

Genital aging: why topical hormones are women's best fans

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Background

Genital aging is a multisystemic, "full thickness" process, involving all the components of genital tissues: the skin and mucosae, vessels, nerves, connective and muscle tissue, leading to microscopic and macroscopic anatomic involutive changes. Functional consequences of genital aging affect vaginal ecosystems, sexual and bladder function, the tonus, static and dynamic competence of the pelvic floor, the anatomic relationships of genital organs, predisposing/precipitating genital (uterine/vaginal) prolapse. It contributes to impair women' quality of life, sexuality and erotic relationship. Genital aging begins around the twenties/early thirties and become relevant after the menopause, for the precipitating effect of the loss of sexual hormones, more acutely after surgical menopause.

Aim

Pathophysiology, diagnosis and treatment of genital aging, with focus on:

1. Vulvar aging;
2. Vaginal aging;
3. Sexual consequences of genital aging, including the pelvic floor;
4. Effect of topical sexual hormones in modulating sexual aging and maintaining a better genital and sexual health.

Method

Review of the literature and clinical experience.

Results

1. The clinically objective **vulvar aging** is associated with a significant age-dependent reduction in the content of smooth muscle in the clitoral and vestibular bulb cavernosal bodies: histological evidence indicates that by the age of fifty women have lost on average 50% of the tissue content of their cavernosal bodies. This contributes to age-associated inadequate genital arousal and orgasmic difficulties.

2. **Vaginal aging** translates into anatomic and functional changes. The neurotransmitter Vasoactive Intestinal Peptide (VIP) stimulates the neurogenic transudate production, typical of vaginal sexual arousal. Estrogens are powerful 'permitting factors' for VIP, while androgens are "permitting factors" for the Nitric Oxide (NO), that stimulates the neurogenic congestion of the clitoral and vestibular bulb corpora cavernosa, and partly of the vagina. The reduction in vaginal lubrication is one of the most common complaints of postmenopausal women. When the plasma estradiol concentration is below 50 pg/mL (the normal range in fertile women being 100–200 pg/mL) vaginal dryness is increasingly reported. Physiological studies indicate that after menopause the vaginal pH increases from 3.5–4.5 to 6.0–7.39 owing to decreased glycogen production and metabolism to lactic acid, with modification of the vaginal ecosystem, and an average reduction of vaginal secretions of 50%. In positive, maintaining an active sexual life after the menopause is associated with better vaginal and vulvar trophism: however significantly higher levels of endogenous testosterone and androstenedione have been demonstrated in sexagenarian women with a more active sexual life. Reciprocity between body and psyche is clearly in play in these women.

3. **Sexual consequences of genital aging** include: a) orgasmic disorders, reported in 24% of women during their fertile years and 39% of women after the menopause; b) genital arousal disorders, with vaginal dryness, contributing both to dyspareunia, orgasmic difficulties and secondary loss of sexual desire. In epidemiological surveys, arousal disorders are complained of by 19–20% of premenopausal women, up to 39–45% of postmenopausal sexually active subjects. Post-coital cystitis, that appears 24-72 hours after the intercourse, is worsened by genital aging. The parallel aging of the pelvic floor may precipitate the consequences of delivery-related damages, with worsening stress, urge or mixed incontinence which may affect sexuality for fear or leaking during thrusting (stress inc) or at orgasm (urge inc).

4. **Effect of topical hormones:** a) Topical or systemic testosterone may improve orgasmic disorders associated with aging and/or loss of sexual hormones, specially after bilateral ovariectomy. Evidence on **topical testosterone**

treatment is scant. Clinical experience suggests that topical (vulvar) treatment with testosterone propionate powder (1% or 2%) in 100 gr of vaseline, applied in a minimal quantity to the vulva (once a day for the first two months, then two/three times/wk according to the sexual response) may improve the clitoral/cavernosal arousal and orgasmic response. Treatment should be monitored as testosterone is avidly absorbed by vulvar tissue. b) **topical vaginal** treatment (with estradiol and estriol) restores the vaginal trophism, normalizes the ecosystem, improving the quality of vaginal lubrication in resting and aroused conditions, reduces urge incontinence and post-coital cystitis and vulnerability to dyspareunia (but may predispose to Candida infections in vulnerable women). Given the safety profile, topical hormones are the first line treatment to genital aging and its anatomic and functional consequences.

Conclusion

Genital aging is precipitated by the menopausal loss of sexual hormones. Topical hormones offer a range of anatomic and functional benefits with minimal risks. They should really be considered women's best friend long after the menopause.