Estradiol and D-dimers levels as early predictors of ovarian hyperstimulation syndrome in assisted reproductive technologies.

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Context: estradiol (E) and D-dimers levels as early predictors of OHSS in ART. Objective: to improve OHSS-prevention efficiency by monitoring E and D-dimers levels. Methods and patients: control group - 1940 women, 1200 of them were in long protocol (LP), 740 in short protocol (SP). Main group - 1252 women that had their E and D-dimers levels taken on HCG-injection day and on the 5th day after ET; 502 of them were in LP, 624 in SP, 126 in mini-protocol.

Results: hospitalization with OHSS rate in the control group was 2% (LP), 1.75% (SP), 1.9% on average; 0.25% needed intensive care. Main group - 1.39% (LP), 0.96% (SP) respectively, 1.04% on average; 0.08% needed intensive care. E levels in the main group on the ovulation-trigger planned injection day: >2000 pg/ml - 3.78% (LP), 2.6% (SP), 0 (mini). E on the day of trigger-injection was lower than <2000 pg/ml in all cases after coasting.

On the 5th day after ET the levels of E (pg/ml) and D-dimers (mcg/ml) were measured in pregnant and non-pregnant women. Pregnant: LP - E 50-1000, D-dimers 2000-5000; SP - E 50-850, D-dimers 2000-3000; mini - E 200-500, D-dimers <500. In non-pregnant women E was <50, D-dimers <500. Pregnancy-rates in main group: LP - 45.8%, SP - 45.2%, mini - 34.7%. Control group: LP - 42.0%, SP - 38.9%.

Rate of successfully ended pregnancies in main group: LP - 83.4%, SP - 85.1%, mini - 84.4%. In control group: LP - 78.2%, SP - 79.2%.

Conclusions: levels of estradiol and D-dimers are early predictors of OHSS and IVF-efficiency. Timely measurement of these levels and their correction decreases rate of hospitalization with OHSS. Monitoring of estradiol and D-dimers leads to improvement of IVF-efficiency and decrease in reproductive failures.

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