Vulvovaginal atrophy is a common condition reported by many women, especially during and after the menopause. Women’s Health Consultant Editor, Dr Louise Newson, considers issues around diagnosis and treatment.

Mrs Jones is 74 years old, and has presented to various GPs in the past six months with classical symptoms of a urinary tract infection. She describes increased urinary frequency, burning on micturition and some intermittent urinary incontinence. She has had several MSUs undertaken in the surgery, which have all been normal. Other than being hypertensive, which is well-controlled with ramipril, she is fit and well and not taking any other medication. She is a widow and has not been sexually active for many years.

What would be your next course of action?

Vaginal dryness is prevalent among women of all ages, but is particularly common during and after the menopause. It can present with symptoms many years after the menopause. Vaginal dryness is usually one of many symptoms reported by women because of vaginal or vulvovaginal atrophy (VVA).

The term ‘genitourinary syndrome of menopause (GSM)’ is now sometimes used to describe the genitourinary tract symptoms related to the menopause. The thinking is that such a description of symptoms is more inclusive and user-friendly.1

The impact of vaginal dryness on interpersonal relationships, quality of life, daily activities, and sexual function is often significant.

During the reproductive years, the vaginal epithelium thickens under the influence of oestrogen and produces glycogen. After the menopause, oestrogen levels fall and this produces changes in the vagina. The vaginal mucosa becomes thinner, drier, less elastic and more fragile. The vaginal epithelium may become inflamed.

Reduced oestrogen levels often affect periurethral tissues and contribute to pelvic laxity and stress incontinence.

Epidemiology

The true prevalence of VVA is not known as it is underreported. It is estimated that at least half of postmenopausal women experience vulvovaginal symptoms, most commonly vaginal dryness.

Around 15% of premenopausal women experience symptoms due to VVA. Many women still do not seek professional help or advice regarding their symptoms.2

Atrophic vaginitis can occur following the natural menopause or following an oophorectomy, but can also occur in those women taking anti-oestrogenic treatments, such as tamoxifen and aromatase inhibitors, following chemotherapy or radiotherapy. Some women experience symptoms post-partum and/or during breast-feeding when their oestrogen levels are lower than normal.

Aetiology

The absence of oestrogen stimulation contributes to the loss of mucosal elasticity by inducing fusion and hyalinisation of collagen fibres and fragmentation of elastin fibres. The vagina loses its rugae, the epithelial folds that allow for distensibility, and there is a shortening and narrowing of the vagina. The mucosa of the vagina, introitus, and labia minora becomes thin and pale and the significant reduction of vascular support induces a decrease of the volume of vaginal transudate and of other secretions.

Over time, there is a progressive dominance of parabasal cells with fewer intermediate and superficial cells as a marker of a deprived oestrogen vaginal squamous epithelium, which becomes friable with petechiae, ulcerations, and eventually bleeding after minimal trauma.

With thinning of the vaginal epithelium, there is also a significant reduction of glycogen and, therefore, of the population of lactobacilli, causing an increase in vaginal pH (between 5.0 and 7.5) and a decrease of vaginal hydrogen peroxide that allow the growth of other pathogenic bacteria, including staphylococci, group B streptococci and coliforms. Similar anatomical and functional changes occur in the vulva, as well as in the pelvic floor and within the urinary tract.

Clinical presentation

Women are often unaware that vulvovaginal atrophy is a chronic condition with a significant impact on sexual
health and quality of life, and that effective and safe treatments are available. Oestrogen receptors are present on the vagina, urethra, bladder trigone and the pelvic floor, so a lack of oestrogen can affect all of these areas.

The main symptoms are vaginal and/or vulval dryness, itching or irritation. Women may also experience burning in this area. Sexual intercourse is often adversely affected with pain on penetration, slower response to genital stimulation and post coital cystitis or even bleeding.

