

The Mortar & Pestle:

MD Custom Rx's monthly e-newsletter

November 2019



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MDCustomRx.com

Greetings!

Thank you for entrusting in the compounding services at MD Custom Rx to help meet the unique medication needs of your patients. We are excited to share our monthly newsletter with you and look forward to continuing to be your medication problem solvers. Please don't ever hesitate to let us know how we can be of further assistance to you and your practice.



Sincerely,
Dan, Monica and John

Estrogens and Cognition: Is There a Window of Therapeutic Opportunity?

The prevalence of Alzheimer's disease (AD) is higher for women than men, possibly influenced by sex-dependent effects of the estrogen. The Cache County Study, conducted by researchers from Weill Cornell Medical College, New York, examined the association between estrogen and cognitive decline in over 2,000 older adult women in a 12-year population-based study in Cache County, Utah. The baseline sample included 2,114 women (mean age = 74.94 years) who were dementia-free at baseline and completed a women's health questionnaire, asking questions regarding reproductive history and hormone therapy (HT). Endogenous estrogen exposure (EEE) was calculated taking the reproductive window (age at menarche to age at menopause), adjusted for pregnancy and breastfeeding. HT variables included duration of use, HT type (estrogen with or without a progestogen), and time of HT initiation. A modified version of the Mini-Mental State Examination (3MS) was administered at four triennial waves to assess cognitive status.



EEE was positively associated with cognitive status. In addition, longer duration of HT

use was positively associated with cognitive status. Older women had greater benefit compared with younger women. Women who initiated HT within 5 years of menopause had higher 3MS scores compared with those initiating HT 6-or-more years later. HT initiated in later life may be associated with increased risk.

Conclusion: ***The results suggest that longer EEE and HT use, especially in older women, are associated with higher cognitive status in late life.***

[Neurology. 2012 Oct 30;79\(18\):1846-52](#)

[Menopause. 2019 Oct 14. \[Epub ahead of print\]](#)

Ask our compounding pharmacist about the benefits of customized hormone therapy.

Boric Acid Enhanced with EDTA Shows Antifungal Activity Against Vaginal *C. albicans* and *C. glabrata*

Biofilms are microbial communities of surface-attached cells embedded in a self-produced extracellular matrix. They are of major medical significance because they decrease susceptibility to antimicrobial agents and enhance the spread of antimicrobial resistance. Biofilm-associated bacterial and fungal microorganisms have increasingly been recognized to play a role in multiple infectious diseases. More recently, biofilms have also been implicated in vaginal infections, notably bacterial vaginosis (BV) and vulvovaginal candidiasis (VVC), particularly in the setting of treatment failure and recurrence.

A Boric Acid-based vaginal anti-infective enhanced with EDTA has been studied for the treatment of lower genital tract infections, with established antibacterial/antifungal activity, specifically significant reductions in *C. albicans* and *C. glabrata* CFUs within 24 hours of the first dose. By 72 hours following the third dose, a 99.99% reduction in potentially harmful microorganisms was achieved. Greater inhibition of *Candida sp.* was demonstrated with Boric Acid enhanced with EDTA (compared to Boric Acid alone) by the second dose and the difference was sustained through the final test interval. EDTA acts as a chelator, allowing permeabilization of cell membranes, and potentiating Boric Acid against biofilms.

Conclusion: ***Boric Acid enhanced with EDTA holds promise as a non-azole vaginal anti-infective with novel antibiofilm properties.***

[Open Forum Infectious Diseases. 2015 Dec; 2\(S1\):791](#)

[Clin Infect Dis. 2015 Aug 15;61\(4\):601-6.](#)

Current CDC recommendations for recurrent vulvovaginal candidiasis (VVC) and bacterial vaginosis (BV) include compounded Boric Acid vaginal preparations. Our compounding pharmacy can compound Boric Acid 30%/ EDTA 0.5% vaginal gel using bases that increase contact time of the drugs and inhibit biofilm formation in the vaginal mucosa.

The water-soluble base preparation is formulated without irritants and improves moisturization. The base has excellent stability even in low pH formulations.

Ask us for more information about customized vaginal preparations that are not commercially available.

Menopausal Hormone Therapy: Relevance to Dermatology

Menopause is a state of estrogen deficiency that affects the skin through accelerated collagen breakdown, decreased elastin, dehydration, and impaired wound healing. Loss of collagen results in skin that lacks tone and is more able to stretch and expand. Low estrogen levels are also associated with decreased water retaining capacity of skin tissues, resulting in dry and itchy skin, which leads to a more fragile skin riddled with deeper and more numerous wrinkles.

Hirsutism, especially facial hair gain, was shown in 39% of menopausal women, with the chin being the most common site (32% of women). This may be related to an increased impact of androgens on hair follicles. Diffuse generalized hair loss is the most frequent type of scalp hair loss in 26% of post-menopausal women. Frontal hair loss was also shown in 9% of postmenopausal women.

Female androgenetic alopecia, also known as female pattern hair loss (FPHL), has a peak incidence following menopause with a prevalence of up to 29% in women aging between 70 and 89 years. Some have theorized that the effects of dihydrotestosterone on hair follicles contributes to the development of FPHL, which is supported by cases that women with hyperandrogenism may develop early-onset FPHL. The increased prevalence of FPHL especially in postmenopausal women indicates the possible role of estrogen in its pathogenesis; but there is still conflicting evidence on whether estrogens inhibit or promote hair growth.

Estrogen deficiency is also detrimental to wound healing, specifically in inflammation and re-granulation, whereas exogenous therapy can reverse these effects. Keratoderma climactericum was originally reported as having a particular association with menopause. Its main features involve hyperkeratosis of soles and palms, specifically at level of the heels, at the beginning of menopause.

Postmenopausal women may experience cutaneous alterations resulting in dry, itchy, thin, and fragile skin. Several studies suggest bioidentical hormone therapy (BHT) may alleviate these symptoms, increasing cutaneous hydration and reducing skin atrophy. Although BHT is used for its anti-aging effects on skin, more research needs to be conducted in order to evaluate the actions and side effects of specific hormones and safely extend the use of BHT in dermatology.

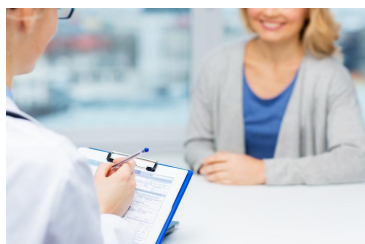
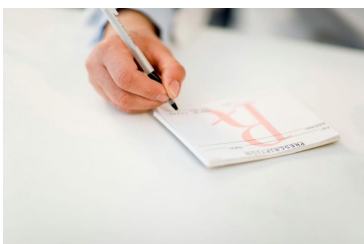
[Dermatology Journal Online. 2019 January; 25\(1\)](#)

Compounding pharmacists can personalize therapy based on a patient's hormone levels, lifestyle, and symptoms. Hormones can be prescribed in lower doses and the best dosage form for delivery via the optimal route. Our compounding pharmacist works together with patients and health care practitioners to determine the most appropriate formulation for each individual.

Your questions are always welcome.

MD Custom Rx Educational Events

We regularly offer educational events at the pharmacy. Be sure to share our events with your patients. **VISIT OUR WEBSITE** to see our schedule and to register. If you are interested in speaking on a topic, please contact the pharmacy.



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At MD Custom Rx, we strive to provide the best quality of care. Your comments are important to us and they will help us to continue to improve the services we provide.

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