Objective To compare repeated doses of GnRHa with a single bolus of 50 mcg hCG as luteal phase support for patients treated with GnRHa trigger for ovulation.
Design Prospective randomized controlled study.
Materials and Methods Patients at-risk for developing OHSS were treated with GnRH antagonist protocol and a GnRHa trigger for ovulation. An E2 level ≥ 2500 pg/ml was used to trigger ovulation with GnRHa instead of the classic hCG trigger. Patients were randomized to receive a single bolus of 50 mcg hCG on day 3 following oocyte pick-up or repeated doses of GnRHa (decapeptyl) 0.1 mg every 2 days from day 3 following oocyte pick until pregnancy test.
Results Both groups were comparable in age, BMI and E2 at hCG, as well as in number of oocytes retrieved. Progesterone levels increased from day 3 to day 6 (from 27.2 ± 14 to 48.5 ± 32 ng/ml in GnRHa group and from 23.2 ± 28 to 45.7 ± 20 ng/ml in the hCG group). LH level on day 6 was higher in the GnRHa group compared to the hCG group (3.0 ± 2 vs. 0.22 ± 0.1 IU/l, $P = 0.01$). Clinical pregnancy rates were 45% in the GnRHa group and 44% in the hCG group ($P = 0.57$). OHSS was reported in one in hCG group patient.
Conclusions Both strategies seem to be efficacious for luteal phase support. Repeated GnRHa doses seem to be safer.
Support None.

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Prognostic markers of ovarian hyperstimulation syndrome in assisted reproductive technologies

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Objective The aim of the research was to determine reliable prognostic tools for predicting ovarian hyperstimulation syndrome (OHSS) in assisted reproductive technologies (ART), and to establish cut-off levels of the most significant laboratory findings associated with the development of OHSS.
Design The study included 276 infertile women that underwent in vitro fertilization (IVF), in "Center of Reproductive Medicine" (Minsk, Belarus) during 2014–2016.
Materials and Methods The following parameters were assessed: age, body mass index (BMI), antral follicle count (AFC), serum levels of the following substances before the start of controlled ovarian stimulation: follicle stimulating hormone (FSH), luteinizing hormone (LH), anti-Mullerian hormone (AMH), thyroid stimulating hormone (TSH), anti-thyroid peroxidase antibodies (anti-TPO antibodies), glucose, and insulin. Also, the homeostatic model assessment (HOMA) was performed. Controlled ovarian stimulation (COS) was carried out with the use of GnRH agonist protocol. ART included IVF + intracytoplasmic sperm injection (ICSI), and embryo transfer on day 5 after follicle aspiration (blastocyst stage).
Results Moderate OHSS occurred in 24 cases (8.70%); pregnancy rate was 42.4% (117 IVF cases). ROC-curve was used to assess the prognostic value of the examined parameters. The most reliable markers of OHSS were the following: AMH (cutoff value 3.6 ng/ml; AUC 0.896; sensitivity 91.7; specificity 84.93; PPV 36.7; NPV 99.1; $p < 0.0001$); anti-TPO antibodies (cutoff value 369,41 IU/ml; AUC 0.866; sensitivity 83.33; specificity 88.5; PPV 40.8; NPV 98.2; $p < 0.0001$); and HOMA (cutoff value 369.41 IU/ml; AUC 0.866; sensitivity 83.33; specificity 84.13; PPV 33.3; NPV 98.1; $p < 0.0001$). Logistic regression model was used to assess the examined parameters in terms of their value in OHSS prediction. The following parameters proved to be the most valuable: AMH (OR 2.6852, $P < 0.0029$); anti-TPO antibodies (OR 1.0103, $P < 0.0003$); and HOMA (OR 5.3202, $P < 0.0016$).
Conclusions The most important prognostic markers of OHSS among the examined parameters are the following: AMH, anti-TPO antibodies, and HOMA. Routinely used characteristics, namely age and BMI, possess significantly lower prognostic value and lower reliability. The assessment of OHSS risk in women undergoing ART should include measurement of AMH, anti-TPO antibodies and HOMA.
Support None.

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The effect of ovarian stimulation with human menopausal gonadotropin (hMG) for IUI cycles on anti-Mullerian hormone reserve levels

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Objective Infertility in Indonesia is increasing. According to a report from the Ministry of Health of Indonesia in 2010, approximately 12% couples in reproductive age have fertility problems. The objective of this study is to analyze the effect of ovarian stimulation with clomifen citrate (CC) combine with human menopausal gonadotropine (hMG) on AMH levels in patients undergoing IUI.
Materials and Methods This study compared AMH levels pre- and post-ovarian stimulation in participants who received CC + hMG in IUI compared to CC only in 40 patients undergoing IUI, divided into 20 subjects in each group. This study has conducted at Asri Medical Center, Universitas

Muhammadiyah Yogyakarta from 2015 to 2016. AMH levels measured were pre-and post-stimulation taken on the day of HCG evaluation in each group.

Results 40 patients were eligible for study. Twenty patients undergoing IUI with CC and 20 patients with CC combine with hMG. The mean age of patients was 30.3 ± 5 years, the mean duration of infertility 2.1 ± 3.7 years. The mean BMI 20.9 ± 5.4 kg/ml, medium AMH level pre-stimulation in group CC without hMG was 3.5 ng/ml and group with hMG was 4.2 ng/ml. Total dosage of FSH in both group used was 3747.5 ± 1086.2 IV/day. The mean duration of ovarian stimulation was 9 ± 3 days. In subjects with CC only, 12 patients (60%) had AMH level decreased, 8 patients (40%) were not. In subject with CC + hMG 11 patients (55%) had AMH level decreased, 9 patients (45%) were not. Result showed the decrease in AMH levels was not statistically significant ($p = 0.387$). AMH levels pre-stimulation in group CC only = median 4.8 ng/ml (range 2.2–5.7), post-stimulation = median 4.0 ng/ml (range 2.4–5.6). AMH levels pre-stimulation in group CC + hMG median 3.3 ng/ml (range 1.7–5.2), post-stimulation median 4.0 (range 2.4–5.4).

Conclusions AMH levels decreased following ovarian stimulation with hMG but without statistical significance indicating that ovarian stimulation in IUI cycles has no effect on the ovarian reserve.

Support None.