Atrophic symptoms affecting the vagina and lower urinary tract are often progressive and frequently require treatment. Unlike hot flushes that usually resolve over time, VVA has a chronic progressive nature throughout the menopausal transition and beyond. It can be common to experience pain or discomfort when having a cervical smear taken.

Other urinary symptoms may include increased frequency, nocturia, dysuria, recurrent UTI, stress incontinence or urgency. Interference with sleep, general enjoyment of life, and even temperament has been reported by around 35% of women in one study.

It is important that women are made aware of the effective treatment available.

Examination
External genitalia may show reduced pubic hair, reduced turgor or elasticity, and a narrow introitus. A vaginal examination may be uncomfortable or painful in women with atrophic vaginitis.

Vaginal examination may show thin mucosa with diffuse erythema. There may be occasional petechiae or ecchymoses and lack of vaginal folds.

Investigations
Investigations are usually not required if the diagnosis is clear and there are no clinical features causing concern.

If there is bleeding or discharge then appropriate, relevant investigations (such as pelvic ultrasound, MSU or swabs) should be undertaken to exclude other causes.

Management
Often treatments are underused, partly because of patient and clinician lack of knowledge of available treatments, and embarrassment about initiating a discussion of symptoms. It is important that women are made aware of the effective treatment available to women with symptoms of atrophic vaginitis.

Evidence suggests that a lack of awareness among women about the physiological changes associated with the menopause and the availability of effective and well-tolerated treatments, reluctance to discuss symptoms with health care professionals, safety concerns, inconvenience, and inadequate symptom relief from available treatments are potential barriers to seeking and using treatment.

A number of different treatments are available. These include vaginal lubricants and moisturisers, vaginal oestrogen and hormone replacement therapy (HRT).

The principles of management are to restore urogenital physiology and to alleviate symptoms. Treatments are hormonal, non-hormonal or a combination of both.

Hormonal treatments
Hormonal treatments work by restoring the vaginal pH, thickening and revascularising the vaginal epithelium, so improving lubrication. They often also help to improve urinary symptoms.

Topical and systemic oestrogens are the most efficacious treatments for atrophic vaginitis. The efficacy of lubricants and moisturisers is generally lower than that with using topical oestrogens, although some experts believe that when they are applied on a regular basis they then have an efficacy comparable with that of local oestrogen therapy.

Topical treatments
There are different preparations available; vaginal creams, slow-release vaginal tablets and vaginal rings. The doses of these preparations is very small as they work locally. They therefore do not have any of the systemic side effects or risk of systemic HRT. There is no evidence that topical oestrogen causes endometrial proliferation after long-term use. There is no need to have concomitant progestogen, as topical oestrogen does not stimulate the endometrium.

There is excellent evidence for the efficacy of topical HRT in the treatment of menopausal atrophic vaginitis. Vaginal symptoms are improved, vaginal atrophy and pH decrease and there is improved epithelial maturation with topical oestrogen preparations compared to placebo or non-hormonal gels.

Oestrogen supplementation subjectively improves urinary stress incontinence, but there is no objective benefit when given alone. However, oestrogen given in combination with anticholinergics may be beneficial in the management of overactive bladder. Treatment with oestrogen has been shown to alleviate the irritative symptoms of urinary urgency, frequency, and urge incontinence, although this effect may be a result from reversal of urogenital atrophy rather than a direct action of oestrogen on the lower urinary tract.

The different preparations of topical HRT are equally effective for treating vaginal atrophy. Vaginal oestrogens can often be effective in patients with urinary urgency, frequency or nocturia, urinary incontinence and recurrent UTIs. Additionally, urge incontinence can be improved in some women by low-dose vaginal oestrogens.

Maximum benefit with these products is felt after around 1-3 months, but it can take a year in some women. These products often need to be given in the long-term to continue to improve symptoms. If symptoms are not improved then the dose can actually be increased. For the majority of women, symptoms return after treatment is stopped.
Menopausal Symptons

Some experts feel that vaginal oestrogens should be made available for women over the counter without the need for a prescription.

