

Anti-Mullerian Hormone is a Useful Marker for the Assessment of the Treatment Efficiency in Patients with Polycystic Ovary Syndrome (PCOS)

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Context:

Anti-Mullerian hormone (AMH) has been considered as one of the more specific and sensitive markers in the diagnosis and management of PCOS as well as an indicator of the treatment effectiveness.

Objective:

Investigation of the efficiency of OCPs in the treatment of PCOS by assessing serum AMH levels

Methods:

All patients underwent hormonal investigation on day 2 to 5 of menstrual cycle before and after treatment (AMH, follicle-stimulating hormone (FSH), luteinizing hormone (LH), total testosterone (TT), free testosterone (FT), immunoreactive insulin (IRI), free androgen index (FAI), 17 β -OHP, estradiol). On the same day the volume of the ovaries and the number of antral follicles (AFC) were determined on ultrasound. The following methods were used for the statistical analysis: correlation, linear regression, logistic regression. Data was analyzed using statistical analysis programs SPSS 24.0 and Past 3.0. The logistical regression method was used for calculation of the Odds ratio.

Patients:

110 young women (14-30 years) with PCOS were involved in the prospective, open-label study. The diagnosis of PCOS was based on the criteria of Rotterdam Consensus 2003.

Interventions: All patients were treated with OCPs (drospirenone 3 mg/ethinylestradiol 30 μ g) during 3 menstrual cycles.

Main Outcome Measure(s):

Results:

AMH levels were significantly decreased ($p < 0.001$) from 11.89 ± 5.3 ng/ml to 9.94 ± 4.6 ng/ml after treatment as well as a significant decrease in ovarian volume and AFC. The levels of LH, 17 β -OHP, FT and LH/FSH were significantly decreased ($p < 0.001$) after administration of OCPs ($p < 0.001$). The average levels of IRI, FAI and TT did not change significantly, but a tendency of decrease in TT and IRI levels were seen. There were significant positive correlations between pre- and post-treatment AMH and AFC, ovarian volume, FT, LH levels, LH/FSH (pretreatment $p < 0.001$, post-treatment $p < 0.05$). The tendency of the positive correlation between AMH and TT and FAI was detected.

Conclusions:

Treatment with OCPs significantly decreases levels of AMH. AMH seems to be a reliable marker for monitoring efficiency of the treatment in young women with PCOS.

Reproductology