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The effectiveness of alternative non-hormonal therapy of atrophic vaginitis in postmenopausal women.

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Summary. Most women in the peri- and postmenopausal period have atrophic changes in the tissues of the vulva and vagina. Atrophic vaginitis negatively affects the quality of life, sexual desire, and self-confidence. Menopausal hormone therapy with estrogens for atrophic changes is recognized as the "gold standard". For women with contraindications or hormone intolerance, as well as those wishing to avoid hormone therapy, non-hormonal therapy to eliminate local symptoms may be an alternative to the use of estrogens per vaginam and reduce the symptoms of atrophic vaginitis in postmenopausal women.

Keywords: postmenopause, estriol, non-hormonal treatment, menopausal hormone therapy, atrophic vaginitis, genitourinary menopausal syndrome, vaginal health index, dyspareunia, treatment, non-hormonal cream.

Introduction. Taking into account the increase in the life expectancy of women, the problems of estrogen deficiency, affecting all body systems, remain relevant [1]. Most women in the peri- and postmenopausal period have atrophic changes in the tissues of the vulva and vagina. Symptoms of atrophic vaginitis (AV) appear in about half of postmenopausal women, having a potentially negative impact on the quality of life [2-4]. In 2014, a new term was proposed — "genitourinary menopausal syndrome". The change in terminology was caused by the need (1) to recognize the involvement of the lower urinary system in the process of atrophy, (2) to define menopause as an etiological factor, and (3) to avoid negative connotations associated with the term "atrophy" [5].

Atrophic vaginitis mainly occurs after menopause, but can also be observed in women of reproductive age, especially in cancer patients receiving chemotherapy or radiation therapy. AV negatively affects the quality of life, sexual desire, and self-confidence [6]. Women often consider their symptoms as a variant of the norm and do not make active complaints, so the frequency of diagnosis is underestimated, and there is no treatment in such cases [7, 8].

Taking into account the pathogenesis of the disease, estrogen therapy is recognized as the "gold standard" [9]. At the same time, systemic hormone therapy eliminates the symptoms of AV only in a third of cases. The use of local (vaginal) estrogen therapy leads to regression of symptoms [10]. The advantages of local therapy are obvious: the absence of primary metabolism in the liver, minimal effect on the endometrium, low hormonal load, minimal side effects, no additional intake of progestogens is required, there is no systemic effect [11]. Women who have contraindications or hormone intolerance, as well as those who want to avoid

hormone therapy, are shown non-hormonal drugs to relieve local symptoms. Non-hormonal drugs provide temporary relief of symptoms of AV, do not have long-term therapeutic effects, while they are safe, effective and easy to use [12].

The purpose of the study was to evaluate the effectiveness of non-hormonal therapy of atrophic vaginitis in postmenopausal women.

Materials and methods. A comparative study was conducted with 36 postmenopausal patients. Inclusion criteria: the presence of complaints characteristic of AV (47% of patients, n=17); objective signs of AV in the absence of complaints (53% of patients, n=19; AV in such patients was identified based on the index of vaginal health (IVZ)).

Exclusion criteria: severe somatic pathology; inflammatory diseases of the pelvic organs; malignant and precancerous pathology of the uterus, cervix, uterine appendages; sexually transmitted infections; the use of systemic or local menopausal hormone therapy (MHT) for 3 months. prior to the current study; contraindications to MHT.

All patients with AV were divided into 3 groups: group I received an intravaginal cream containing 0.5 mg estriol; group II received a non-hormonal multicomponent herbal cream for intimate hygiene per vaginam with regenerative, antimicrobial, antifungal, antiviral, immunomodulatory, anti-inflammatory and analgesic properties (rejection of hormone therapy was motivated by hormone phobia); group III (control) did not receive treatment (refusal of treatment was motivated by unwillingness to receive any therapy, including the use of per vaginam drugs).