**Hormone replacement therapy**

HRT works by restoring the vaginal pH, thickening and revascularising the vaginal epithelium, so improving lubrication. It also helps to improve urinary symptoms.

Systemic HRT is not usually recommended as first-line treatment for women with only vaginal symptoms and no menopausal symptoms. However, around 10-25% of women receiving systemic HRT still have symptoms, and will therefore require topical oestrogen in addition to HRT.

Women receiving hormonal treatment should all be advised to contact their doctor if they experience any vaginal bleeding.

The only contra-indications to use of topical oestrogens are active breast cancer and undiagnosed vaginal or uterine bleeding. They are otherwise safe. The amount systemically absorbed is very low. A year’s supply of topical oestrogen is equivalent to having one tablet of standard HRT. Therefore, even women with a history of breast cancer can be reassured and given this treatment.

If symptoms have not improved with hormonal treatment, then other underlying causes of the symptoms should be considered (eg, dermatitis, vulvodynia).

**Non-hormonal treatments**

Personal lubricants and moisturisers are effective at relieving discomfort and pain during sexual intercourse for women with mild to moderate vaginal dryness, particularly those who have a genuine contra-indication to oestrogen, or who choose not to use oestrogen. Regular sexual activity can be beneficial for many women.

Although personal lubricants and moisturisers have demonstrated effectiveness, they differ in terms of their composition, and certain individual components may be of concern in specific situations. Therefore, it is important to choose the most appropriate lubricant or moisturiser to best suit the needs of the individual patient.

**Lubricants**

A wide variety of personal lubricants are commercially available, either as water-, silicone-, mineral oil-, or plant oil-based products, and are applied to the vagina and vulva (and the partner’s penis if required) prior to sex. These provide short-term relief and they can improve dryness during sexual intercourse. They are particularly beneficial for women whose vaginal dryness is a concern only or mainly during sexual intercourse.

Sylk and YesWB are water-based non-hormonal vaginal lubricants. These are non-staining and are often better tolerated than silicon-based lubricants. Replens MD makes Replens Silky Smooth Lubricant. This is a silicone-based lubricant. Sylk lubricant contains kiwi fruit plant extract, which comes from the vine gum, not the kiwi fruit, so it is safe to use even in those women who have an allergy to kiwi fruit.

**Moisturisers**

These are bio-adhesive so attach to mucin and epithelial cells on the vaginal wall and therefore retain water. They can also lower vaginal pH.

Replens MD, Yes, Hyalofemme, Gynomunal and Regelle are non-hormonal vaginal moisturisers. They should be used regularly and can be used in the long term if they are beneficial. They can actually be used more or less frequently, depending on the severity of the woman’s dryness. They are safe to use daily. These should be used regularly rather than during sexual intercourse.

On further questioning, Mrs Jones describes other symptoms of vulvovaginal atrophy. She has had discomfort and dryness for many years, which had worsened over the past year. She had also experienced worsening nocturia. On examination she had classical signs of VVA with a very pale and dry vulval vaginal mu cosa with some petechiae. She was prescribed topical oestrogen in the form of estradiol vaginal tablets 10mg to use one tablet a day for two weeks followed by one tablet twice a week. She was reviewed three months later and all her symptoms had dramatically improved. She no longer had any urinary symptoms. She was advised to continue on this treatment in the long term. She was also advised to return to the doctor if any of her symptoms returned or if she developed new symptoms.

**Key points**

- Vulvovaginal atrophy is very common
- Many women do not talk about their symptoms and are not receiving treatment
- Oestrogen deficiency often also leads to urinary symptoms developing
- Treatment choices include HRT, vaginal oestrogen, vaginal lubricants and moisturisers
- Vaginal oestrogen should be used in the long term and this is safe
- A combination of treatments is often necessary.

**References**

10. Climacteric. 2015 Apr;18(2):121-34