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When Intimacy Hurts: Dyspareunia in Genitourinary Syndrome of Menopause - A Review of Treatment Options

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ABSTRACT

Dyspareunia, defined as pain during or immediately after sexual intercourse, is one of the most common and troublesome symptoms of Genitourinary syndrome of menopause (GSM), affecting a significant number of perimenopausal and postmenopausal women. This paper aims to review and systematize knowledge on pharmacological and non-pharmacological methods of treating this condition, the main cause of which is atrophy of the vulvar and vaginal tissues resulting from estrogen deficiency. An analysis of the available literature indicates that local estrogen therapy remains the gold standard for alleviating symptoms, as it effectively restores the elasticity and lubrication of the epithelium. As alternative therapeutic options, particularly important for patients with contraindications to estrogens, the use of prasterone (DHEA) and oral ospemifene (SERM) is discussed. The paper also presents the role of non-hormonal methods, such as commonly used lubricants and moisturizers as first-line therapy, and hyaluronic acid injections. Attention was also paid to modern laser therapy, which, despite its promising regenerative effects, has not yet been fully approved by scientific societies due to the lack of long-term safety data. The conclusions of the paper emphasise the need for individualised therapy, taking into account the patient's medical history and preferences, which is key to improving the quality of sexual life for women during menopause.

Keywords: dyspareunia, menopause, Genitourinary syndrome of menopause (GSM)

Introduction

Dyspareunia is defined as pain occurring during or immediately after sexual intercourse. It is estimated to occur in approximately 14.8% of middle-aged women (45-64 years old) [1]. Dyspareunia is classified into primary and secondary types, depending on whether the pain occurs at the beginning of intercourse, in which case we refer to primary dyspareunia, or only after a certain time, which we refer to as secondary dyspareunia. It can also be classified according to the location of the painful area: superficial dyspareunia is when the pain occurs in the vulva and vaginal entrance, and deep dyspareunia is when the pain is located in the cervix, bladder, and lower pelvis [1,2]. Dyspareunia is one of the most common symptoms of GSM [3].

Estrogen is a very important hormone in maintaining proper lubrication of the vaginal mucosa and proper elasticity of the vulvar and vaginal epithelium [4].

Its deficiency leads to thinning of the vaginal epithelium, reduced elasticity and decreased glandular secretion, and thus decreased lubrication and increased sensitivity [5]. The resulting symptoms during the perimenopausal period are described by the common term GSM. These symptoms include dryness, itching, burning of the vagina, dyspareunia, and painful urination (dysuria) [6,7].

Sexual dysfunction during the perimenopausal period is also associated with psychological problems in women. Painful intercourse can contribute to avoidance of intimacy, decreased sex drive (libido), decreased self-esteem and tension in the relationship with the partner. Therefore, it is important to take a comprehensive approach to the patient, taking care of both the physical and emotional aspects of sexual health [4].

The aim of this review article is to compare and systematize knowledge on various forms of treatment for dyspareunia as one of the most common symptoms of GSM in women. The topic is important because GSM affects a large proportion of women in the perimenopausal and postmenopausal period, and dyspareunia is one of the most common and burdensome symptoms. Spreading knowledge about the treatment options for this condition can contribute to improving the quality of life of many women.

Materials and methods

A literature search was conducted using the PubMed database. The data sought covered the years 2020–2025. Keywords such as the following were entered: "dyspareunia", "menopause AND GSM", "DHEA AND dyspareunia", "SERM AND dyspareunia", "ospemifene AND dyspareunia", "hyaluronic acid AND dyspareunia", "lubricants AND dyspareunia", "moisturizers AND dyspareunia", "vaginal laser AND dyspareunia". Some works were excluded from the results due to their irrelevance to the topic, as were works with paid access. A total of 31 articles formed the basis of this work.

Clinical evidence

Hormonal methods of treating postmenopausal dyspareunia

The aim of treating symptoms resulting from GSM, including dyspareunia, is to reduce discomfort by restoring or imitating natural vaginal secretion and/or restoring tissue structure and function to a state as close as possible to that before menopause [8].