The age of patients was: 52.36±0.58 years in group I, 51.3± 0.86 — in II and 50.67± 0.51 — in III ($p>0.05$). The duration of postmenopause varied from 1 to 3 years. Patients of all 3 groups were comparable in age, duration of postmenopause, duration of the disease, concomitant pathology ($p>0.05$).

Anamnesis was collected, subjective and objective AB criteria were evaluated. For a subjective assessment of the severity of atrophic processes, a questionnaire was used, including questions about the frequency of symptoms, such as emotional instability, sleep disorders, fatigue, dryness, burning, unpleasant odor in the area of the external genitals, dyspareunia.

For an objective assessment of atrophic processes, pH determination and visual assessment of the condition of the vagina were used [13]. The pH was determined using indicator strips. During the gynecological examination, vaginal fluid was applied to the test strip so as to completely moisten the entire surface. After 15 seconds from the moment of application of the vaginal fluid, the color of the test strip was compared with the reference color indicator scale. In a healthy woman, the pH is usually in the range of 3.5–5.5. The pH value in untreated postmenopausal women is 5.5–7.0, depending on age and sexual activity.

The number of conditionally pathogenic microorganisms was determined by the culture method and the polymerase chain reaction method in real time.

The duration of follow-up was 90 days with an interim evaluation of efficacy 20 days after the start of treatment. The effectiveness of therapy was assessed by reducing or eliminating the symptoms of AV, improving the quality of life, increasing vaginal health index and normalizing pH.

To analyze the data obtained, descriptive statistics methods were used with the calculation of the arithmetic mean and its standard error. The nonparametric U Mann—Whitney criterion for two independent samples was used to assess the intergroup differences. The differences were considered significant at $p<0.05$.

Research results. Dynamics of symptoms in the examined patients

In this clinical examination, the results indicating AV and confirming the initial diagnosis were obtained. The survey revealed both complaints characteristic of AV and neurovegetative symptoms of menopausal syndrome (Table 2). It should be noted that in 21-40% of cases, women associated the presence of neurovegetative symptoms with unpleasant sensations, discomfort in the vaginal area.

There were no significant differences in the frequency and severity of symptoms between the groups of patients at the stage of inclusion in the study ($p>0.05$).

In our study, the patients did not complain about other components of the genitourinary menopausal syndrome. This may be due to the fact that there are fewer estrogen receptors in the lower urinary system and vulva than in the vagina [14], and the studied groups of patients (with a postmenopausal duration of 1-3 years) have not yet developed atrophic changes in the vulva, bladder and urethra.

Microbiological examination revealed nonspecific vaginitis and bacterial vaginosis in 57% (n=8), 60% (n=6) and 67% (n=8) of patients of groups I, II and III, respectively ($p>0.05$).

The pH value of the vaginal contents was 6.14±0.08 in group I, 6.02±0.11 in group II and 6.19±0.06 in group III ($p>0.05$). The index of vaginal health is 13.21 ± 0.44, 12.0±0.79 and 12.75± 0.39 in groups I, II and III, respectively ($p>0.05$).

Complaints of discomfort during sexual intercourse, unpleasant odor in the genital area are a natural result of a reduction in the volume of lubricant, glycogen, and beneficial lactoflora. As a result, the pH of the vagina shifts to the alkaline side, against which the conditionally pathogenic microflora is activated and an inflammatory reaction is provoked [15].

All the patients who received treatment tolerated the therapy well and completed a three-month course of treatment. Against the background of the therapy, changes in the subjective and objective criteria of the severity of atrophic processes in the vagina were recorded.

Psychoemotional disorders. Compared with the baseline level, 20 days after the start of treatment, the questionnaire revealed that the frequency of psychoemotional disorders was 3.57 times higher in group III than in group I

(p<0.05), and 1.9 times higher than in group II (p>0.05). After 90 days, the frequency of occurrence of psychoemotional disorders in patients of groups I and II significantly decreased compared to baseline indicators, and was also significantly lower than in group III according to the results of treatment (p<0.05).

