The article was received on August 06, 2021, and accepted for publishing on November 18, 2021.

ORIGINAL ARTICLE

Vulvovaginal atrophy – the impact on the quality of life and self-regard. Review of literature

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Abstract: *Vulvovaginal atrophy is a condition frequently encoutered among menopausal women that often is ignored, remains undiscussed with the physician and the patient adapts the life style is such matter that offers a run from the specific symptomathology. According to the specialized published data, only 25% of the patients with vulvovaginal atrophy receive adequate therapy. The therapeutic perspective is quite extensive but the patient should receive recommendations and try different products until they find one that meets their needs and the one they like best. Proper estrogen therapy leads to a restoration of the acidic, normal vaginal pH, of the vaginal microflora, thickens the epithelium, increases vaginal lubrication and decreases vaginal dryness, also, adverse effects of vaginal estrogen therapy are uncommon. Early active detection of this pathological condition and the provision of an appropriately selected therapy can prevent the progression of the symptomatology and can significantly improve the sexuality of women.*

Keywords: *vulvovaginal atrophy, therapy, quality of life*

INTRODUCTION

Menopause is a physiological condition that occurs in women with an average age of 51 years; 95% of women become climacteric at an age between 45 and 55 years. Characteristic for menopausal period is the marked decrease of the ovarian estrogen production [1]. The vulvovaginal correspondent of this hormonal change is vulvovaginal atrophy. This is the condition that is frequently ignored, undiscussed with the physician and the patient remains in the position where he does not recognize the symptoms and adapts the life style is such matter that offers a run from this pathology. Therefore, most women forget that at 50 years old are young and they prefer to have a precarious sexual life, adopting in the same context the idea of aging.

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The Genitourinary Syndrome of Menopause (GSM) was a term introduced for the first time in 2014 by the International Society for the Study of Women's Sexual Health and the North American Menopause Society [1, 2]. Being defined as the collection of symptoms and signs associated with decreased estrogen and other sex steroids, the GSM includes the totality of atrophic symptoms that can occur in the bladder-urethral area and vulvovaginal area (labia majora/minora, clitoris, vestibule/introitus, vagina) due to the loss of estrogen in the menopausal period. These symptoms include vaginal dryness, burning, pruritus, dyspareunia, vaginal discharge, bleeding/spotting and urinary tract symptoms like dysuria, increased urinary frequency, urethral discomfort and, infrequently, hematuria [3]. In Table 1 the main signs associated with GSM are summarized.

The aspects of the life quality must always be assessed; these include the degree of discomfort, the behavior adapted to the symptoms, the impact of these symptoms on daily activities, sexual life and partner relationship. No matter what management protocol is targeted, this must be

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adapted to the woman's expectations regarding its results [4]. According to the specialized published data, only 25% of the patients with vulvovaginal atrophy receive adequate therapy [5]. One explanation of this is that many patients feel ashamed to discuss intimate complains with a specialist and furthermore, some patients consider symptoms of GMS to be manifestations of the natural aging process and do not seek help for this.

Table 1: Clinical signs associated with GMS

Suggestive signs for GSM	Labia minora resorption or fusion
	Tissue fragility/fissures/petechiae
	Introital retraction
	Loss of hymenal remnants
	Prominence of urethral meatus
	Urethral eversion or prolapse
	Vulvovaginal pallor/erythema
	Loss of vaginal rugae
	Decreased vulvovaginal secretions/lubrication
	Decreased elasticity

Regarding the cascade of events involved in the pathophysiological mechanism, in hypoestrogenic conditions, the vaginal epithelium becomes thinner, the epithelial barrier function is lost, tissue elasticity decreases and the secretory activity of the Bartholin glands decreases, all this leading to trauma to the vaginal mucosa and pain [6].

In addition, under conditions of estrogen deficiency, the balance of the vaginal microbiota is disturbed, pathogenic gram-negative fecal flora and other bacteria prevail in its composition increasing the risk for vaginal and urinary tract infections.

