

## News from Good Life

At Good Life Pharmacies, we care about our patients and want to provide you with quality information about your health. If you ever have questions or would like more information, please feel free to ask. We look forward to caring for you and your family.



Sincerely,

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## Current Treatment Options for Postmenopausal Vaginal Atrophy

Reduced circulating estrogen concentrations adversely affect the elasticity and the collagen synthesis in the vulvovaginal tissue and the growth of the vaginal epithelial lining, resulting in vaginal atrophy in postmenopausal women. Objective signs of vaginal atrophy are petechiae, friability, vaginal discharge, the presence of a dry and pale vaginal mucosa and loss of the rugae of the vaginal wall.

The subjective symptoms such as vaginal dryness, irritation/itching, dysuria, dyspareunia and post-coital bleeding, usually start in the late perimenopausal period and worsen over time as vaginal atrophy progresses. Women might experience symptoms of vaginal atrophy without any objective signs of atrophy, and, conversely, women may have clear atrophic signs without any symptoms. Some women may also experience urinary tract symptoms, such as urgency, increased micturition frequency, and recurrent urinary tract infections.



About 40% of post-menopausal women experience severe symptoms with a subsequent reduction in quality of life and sexual performance, yet only 20–25% of women seek medical advice. Some patients regard the symptoms of vaginal atrophy as manifestations of the natural aging process and do not seek help. However, there are now various options for treating this pathological condition, including systemic and topical hormone replacement therapy, selective estrogen receptor modulators, vaginal dehydroepiandrosterone, vaginal oxytocin, lubricants and moisturizers, as well as non-drug therapies. Timely diagnosis and appropriate therapy can lead to restoration and maintenance of the vaginal function and vaginal health.

## Topical Oxytocin for Postmenopausal Vaginal Atrophy

Oxytocin is a napeptide hormone which is synthesized in the hypothalamus and secreted by the posterior pituitary gland. Oxytocin is also produced locally in certain types of epithelial and endothelial cells. Kallak and Uvnas-Moberg found that oxytocin stimulates cell proliferation, suggesting that it is one of the mechanisms of action by which local oxytocin increases vaginal thickness and relieves vaginal symptoms in post-menopausal vaginal atrophy. Oxytocin also increases the rate of wound healing, mucosal blood flow and transport of nutrients as well as stimulation of secretion of several growth factors and induction of mitosis in several cell types. In a pilot study by Jonasson et al., the administration of topical intravaginal oxytocin gel resulted in improvement of vaginal atrophy in the study group, as assessed by histological examination. Al-Saqi et al. performed a double-blind, randomized, controlled study and found that intravaginal oxytocin treatment can be an alternative to hormonal treatment for vaginal atrophy.

A very important finding was that intravaginal application of oxytocin did not stimulate the growth of the endometrium. This is in contrast to intravaginally applied estrogen, which, following absorption into the circulation, may stimulate endometrial growth. Furthermore, oxytocin might be of value in women who have estrogen-dependent types of cancers, as oxytocin has not been shown to stimulate growth of cancer cells.

A prospective randomized controlled trial by Torky et al. tested the effectiveness of intravaginal oxytocin gel for improving vaginal atrophy in postmenopausal women. A total of 140 postmenopausal women who presented with vaginal atrophy and who satisfied the inclusion and exclusion criteria were randomized into two groups of 70 patients each; they received intravaginal oxytocin gel (600 IU / 1 ml) or placebo gel at bedtime for 30 days. Serum estrogen level, visual, colposcopic and histological vaginal examination were performed before and after treatment.

Forty-seven out of 70 women in the oxytocin gel group improved after treatment and none in the placebo group improved. Forty-five participants in the oxytocin group and seven in the placebo group reported relief of dyspareunia. Thirty-four participants in the oxytocin group and seven in the placebo group reported relief of soreness. There was no significant difference between the circulating levels of estradiol in both groups before and after treatment.

The study concluded that oxytocin intravaginal gel is useful in the restoration of the vaginal epithelium in cases of postmenopausal atrophic vaginitis. Further studies with a longer follow-up period are required to test the long-term effects of oxytocin as a treatment for vaginal atrophy.

# Topical EGCG Ameliorates Radiation-Induced Acute Skin Damage in Breast Cancer Patients

There are few effective treatment options for radiation-induced dermatitis in breast cancer patients. Despite technological advances, acute radiation skin toxicity (ARST) is the most common side effect of breast cancer radiotherapy, occurring in more than 90% of patients. Complications such as pain, discomfort, irritation, itching, and burning-feeling may cause restriction in movement, unplanned treatment interruptions, and a decreased chance of getting an effective dose. These issues might reduce patients survival rates, as well as their quality of life.

Epigallocatechin-3-gallate (EGCG) facilitates the healing process in ultraviolet radiation-induced erythema in human skin. It has been demonstrated that EGCG enhances viability of human skin cells and decreases apoptosis induced by X-ray irradiation.

Zhu et al. conducted a phase I study which demonstrated that topical administration of EGCG is safe, and that the recommended concentration is 660  $\mu\text{mol/L}$  during skin radiation. They then did a prospective study as a single-institution phase II trial to assess the effectiveness of EGCG as a topical agent for treatment of ARST, and to evaluate the radiation-induced dermatitis outcomes in women who underwent mastectomy followed by adjuvant radiotherapy. Forty-nine patients participated in this study.

The treatment with EGCG solution was given to all patients undergoing RT immediately after grade I toxicity was documented. The EGCG solution (660  $\mu\text{mol/L}$ ) was sprayed by the same investigator three times a day at 0.05 ml/cm<sup>2</sup> to the whole radiation field from a distance of 10-20 cm from the skin, for two weeks after radiation completion. The skin folds, such as armpits required full stretch and exposure before spraying. Patients were advised not to use deodorants, lotions, creams, perfumes, or any other products on the area during the course of radiation therapy

The maximum dermatitis observed during the EGCG treatment was as follows: Grade 1 toxicity, 71.4% (35 patients); grade 2 toxicity, 28.6% (14 patients); there were no patients with grade 3 or 4 toxicity. The majority of the radiation-induced dermatitis was observed 1 week after the end of radiotherapy. EGCG reduced the pain in 85.7% of patients, burning-feeling in 89.8%, itching in 87.8%, pulling in 71.4%, and tenderness in 79.6%. These findings suggest topical EGCG may be an effective treatment for radiation-induced dermatitis and has acceptable toxicity.

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