 20 IU of human chorionic gonadotropin (HCG). Animals of group II (n=15) were injected terlipressing (Glipresin from Ferring International Center S.A., Germany) intraperitoneally 3 later after HCG injection. Control group included animals during estrus period which coincides with spontaneous ovulation.

Administration of EG and HCG results in significant ovary enlargement in rodents from experimental groups on the first and third day; these definitely did not differ between animals of experimental groups but definitely did exceed sizes of ovaries of control group rodents (?<0.01). On the sixth day of monitoring ovary sizes of group II animals reduced significantly and were almost of the same size of those in animals from control group. At the same time definite differences of these sizes were found between animals from the two experimental groups (?<0.01).

Hormonal ovarian stimulation in laboratory rodents with the use of gonadotrophine resulted in development of all symptoms of ovarian hyperstimulation syndrome (OHSS) in all animals: edema and hyperemia of ovaries, their structural damage, cystic changes in yellow bodies and hemorrhagic follicles, disorder of folliculogenesis and morphology of ovulated oocytes and pre-implantation embryo. Microscopic analysis of rodent uterus showed hypoplasia in endometrium, applanation and diffusive development of connective tissue, group glands were almost absent, sporadical - sometimes even of a reduced diameter, endometrium stroma and myometrium were definitely thinned. Inner layers of sponge tissue had partial necrosis with cytoclasis, deme, clogged blood vessels with coarse net of collagen fibers in lumen. Long-lasting obstinate stasis of red blood cells led to the stagnation of blood circulation in these areas. Myofibers in this area were vacuolated evidencing hypoxic state of myometrium.

Glipressin (synthetic version of posterior pituitary hormone - vasopressin) normalizes the ovarian parenchyma, apparently due to hemodynamic effects and influence on smooth muscle, that is, the vasoconstrictor effect, thus avoiding traumatic effects of tissue edema in the uterus - pathological processes subside and more marked signs of readiness of the endometrium for implantation of an egg are detected.