Effects of extended prolonged regimen of combined oral contraceptives on the vaginal enviroment

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Objective: to study the effect of extended prolonged regimen of combined oral contraception (COC) containing 3 mg drospirenone and 20 mg ethinyl estradiol (20 mg EE/3 mg DRSP) on the condition of the vaginal environment and the level of sex hormones in women of reproductive age. The study involved 54 women who need contraception aged from 18 to 45 years. The average age was 27.5±6.8 years. Before and after 6 months of using the COC the state of the vagina was determined by the degree of purity of the vaginal smear, moisture, and acidity (pH), the condition of the vaginal microbiota, as well as the level of sex hormones in blood.

After 6 months of use of COC in extended prolonged mode normal flora with a predominance of lactobacilli was determined; there was a significant in vaginal acidity without change of moisture. Against the background of the use of COC, a significant decrease in the level of estradiol, free testosterone and the index of free androgens, an increase in the level of sex hormone-binding globulin (SHBG) was revealed. A statistically significant correlation between vaginal acidity, the level of estradiol, free testosterone and the index of free androgens, a negative correlation between the level of SHBG were revealed. On the moisture content of the vagina the level of estradiol influenced significantly.

Conclusion. The use of extended prolonged regimen of COC for 6 months contributes to the dominance of lactobacilli in the vagotype, increasing the acidity of the vagina against the background of a decrease in the level of estradiol and testosterone.

Serum concentration of hormones in the control cycle and at the 6th cycle of 20 mg EE/3 mg DRSP extended prolonged regimen

Hormones	Baseline	6th cycle	P
Estradiol, pg/ml	138±53,8	36,4±7,6	<0,05
Total testosteron, nmol/l	0,62±0,3	0,5±0,3	NS
Free testosteron, ng/ml	0,76±0,4	0,07±0,04	<0,05
DHEAS, mkg/dl	262,7±122,2	237,7±77,8	NS
SHBG, nmol/l	73,6±31,2	324,8±78,8	<0,05
FAI, %	1,9±0,9	0,24±0,1	<0,05

Note: DHEAS – dehydroepiandrosterone; SHBG – sex hormone binding globulin;
FAI – free androgen index