Specific to the sexual intercourse in post-menopause are the following aspects [7]: narrowing of the vulvo-vaginal copulatory space with rigidity of vaginal walls, frigidity in the context of dyspareunia and local injury, maintaining sexual activity is associated with attenuation of the involutional process and decreased sensitivity to erogenous factors with changes in sexual behavior.

In Romania, this problem is even more serious as, for example, in the biggest Hospital of Bucharest with a median of 10,000 hospitalizations per year in the Obstetrics and Gynecology Department, in the last 10 years only about 400 cases of vulvovaginal atrophy, as a secondary diagnosis, were recorded.

Having this data, our aim was to summarize aspects related to the clinical symptomatology, approach and management and highlight the impact of vulvovaginal atrophy of the quality of life.

The extent of the pathology and recommendations

In 2018, the results of a significant study were published [8]. According to this study, which included more than 2000 patients, valvovaginal atrophy affects more than 90% of menopause women, the great majority of them combining a mean of five symptoms. Also, the authors of the same study state that in approximatively 10% of symptomatic cases, the signs of atrophic vulvo-vaginitis can lack. This cases have one advantage as the structural changes can be prevented trough specific topic therapy. Summarizing, the authors highlight the progressive trend of this condition and the great importance of early instituted therapy.

As regards the impact of GMS on the women's daily living, in 2019 Nappi et al [9] published an extensive study including 2160 climacteric, evaluable women in whom, clinical confirmation of vulvovaginal atrophy was possible in more than 90% and over 66% of this patients presented severe vaginal symptoms. Along with the symptomatology adapted questionnaire (EQ-5D-3L) a Day-to-Day Impact of Vaginal Aging (DIVA) questionnaire was used. The results showed a direct relation between the clinical presentation of vulvovaginal atrophy and the impact on the quality of life [6]. In the context of this results, it is to mention that the effect on the life quality of GMS should be regarded as equal to the impact of other conditions on daily activity of patients and treated with the same interest.

The topic regarding sexual activity in menopause is surrounded by reluctance on both sides, clinician and patient. It is a known fact that active sexual function at midlife has a significant positive impact on personal and relational quality and improves longevity. Simon and al [10], recommend as a solution a conversation guide for helping the practitioner to open and direct the discussion and to offer an appropriate treatment to enhance the sexual desire, treat orgasmic dysfunction and attenuate dyspareunia. According to another specific study [11] more than half of all menopausal women suffer from at least one sexual symptom along to other conditions related with hormonal changes. Psychosocial factors should be regarded a solution for maintaining sexual satisfaction and practitioners have to offer adequate counselling and proactively address sexual symptoms from the beginning of the menopausal period.

TREATMENT OPTIONS

Women should try different products until they find one that meets their needs and the one they like best. The first intention is non-hormonal lubricants. Glycerin lubricants can lead to an increased risk of vulvovaginal candidiasis. These products should be used routinely, usually two or three days

a week and not just during sexual activity. Vaginal moisturizer and lubricating therapy appear to be just as effective as vaginal estrogen. These agents improve vaginal comfort, but do not reverse most atrophic vaginal changes. Thus, they are especially useful for women with mild symptoms, and many women with severe symptoms will need hormonal or alternative medications.

Mitchel et al [12] conducted a randomized clinical trial and found that the effect of local hormonal therapy is comparable equal to that of non-hormonal, the differences between case-placebo being minimal. The only statistically significant difference was the slightly better improvement of pain at penetration with low dose-vaginal estradiol. Therefore, local non-hormonal therapy is an extremely effective treatment for symptoms of dryness or vulvovaginal discomfort, tissue fragility, vaginal discharge if the only etiology is hypoestrogenism.

