

INFLUENCE OF HORMONAL LEVEL IN WOMEN OF FERTILE AGE WITH BACTERIAL VAGINOSIS

Ischenko Irina Viktorovna

Department of Obstetrics and Gynecology, Pediatric Gynecology, assistant
Tashkent Pediatric Medical Institute

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Abstract. *To this day, vaginal infections remain one of the most pressing problems. In recent years, there has been an increase in vaginal infections in many countries. Diseases with a vague clinical picture and a chronic course, caused, in most cases, by microbial associations, in which conditionally pathogenic microorganisms play a leading role, are becoming increasingly important in pathology. In this regard, in recent years, special attention has been drawn to various aspects of bacterial vaginosis, the frequency of which, according to various authors, is increasing annually [1, 2].*

Among the inflammatory processes of the genital organs, infectious diseases of the vagina and cervix have acquired particular significance in recent years. The chronic course of inflammatory processes includes a decrease in colonization resistance of the vaginal and cervical environment, which is largely determined by the normal microflora of the genitals.

Any epithelial cells react to changes in the hormonal environment surrounding them in a similar way, but none of them can compare with the epithelium of the vaginal vault and cervix in the speed and clarity of the reaction to hormones, primarily to sex steroids [7].

The microocenosis of the vagina is influenced by many factors, including sex hormones. The influence of progesterone, as a rule, inhibits the activity of bacterial microorganisms, and the moderate estrogenic influence activates metabolic processes in them and promotes their reproduction. This allows us to talk about hormone-sensitive and hormone-dependent infections (4).

Most of the studies on hormonal changes during inflammation of the genitals are devoted to diseases of the uterus and ovaries.

Keywords: *bacterial vaginosis, reproductive age, hormones, estradiol, progesterone.*

Purpose. The purpose of our study was to study the hormonal status of sick women of reproductive age with bacterial vaginosis.

Materials and methods of research. The studies were carried out on 90 women of reproductive age from 18 to 40 years. The average age was 20 - 35 years. The control group consisted of 24 practically healthy women, of which 11 women were studied in the follicular phase of the menstrual cycle, and 13 practically healthy women in the luteal phase of the cycle. The comparison group consisted of 66 patients with a confirmed diagnosis of bacterial vaginosis, of whom 30 were studied in the follicular and 36 in the luteal phase of the menstrual cycle.

The diagnosis of bacterial vaginosis was confirmed by the clinical picture of the disease using the internationally recognized Amsel criteria and microbiological examination (before antibacterial therapy)

This study included determination of the species and quantitative composition of the microflora of vaginal discharge simultaneously with microscopic examination.

Hormonal status was assessed by studying the content of the sex hormones progesterone and estradiol in the blood serum using ELISA. Since the secretion of sex hormones depends on cyclic changes in the ovaries, the women of the control group and the group with bacterial vaginosis were studied in phases 1 or 2 of the menstrual cycle.

The results of research. Studies have shown that among patients with bacterial vaginosis, 81.2% of women had a decrease in the level of estradiol and 73.9% - progesterone. In the remaining patients, hormonal status was within normal limits

Analysis of the level of detectable hormones in patients with bacterial vaginosis according to the phases of the menstrual cycle indicates (Table) that in women in the follicular phase of the cycle in the blood serum there was a statistically significant decrease in the level of estradiol (0.08 ± 0.01 nmol/l) compared with the data women in the control pear (2.81 ± 0.09 nmol/l and 0.24 ± 0.03 nmol/l, respectively, $p < 0.001$).

The level of progesterone remained at the level of control values ($p > 0.05$).

In women in the luteal phase of the menstrual cycle, there was a decrease in the production of both progesterone (8.61 ± 0.09 nmol/l) and estradiol (0.07 ± 0.02 nmol/l) and they differed significantly from the indicators of women in the group control (45.3 ± 0.09 nmol/l and 0.34 ± 0.04 nmol/l, respectively, $p < 0.001$).

Table

Comparison of hormone levels in different phases of the menstrual cycle

Study groups	Cycle phases	Number of women examined in groups	Hormones nmol/l	
			Estradiol	Progesterone
Control group	Follicular phase of the cycle	11	$0,24 \pm 0,03$	$2,81 \pm 0,09$
	Luteal phase of the cycle	13	$0,34 \pm 0,04$	$45,3 \pm 0,09$
Group with confirmed bacterial vaginosis	Follicular phase of the cycle	30	$0,09 \pm 0,01$	$24,08 \pm 3,02$
	Luteal phase of the cycle	36	$0,07 \pm 0,02$	$8,61 \pm 0,09$

Note: p – reliability compared to the control group indicators

The data obtained indicate that patients with bacterial vaginosis have a hormonal imbalance, expressed in a decrease in the production of progesterone in the luteal phase and estradiol in both phases (follicular and luteal) of the menstrual cycle. In this regard, it is advisable to include estrogen-gestagen drugs in a cyclic mode in the complex therapy of patients with bacterial vaginosis, which will correct these changes and, probably, contribute to a more rapid restoration of normal vaginal microflora during therapy, and a reduction in the frequency of relapses.

Modern estrogen-gestagen drugs, in addition to the main contraceptive effect, have the property of regulating the hypothalamic-pituitary system, helping to restore menstrual function by correcting hormonal disorders, reducing the development of inflammatory processes in the upper section [9].

Of the variety of these drugs, one can note the drug Marvelon, which contains low doses of estrogens (0.03 mg ethinyl estradiol) and a 3rd generation gestagen - desogestrel (0.15 mg).

The results of numerous studies have proven that the use of Marvelon helps reduce inflammatory complications and regulate the menstrual cycle, which was the basis for our attempt to use this drug in our patients in the future.

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