Estrogen therapy:

Estrogen therapy remains the gold standard in the treatment of GSM symptoms. Estrogen binds to estrogen receptors (ER-α and ER-β) in the vulvar and vaginal tissues, contributes to the growth and maturation of vaginal superficial cells, stimulates the reconstruction of collagen and elastin fibers, and improves blood flow in the tissues, which in turn affects its elasticity and hydration, thereby reducing dyspareunia [9,10].

Many studies show the effectiveness of this form of treatment in reducing pain associated with dyspareunia [3, 6, 11,12].

However, in order to achieve the benefits of the therapy, the duration of treatment is important, as studies have shown that noticeable effects occur only after at least 12 weeks of estrogen use [10]. Therapy begins with the prescription of the lowest effective dose to minimise the risk of side effects [3].

The preferred route of administration is vaginal application due to the reduced risk of serious side effects, such as venous thromboembolism, through local action and avoidance of the first-pass effect [13]. There are various forms of vaginal estrogen, including creams, tablets, gels and suppositories [14].

The most common adverse effects reported by patients in studies included vulvovaginal fungal infections, vulvovaginal itching, breast tenderness and vaginal bleeding [9,10]. The safety of this form of therapy in the context of long-term use remains questionable. Contraindications to estrogen therapy include breast cancer and venous thromboembolism [9].

DHEA therapy:

Dehydroepiandrosterone (DHEA), also known as prasterone, is a natural steroid hormone found in humans. DHEA is produced from cholesterol and is a precursor to other sex hormones: testosterone and estrogens [11,15]. Many studies point to the benefits of using DHEA in patients reporting painful sexual intercourse [11,15,16]. It has been shown to be effective in reducing vulvar and vaginal dryness, as well as pain during intercourse [3]. DHEA has a beneficial effect on the number of epithelial cells and alleviates dyspareunia [17]. Prasterone appears to be a promising alternative to vaginal estrogens [18]. Side effects reported by patients during DHEA use included hirsutism, acne, headaches and voice changes [8,17]. To date, no significant adverse effects requiring discontinuation of therapy have been reported [3]. However, there are still no large-scale studies demonstrating the safety of prasterone in long-term therapy in patients with hormone-dependent cancer [19].

Non-hormonal treatments for postmenopausal dyspareunia

Selective Estrogen Receptor Modulators:

Ospemifene is a selective estrogen receptor modulator (SERM) that binds to estrogen receptors in the vaginal and vulvar epithelium, stimulating vaginal tissue regeneration by increasing the number of superficial cells. It can act as both an agonist and antagonist for estrogen, depending on the target tissues [20,21]. Studies have shown the effectiveness of SERMs in alleviating vaginal dryness and dyspareunia in postmenopausal women [8,19, 22,23]. However, there are also studies in which the beneficial effect of ospemifene in the treatment of dyspareunia was observed, but the results were not statistically significant [20]. Ospemifene is available in the form of oral tablets [18]. Adverse effects reported during the use of this drug include hot flushes, profuse sweating and vaginal candidiasis [8,21]. In addition, several studies indicate an increased risk of venous thromboembolism during the use of this drug [8,18] . Ospemifene appears to be a promising alternative for all perimenopausal and postmenopausal women with a history of estrogen-dependent cancers, due to its non-hormonal nature [21]. Unfortunately, there is still uncertainty about the safety of ospemifene in these women [19].

Vaginal moisturizers and lubricants:

The first-line treatment for women with GSM, including those with painful intercourse, is widely used and available over-the-counter vaginal lubricants and moisturizers [18]. These preparations are usually used for mild symptoms or as an adjunct to hormone therapy to improve therapeutic effects [21]. Vaginal moisturizers are water-based compounds, which are effective in relieving dyspareunia by increasing genital lubrication.

Vaginal lubricants, on the other hand, are preparations based on water, silicone and oil [11]. Lubricants are usually used immediately before sexual intercourse to reduce friction, thereby alleviating symptoms of sexual discomfort [21]. It is worth noting that lubricants and moisturizers do not stop the ageing process of the urogenital system, but they alleviate its anatomical and functional effects, improving the comfort of intercourse and supporting the maintenance of adequate vaginal lubrication [18]. To date, no serious or recurrent adverse effects have been reported in people using lubricants or vaginal moisturizers. One study described vaginal irritation after using these products [8]. The World Health Organization (WHO) indicates that the use of lubricants with a pH and osmolality significantly different from the natural conditions in the vagina may increase the risk of bacterial vaginosis in women [19].