Vaginal estrogen therapy is the first line therapy for GSM that does not respond to vaginal moisturizers and lubricants. Proper estrogen therapy leads to a restoration of the acidic, normal vaginal pH, of the vaginal microflora, thickens the epithelium, increases vaginal lubrication and decreases vaginal dryness. Adverse effects of vaginal estrogen therapy are uncommon. Vaginal estrogen therapy at recommended doses results in the systemic absorption, although to a lesser extent than oral or transdermal estrogen therapy. A higher level of absorption with the initial therapy may be due to the atrophic thin vaginal epithelium. Low-dose vaginal estrogen is the most effective treatment for moderate to severe symptoms of vaginal atrophy that do not respond to non-hormonal intervention. Among patients, discussing hormone therapy causes fear, a phobia, justified on the one hand, but acceptable, and recommended on the other. Thus, successive studies have been conducted on the impact of local, hormonal therapy on chronic heart disease, the risk of thrombotic accidents, and breast cancer. The common conclusion was that the risk in the presence of these diseases outweighs the benefit, regardless of age [13]. However, the amount of circulating estrogen obtained through properly administered vaginal hormone therapy provides a low and constant systemic concentration and can be safely applied for a period of 3 months [14].

A systematic review of 19 randomized trials, including over 4,000 women, investigated topic estrogen treatment and found that creams, vaginal tablets, and rings were equally effective in relieving the symptoms of vaginal atrophy. In the first 2 weeks of use, the daily use of the above-mentioned groups of drugs is recommended, followed by a switch to maintenance therapy with a dose of two to three times a week. Continuous-release vaginal rings are preferred for women for whom daily medication is unacceptable. Vaginal rings are inserted for up to 90 days and can be placed and removed by the patient. The use of vaginal rings is not recommended for women with genital prolapse. It is also necessary to warn the patient about the possible expulsion of the devise. Such a route of administration allows the shunt of hepatic metabolism, which minimizes the risk of adverse reactions specific to systemic estrogen therapy and excludes the effects on the endometrium and breast tissue. So it is not necessary to prescribe progesterone preparations to prevent endometrial hyperplasia and adenocarcinoma. Local estrogen therapy allows the rapid elimination of vulvovaginal atrophy symptoms, but does not relieve the vasomotor symptoms and does not reduce the risk of osteoporosis. The safety of vaginally administered estrogen on the endometrium and breast was successively studied and demonstrated [15, 16, 17, 18]. Estrogen therapy is prescribed after a thorough clinical examination and identification of risk factors for possible complications. The risk of overdose is increased by using vaginal creams. Excessive estrogen levels in postmenopausal women are associated with an increased risk of heart disease, breast cancer, thromboembolic complications and cerebrovascular disease. For women with additional risk factors for any of these complications, it is necessary to refer to another therapeutic method. Low doses of estrogen are preferred for use, as high doses of estrogen at menopausal age is associated with an increased risk of endometrial adenocarcinoma.

Dehydroepiandrosterone (DHEA) is a steroid prohormone obtained through the biosynthesis of testosterone and estradiol. Vaginal metabolism of DHEA leads to the activation of estrogen and androgen receptors in the three layers of the vaginal wall. Due to local inactivation of this prohormone, the increase in serum estrogen and androgen levels is minimal. It was proven by reference clinical trials the local positive effect of intravaginal DHEA on mild and severe dyspareunia [19].

Laser therapy is beneficial trough the enhancement of vascularization of the vaginal mucosa, stimulation of collagen synthesis, the formation of new vaginal papillae, reformation of glycogen stores in the vaginal epithelium, restauration of the balance of the vaginal mucosa and therefore improves the symptoms of atrophy caused by lack of estrogen [20]. Finally, laser vaginal therapy was associated with a significant improvement in quality of life and sexual activity.

