Blog - Bioidentical Hormone Replacement Therapy (BiHRT) and Why I Should Care

A Foreword

Patients and providers alike have been misled for over twenty years about the risks and benefits of hormone replacement therapy (HRT). Most providers and medical organizations are still not using BiHRT/HRT correctly and are depriving patients of safe and effective treatment options. No other currently available option, aside from lifestyle changes, can enhance your quality of life and decrease your risk of dying as effectively as BiHRT/HRT.

What is Bioidentical Hormone Replacement Therapy (BiHRT) and How is it Different from Conventional Hormone Replacement Therapy (HRT)?

- Bioidentical hormones are "compounds that have exactly the same chemical and molecular structure as hormones produced in the human body." These typically come from plants and are modified in a lab. The term is used to describe preparations containing either progesterone or one or more of three estrogens—estradiol (the predominant estrogen in premenopausal women), estrone, and estriol (the main estrogen produced during pregnancy). These can be compounded, or a small portion is available pharmaceutically. They are often referred to as “bioidentical,” “body identical,” or “natural” and tend to be safer and better tolerated.
- An example of a conventional hormone is Premarin, which is synthesized from the urine of pregnant mares and contains a mix of estrogens (some unique to horses), steroids, and various other substances. Progestins such as medroxyprogesterone acetate and norethindrone acetate are also examples of synthetic hormones. These are not the exact structure of human hormones and can come from natural and unnatural sources. These are termed “synthetic” and are less safe, less effective but are FDA-approved and more widely covered by insurance.

What are the Benefits of BiHRT and/or HRT?

Estradiol:

- E2 has been shown to have protective factors against heart disease, stroke (1, 2), osteoporosis (3), Alzheimer’s disease (4), memory disorders (5), vaginal atrophy, urinary incontinence, UTIs, macular degeneration (6), cataracts (7), and breast and colon cancer (8, 9).
- It is commonly used to treat menopausal hot flashes and mood disorders.

Progesterone:

- Bioidentical progesterone is important for menopausal, perimenopausal, premenopausal, pregnant, and postpartum women.
- It has been shown to reduce bloating, headache, cyclical migraines, PMS, perimenopause and menopause symptoms, bleeding, fibroids, breast soreness, insomnia, anxiety, infertility, and miscarriages.
- It moderates many side effects of excess estrogen. Progesterone is synergistic with estrogen’s effect on bone and lipids; it is antagonistic to estrogen in the breast and uterus.

Testosterone:
- When done correctly, testosterone can improve well-being, energy, strength, endurance, body composition, bone density, and sexual function.
- It has bene shown to lower cholesterol and improve all lipid parameters, thus decreasing the risk of cardiovascular disease (10).
- Additionally, testosterone can lower insulin resistance, lower incidence of syndrome X, and improve metabolism.

What are the Side Effects of BiHRT and/or HRT?
Estrogen:
- Synthetic estrogens, including Premarin (conjugated equine estrogen) and the estrogens in birth control, increase clot risk (though the risk is small). Estradiol does not (especially if given transdermally).
- Estradiol can cause breast tenderness, abnormal or breakthrough bleeding, and fluid retention from too much estrogen or increased sensitivity. These issues are typically mediated by lowering the dose and balancing with adequate progesterone.
Progesterone:
- Provera (medroxyprogesterone acetate, MPA) increases inflammation and is the reason the WHI told women that "hormones cause cancer." Progesterone does not. It has anti-breast cancer activity (similar to testosterone).
- Progesterone can cause drowsiness, so it is suggested to be taken before bed.
Testosterone:
- In women, testosterone can most commonly cause abnormal hair growth and acne. This can be managed with medications, dosage adjustment, or discontinuing therapy altogether. Another concern is clitoromegaly, a condition where the clitoris becomes enlarged. This condition is benign but not preventable. Lowering or discontinuing THT may reverse clitoromegaly, but not in everyone.
Water Retention:
- With testosterone, this may occur due to aromatization into estrogen (mostly only in men), which increases thirst and sodium absorption. Testosterone also stimulates muscle growth, which can cause water retention, typically improving within a few months.
- Estrogen interacts with the brain to elicit thirst and the renin-angiotensin-aldosterone pathway to increase sodium absorption in the kidneys.
- Bioidentical progesterone typically improves water retention associated with unopposed estrogen or estrogen therapy by blocking the mineralocorticoid receptors, limiting how much salt and water are reabsorbed by the kidney. Synthetic progestins do not.

Does Testosterone Replacement Therapy Increase the Risk of Heart Attacks?
- No. This misconception came from a study published in 2014 that concluded older men and younger men with pre-existing diagnosed heart disease had an increased rate of heart attacks. However, there was no control group, and the researchers “selected men who filled a first prescription… [and] did not have data on how much of the prescribed medication was consumed” (11).

- In fact, several studies found that TRT reduces the risk of heart attack, stroke, and all-cause mortality rates by as much as 50% (12). Additionally, TRT can reduce insulin resistance, reduce visceral fat, improve lipids, reduce blood pressure, and reduce inflammation (13, 14).

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