Hyaluronic acid:

Hyaluronic acid (HA) is a polysaccharide from the glycosaminoglycan group, naturally occurring in the human body. It is a compound that binds water in the dermis, thus maintaining proper tissue hydration [24,25]. The safety and efficacy of HA in alleviating the symptoms of dyspareunia in perimenopausal and postmenopausal women has been demonstrated. HA is administered topically in the form of injections, as a gel or suppositories, into the vulva or vagina [22,24,26]. New studies are also emerging that show that HA injections into the vaginal mucosa lead to stimulation of collagen synthesis. However, the exact mechanisms are not yet known. Side effects that have occurred after HA injections include pain at the injection site, as well as vulvar and vaginal pain [25]. Vaginal HA may be a promising non-hormonal therapeutic option for the treatment of GSM, including dyspareunia, but larger and well-designed clinical trials are needed to confirm its similar efficacy to vaginal estrogens [27].

Laser therapy:

Laser treatment is a promising form of therapy. This form has not yet been approved for the treatment of GSM symptoms by the North American Menopause Society (NAMS) and has not been approved by the US Food and Drug Administration (FDA) [19,28]. Since 1959, laser therapies have become increasingly common and are used in many fields of medicine, such as dermatology, aesthetic medicine and dentistry [29]. The mechanism of action of lasers in GSM therapy is based on the controlled induction of microdamage and thermal effects on the vaginal epithelium, which stimulates tissue healing processes, leading to tissue remodelling, increased collagen production, the formation of new blood vessels and thickening of the epithelium [28,30]. Ablative lasers include carbon dioxide lasers (CO_2 lasers) and Erbium:YAG lasers (Er:YAG). Such laser treatment is a convenient and well-tolerated solution for patients, as the procedures are easy to perform on an outpatient basis, and the treatment itself takes 5-10 minutes. They are repeated at intervals of 4-6 weeks, and usually 3 cycles of such treatments are performed. Lasers are used to treat vaginal dryness, vaginal atrophy, dyspareunia, pelvic pain, urinary urgency, and urinary incontinence [30]. Side effects resulting from laser treatments include vaginal discharge and spotting, urinary tract and vaginal infections, burning, and irritation. Patients have not reported any serious adverse effects. In the treatment of dyspareunia in perimenopausal and postmenopausal women, adverse events are rare. Patients also reported symptoms such as erythema, swelling or discomfort immediately after the procedure, but these symptoms resolved spontaneously within 48 hours after the procedure [28-30]. Studies conducted to date have shown a reduction in symptoms of vaginal dryness and

burning, as well as dyspareunia [29]. There is no doubt that there are still too few well-designed, large, randomised studies conducted in this field, mainly in the context of the long-term effects of treatment and its safety [19,31].

Conclusions

Dyspareunia is a common clinical problem in perimenopausal and postmenopausal women and is one of the main symptoms of GSM. Dyspareunia has a negative impact on women's quality of life and is a real problem for them, yet it is still often overlooked, undiagnosed or downplayed in clinical practice.

The gold standard for symptom relief remains vaginal estrogen therapy, which is highly effective in revitalising the epithelium and reducing pain. For patients with contraindications to estrogen use, therapeutic options include prasterone (DHEA) and oral ospemifene (SERM). Lubricants and moisturizers are usually the first-line treatments due to their easy availability and safety. The use of hyaluronic acid can bring results in terms of tissue moisturization and regeneration. Laser (ablative) treatments that stimulate collagen remodelling are becoming increasingly popular, but due to the insufficient number of long-term studies, this method requires further observation.

The most important factor in choosing a therapy is an individual approach to the patient, taking into account the severity of symptoms, oncological history and preferences regarding the route of administration of the drug. Raising awareness of the various treatment options for dyspareunia is essential for improving the quality of sexual life and overall well-being of menopausal women.

Disclossure

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