Of course, the local use of MHT and non-hormonal drugs does not have a direct effect on the general condition. However, given the objective improvement in the condition of the vagina in patients of groups I and II, it can be assumed that the elimination of atrophic and inflammatory processes in the vagina led to an improvement in the general condition of patients.

In addition, by the time the follow-up was completed (90 days after the start of treatment), 78.57% of group I patients and 100% of group II patients had no complaints of unpleasant odor in the area of the external genitalia (the change compared to the frequency of occurrence at the baseline level was significant, p<0.05), which positively affected the overall the condition of the patients.

Dynamics of pH values. The pH analysis on the background of therapy showed a statistically significant decrease in pH in group I after 20 and 90 days, both in comparison with the baseline level and comparison with this indicator in group III patients. In group II, the decrease in pH showed significant differences when compared with the same indicator in patients of group III after 20 and 90 days (p<0.05), however, the decrease in pH relative to the baseline level was less pronounced (p>0.05). There were no significant differences in the dynamics of pH decrease between groups I and II (p>0.05).

Dynamics of the index of vaginal health. Prior to treatment, the vaginal wall of the patients had low elasticity, a low level of transudate, the surface of the mucous membrane of the wall was inflamed, bled easily upon contact, there were multiple petechiae, the epithelium was thin and loose.

Against the background of therapy, patients of groups I and II had a decrease in the pH of the vaginal contents. After 20 days, the index of vaginal health in group I patients increased by 25.97% (p<0.05), in group II patients — by 23.3% compared to the baseline level (p<0.05). After 90 days, the increase compared to the baseline level was 54.13% (p<0.05) and 57.5% (p<0.05) in groups I and II, respectively. There were no significant differences between groups I and II.

The index of vaginal health in group I after 20 days was higher by 39.6% (p<0.05), after 90 days – by 75.82% (p<0.05) than IVH in group III at similar times. IVH after 20 days in group II patients was higher than in group III patients by 24.16% (p<0.05), after 90 days – by 63.21% (p<0.05).

The results of a bacteriological study after the end of therapy showed the absence of a diagnostically significant number of opportunistic microorganisms in 78% (n=11) and 40% (n=4) of patients of groups I and II, respectively.

A more pronounced decrease in pH in group I patients (local estrogen therapy) was due to both estriol, which is part of MHT, and lactic acid. The biological effect of

estrogens in urogenital disorders, regardless of the method of application, includes proliferation of the vaginal epithelium with an increase in proliferation and differentiation of epithelial cells, which leads to a decrease in pH, an increase in the pool of lactobacilli and an increase in IVH [16]. These changes are accompanied by a decrease in the pH of the vagina and an almost twofold increase in the index of maturation of the vaginal epithelium.

In group II patients, index of vaginal health increased to a greater extent due to such an indicator as "epithelial integrity", due to the regenerating effect of the components of the intimate cream. In addition, positive changes in the vaginal epithelium in group II patients are associated with the presence in the cream of an extract of a number of plants that implement an immunomodulatory and anti-inflammatory effect, an extract of Vitex sacra, which has an estrogen-like effect, as well as the presence of dihydroquercetin, which initiates the synthesis of collagen, elastin, glycosaminoglycans.

Conclusion. Women often consider the symptoms of atrophic vaginitis as a variant of the norm, despite the fact that this condition negatively affects the quality of life, sexual function, etc. Therefore, when working with such a category of patients, it is important to actively use methods that identify atrophic processes. There are several effective methods of atrophic vaginitis therapy, while the standard of treatment is local therapy with estriol. However, for patients for whom hormone therapy is contraindicated, as well as in case of unwillingness to use hormonal drugs, the use of non-hormonal agents, such as a plant multicomponent cream for intimate hygiene, can serve as an alternative, which will preserve the health of postmenopausal women and improve their quality of life.

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