From the same new therapy spectrum, platelet-rich plasma injection it is based on the principle of activating and improving the body's natural ability to regenerate. It consists

of the injection of autologous platelet-rich plasma (PRP) into the upper wall of the vagina and clitoris, triggering the multiplication of stem cells and the growth of "younger" tissue. Growth factors released from activated PRP, promote the production of collagen and elastin inside the vagina and around the clitoris, causing an increase in its elasticity, easier stimulation, positive effect on dyspareunia and vaginal lubrication [21].

Vaginal lipofilling is an effective and minimally invasive way to restore tissue volume in both cosmetic and reconstructive surgery. The disadvantages of lipofilling are unpredictability and variable reabsorption rate [22].

Our experience complies with the data presented above; the clinical diagnosis can be established during a simple gynecological examination were the signs of vulvovaginal atrophy can be identified especially in low to moderate cases accompanied by symptomatology (Figure 1), in severe cases were the diagnosis is instantly clear (Figure 2) or in cases in complex case where the signs and symptoms of vulvovaginal atrophy are overshadowed by the underlying pathology (Figures 3 and 4).

Figure 1: Moderate vaginal and cervical atrophy with loss of vaginal rugae, fissures and petechiae (authors' personal collection)

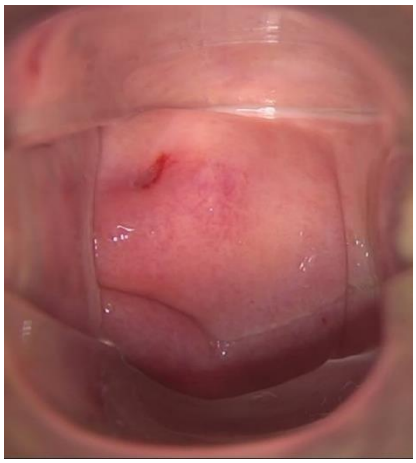

Figure 2: Severe vaginal and cervical atrophy with endocervical squamocolumnar junction, petechiae and tissue fragility

Figure 3: Ignored vulvovaginal atrophy superimposed on a grade 4 cystocele

Figure 4: Severe vulvovaginal atrophy with labia minora resorption and prominence of urethral meatus, six years after a surgically induced menopause for cervix uteri neoplasia, six months after a PRP and topic lubricants.

CONCLUSION

There are several ways to prevent severe vulvovaginal atrophy and to improve postmenopausal sex life. Some recommendations are:

o avoiding overeating, alcohol and spicy foods;
o avoiding smoking;
o psychological support;
o cotton underwear and loose clothing;
o sexually active status improves blood circulation in the

vagina and stimulates natural lubrication;
o sexual activity has no effect on serum estrogen levels. However, by improving blood circulation, it keeps the sexual organs healthier for longer time;
o giving the necessary time for prelude is an important point in maintaining the sexual function;
o the systemic impact of active sex life consists of an increased level of androgens and gonadotropins.

Many women with GSM do not seek medical advice, and clinicians should include questions about these symptoms in the history of menopausal women. The management of symptoms is guided by the patient's symptoms and goals. In the context of atrophic vulvovaginitis, low doses of vaginal estrogen are preferred compared to systemic hormonal therapy. This condition complicates the postmenopausal period in more than half of women worldwide and the manifestations bring discomfort in a woman's daily life, negatively influencing the quality of life and the couple's relationship.

Early active detection of this pathological condition and the provision of an appropriately selected therapy can prevent the progression of the symptomatology and can significantly improve the sexuality of women. A superior positive effect in the treatment of women with vulvovaginal atrophy can be obtained by combining hormonal and non-hormonal methods.

The role of the gynecologist is crucial by facilitating the discussion, recognizing the condition, being sensitive to the impact on sexual activity and quality of life, educating about risk factors and consequences, understanding the needs and expectations, removing barriers, fears, misconceptions, considering all the potential options according to the benefits and risks balance and according to the Psychosocial profile, having the objective to effectively treat VVA, starting early to obtain a better response to treatments and improving long-term adherence.

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