## The Long and Misunderstood History Of Hormone Replacement Therapy

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In the 1980s and 1990s the number one prescription medication in the United States was the estrogen-based menopausal treatment, Premarin. For decades, women with symptoms of menopause found improved quality of life with hormone replacement.

In 2002, everything changed. A specific drug called Prempro—a combination of a synthetic estrogen and a synthetic progestin—was found to cause an increased risk of breast cancer in women taking it over long periods of time. The result of these findings was widespread reduction of the use of hormone replacement, and the common—but misinformed—belief that hormone replacement therapy was "unsafe."

The problem? At the time, there were substantial flaws in the original interpretation of the study's results. Most importantly, discussions over the results made no distinction between the *synthetic* and *natural* forms of hormone treatment.

Around this same time, another hormone was being assessed for use in menopausal women with sexual disorders: testosterone. While perhaps surprising, it is important to understand that testosterone is the dominant hormone in women. In fact, women have about 20 times more testosterone than estrogen. All estrogen in women is synthesized from testosterone or a testosterone-like hormone. Without testosterone, there is no estrogen. In the early 2000s, the medical community knew that testosterone could be used to improve sexual disorders in women; but we were quite unclear on how dominant of a hormone testosterone was.

So, in 2004, researchers in Australia studied the effects of adding testosterone "pellets" to conventional hormone replacement therapy. A testosterone pellet is testosterone compressed into a tiny grain of rice-like pellet that is inserted painlessly underneath the skin.

In this study, researchers noted remarkably reduced incidences of breast cancer in women taking testosterone in addition to conventional hormone replacement therapy, when compared to women taking conventional hormone therapy alone or taking no hormone replacement therapy at all. The study revealed that testosterone can suppress breast cell proliferation and the presence of breast cancer. Additionally, testosterone was found to improve the common symptoms of menopause. [1]

A 10-year study done in the United States reported similar results in 2013. Preliminary findings showed that using testosterone alone, without any other hormone placement therapy, not only improved all symptoms of menopause in women, but also resulted in a substantial reduction in expected breast cancer rates.

According to the study, use of testosterone pellets without estrogen or progesterone significantly improved patients' quality of life and all symptoms related to menopause, including hot flashes, sleep disorder, depression, irritability, anxiety, physical or mental exhaustion, sexual and bladder problems, vaginal dryness, and joint and muscular discomfort. Relief of these symptoms was achieved without any major adverse drug effects, and most significantly, women experienced 50–70% reduction in expected rates of breast cancer. [2]

Most recently, in early 2017, a case report evaluated the response of a breast cancer (stage II) that was treated for roughly 1½ months with testosterone, prior to any chemotherapy treatments. In a very short period of time the cancerous tumor shrunk by approximately 50%. When chemotherapy was added, the tumor disappeared completely, and a follow-up surgery failed to find any residual tumor.[3]

For 15 years, study after study has shown that testosterone replacement can safely relieve symptoms of menopause in women and reduce their chances of breast cancer. Moreover, there is evidence that expected rates of breast cancer recurrence with testosterone replacement are substantially lower than traditional chemotherapy.

Despite the facts, testosterone replacement for women continues to be misunderstood. The simple truth is: there are ways for doctors and health-care providers to use hormone replacement therapy to not only safely manage menopause, but reduce the numerous health risks associated with aging. It is time for all women to understand their options when it comes to seizing control of their quality of life.

- [1] "Breast cancer incidence in post menopausal women using testosterone in addition to usual hormone therapy". Dimitrakakis et al. Menopause, Vol. 11, No. 5, 2004
- [2] "Reduced breast cancer incidence in women treated with testosterone..." R.L. Glaser, C. Dimitrakakis / Maturitas 76 (2013) 342–349
- [3] "Subcutaneous testosterone-letrozole therapy before and concurrant..." Menopause: The Journal of The North American Menopause Society, Glaser et al. Vol. 24, No. 7, 2017

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