# Urogenital Atrophy - a silent epidemic

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**Urogenital Atrophy – a silent epidemic** [1]

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Urogenital atrophy describes the multiple changes in urogenital tissues, most commonly due to hypoestrogenism associated with the menopause and ageing. It results in an alteration of the appearance and function of the vulva, vagina, urethra and bladder. The mucosal epithelium becomes thinner and is prone to inflammation and trauma and the collagen fibres in the dermal layer hyalinise and fuse, which in association with fragmentation of elastin fibres, reduces tissue elasticity. These changes can collectively result in pain and bleeding, most notably in association with sexual activity. Most menopausal women are affected by these changes in tissue quality to some degree, and therefore there is a need for better communication and education for women, their partners and their health care providers, to reduce any potential negative effect on sexual function and quality of life[2,3]. Similarly, to optimise clinical outcomes and maximise patient benefit, fit for purpose diagnostic standards should be developed[4].

There are two key research surveys that demonstrate valuable information that could aid in advancing current clinical practices, namely The European REVIVE Survey[5] and VIVA-LATAM[6]. The REVIVE survey was conducted in four European countries including Germany, Spain, Italy and the UK (3768 postmenopausal women between the ages of 45-75 participated), while the VIVA-LATAM survey was conducted in Latin American countries including Argentina, Brazil, Chile, Colombia and Mexico (2509 women aged 55-65 participated). Both surveys were designed to establish awareness of the effect of lack of estrogen on urogenital

tissue quality. Symptoms were frequent and treatment, particularly local hormone therapy was more likely in women who have had a discussion with a health care professional (HCP). Women wanted advice, but it was offered proactively only in a small proportion of cases. The conclusion of both surveys confirms that urogenital atrophy is an under-recognised, under-diagnosed and under-treated chronic condition and they highlight that there is a need for a public awareness and education campaign. Women surveyed in REVIVE felt most concerned about loss of sexual intimacy and youth. This was echoed by the findings in another survey CLOSER[7], a quantitative internet survey, including 8200 individuals from nine different countries, with participation of 500 men and 500 women from the UK. The results of this study highlighted the adverse emotional and physical impact of urogenital atrophy on postmenopausal women and their partners, with vaginal dryness and dyspareunia associated with loss of arousal and desire. The conclusion focussed on the potential benefit of more open communication with affected women, to improve access to treatment and for healthcare providers to initiate the discussion. Another study, the AGATA[8] study, involved 913 Italian women and following clinical assessment in women with symptoms, prevalence of urogenital atrophy was estimated to range between 65-84%. Authors concluded that urogenital atrophy is a common condition, which is underdiagnosed and therefore undertreated. However, a follow up study by the same group, undertaken in a subset of already diagnosed women, demonstrated lack of consistency in the management of the condition from a clinician perspective and lack of compliance from a patient's perspective[9]. This further reinforces the need for education of both the clinicians and women and the requirement of support including a validated objective method of assessment to assist in diagnosis.

The impact of urogenital atrophy on sexual function is determined by a number of factors including a reduction in blood flow to the vulva & vagina with a decrease in vaginal secretions and an adverse effect on neuronal function both of which can alter sensation and sexual pleasure. Some authors have reported nerve density and size to be influenced by dehydroepiandrosterone (DHEA) and androgens, thus explaining the beneficial effects demonstrated with such therapy on postmenopausal sexual function. Sexual intimacy remains an important aspect of relationships for older women and enquiry about symptoms of urogenital atrophy should be routinely included in all consultations about menopause. This would help to remove a major barrier restricting access to treatment for affected women, who find the subject difficult to broach. Other hurdles to accessing treatment include limited research, the cost of treatment and patient fear of treatment options[10].

Reported prevalence rates for urogenital atrophy vary even more widely than the figure quoted for the AGATA study, with 10% - 84%[7] of women going through menopause affected by urogenital atrophy associated symptoms to some degree. Many women accept symptoms as a normal part of aging and thus, may not seek medical help[20]. It is difficult to predict which women will develop urogenital atrophy, with some women unaffected possibly due to genetically determined tissue quality and also possibly due to production of DHEA from the adrenal glands. However, in general the number of women affected increases year on year from menopause onwards due to the progressive effect of estrogen deficiency.

The Stages of Reproductive Ageing Workshop (STRAW)[11]suggested that symptoms of urogenital atrophy are likely to present between three and six years after last menstruation, although this can occur at an earlier time. Some affected women may not associate their symptoms with the menopause, if there is a long period between the cessation of menstruation and the appearance of symptoms. For this reason, it is particularly important that clinicians providing health care to menopausal women proactively ask about common symptoms of urogenital atrophy including vaginal dryness, itching, burning, pain during sexual intercourse and urinary problems.

**Figure 1**

*An illustration of vaginal mucosal histology in (A) Woman suffering from atrophic changes secondary to estrogen deficiency (B) Healthy vaginal mucosa*

Clinical signs of urogenital atrophy

Estrogen is important to preserve epithelial thickness and the vaginal rugae, which are lost due to collagen

breakdown in association with a postmenopausal estrogen deficient hormonal milieu. Estrogen is also responsible for the pink colour and the secretions seen in a normal healthy vaginal mucosa. In addition to the typical pallor, mucosal thinning and a reduction in vaginal secretions, there are other possible clinical signs of urogenital atrophy. There may be discharge and odour due to an overgrowth of vaginal commensal organisms and an increase in vaginal pH (>5).

Other potential changes include an alteration in pubic hair, a reduction in the fat content of the labia majora, the labia minora may undergo resorption and fusion, with the clitoris becoming either lost from view or constantly exposed due to loss of mobility of the clitoral hood and the urethra can become more prominent. The introitus may become deficient, with tissue splitting in the posterior fourchette. The vagina can be shortened with possible obliteration of the vaginal vault and prolapse (cystocele or rectocele).

Clinical examination is of vital importance in women presenting with possible urogenital atrophy, as many other urogenital conditions can also cause similar symptoms. The differential diagnosis includes eczema, psoriasis, lichen sclerosis et atrophicus, lichen planus, vulval intraepithelial neoplasia and cancer.

The International Society for the Study of Women's Sexual Health and the North American Menopause Society agreed in 2014, that a comprehensive diagnostic method to facilitate and standardise the physical examination was needed[12]. However, to date there has been no agreement on a validated standardised means of assessment for use in daily clinical practice.

Treatment options include vaginal lubricants and moisturisers to reduce symptoms of dryness and pain associated with sexual activity. Systemic estrogen in hormone replacement therapy does not always prevent a deterioration in urogenital tissue quality and the best recognised treatment is vaginally delivered estrogen either as estradiol or the weaker estrogen estriol with various product choices. Newer treatment options include DHEA delivered vaginally and a selective estrogen receptor modulator, ospemifene which is taken orally. Both DHEA and ospemifene are used daily. Laser therapy, both CO2 and erbium yag laser are still considered as a research treatment modality in the UK with a call for randomised controlled trials using sham laser as a comparator.

In summary, urogenital atrophy is evidently a very common condition, which places a huge burden on many women. In our opinion, the current evidence indicates the urgent need to develop a comprehensive and robust diagnostic method that is patient centric and equally suitable for use in both clinical and research settings. This will not only facilitate early diagnosis and initiation of the available treatment options but will also support research in to developing new treatment strategies that will benefit millions of women suffering silently from this distressing condition.

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