Breast Cancer, Hormones, and Aromatase Inhibitor Therapy

Women's Wellness Center | Columbia Hormone Health

Misunderstandings About the "Hormone-Fed" Cancer

Breast cancer is often described as a "hormone-fed tumor," but this label is misleading. About 85% of breast cancers are estrogen receptor positive (ER+), meaning they can respond to estrogen, not that estrogen *causes* them. Decades of research have revealed no conclusive evidence that estrogen initiates breast cancer. On the contrary, the evidence suggests that well-managed hormone therapy is protective against breast cancer formation.

Depletion of Sex Hormones is Harmful for Lifelong Health and Wellbeing

When thyroid or insulin levels drop, replacement therapy is standard care. Yet, the same logic is often denied for sex hormones — despite the fact that their loss leads to serious health consequences down the line:

- Arterial plaque formation → Heart attack and stroke
- Neurodegeneration → Dementia
- Bone loss → Osteoporosis and fracture
- Metabolic inflammation → Cancer and chronic disease
- Sexual and mental health decline → Reduced quality of life

How Breast Cancer Develops and Grows

The transformation of a normal breast cell into a malignant one involves complex, still-unclear processes. Once the malignant change takes place, the abnormal cells often still have estrogen receptors. Estrogen in the body is produced by ovaries and within other tissues through **aromatase**, an enzyme that converts testosterone into estrogen. In estrogen sensitive breast tumors, local cells around the cancer begin overproducing aromatase, leading to high estrogen levels inside the tumor itself—effectively an internal estrogen "factory."

It is this localized estrogen, not normal circulating levels, that may fuel growth of an existing tumor. Most breast cancers occur after menopause, when circulating estrogen is low to nonexistent. Thus, physiologic (normal) hormone levels—whether natural or provided by hormone therapy—**are not the cause of cancer.** It is the *absence* of estrogen that increases risk of breast cancer and other conditions, as stated above.

Aromatase Inhibitors (AIs): Therapy to Reduce Tissue Production of Estrogen

Given the effect of aromatase to dramatically increase estrogen levels produced in tumor tissue, drugs called **aromatase inhibitors (AIs)** have been developed to block the action of aromatase, with the goal of halting tumor growth. **Anastrozole (Arimidex)** is the name of one aromatase inhibitor, FDA approved for treatment of ER+ breast cancer, and often prescribed for risk reduction in women at high risk for breast cancer.

It's important to understand that by the time a breast tumor is detected, it has already been present for several years, even up to 20 years. When AI therapy such as anastrozole is prescribed, it is under the presumption that an early, yet undetected tumor may be present, and anastrozole is expected to slow or stop tumor progression.

The Problem with Aromatase Inhibitors as Conventionally Prescribed

Aromatase inhibitors block estrogen production not only in tumor tissue, but in *all* tissues – except premenopausal ovaries. In postmenopausal women, this blockage results in **total estrogen depletion**, leading to adverse effects such as muscle/joint pain, headaches, hot flashes, insomnia, vaginal dryness. Intolerance often results in stopping AI therapy.

A newer delivery method for AI, as a **subcutaneous pellet**, allows steady, low-dose release directly into the circulation. This bypasses the liver, therefore requires only **1/20th of the oral dose**, which is well tolerated, with no side effects.

Add-Back Hormone Therapy Provides Relief

When estrogen production is suppressed with AI therapy, bioidentical **testosterone** can be provided to restore balance — known as **add-back hormone therapy**. Testosterone has been shown to have protective effects on breast tissue through

binding to androgen receptors, reducing tissue proliferation, potentially limiting breast cancer growth. Testosterone also reduces inflammation and improves bone health, muscle mass, mood, energy, libido, and overall well-being.

With these benefits in mind, combination pellets of **Testosterone + Anastrozole (T+A)** have been developed and studied by researcher Rebecca Glaser, MD. She has published her findings in *The Dayton Study* of 1,267 pre and postmenopausal women over a 15-year period, reporting a 47% lower breast cancer incidence in subjects treated with either testosterone implant alone, or T+A implant.

T+A pellets provide a dual benefit — suppressing excess estrogen and tumor growth, while supporting overall health and wellness with testosterone. These specialized pellets are available through compounding pharmacies with consistent quality and long-term safety data.

In most cases, low dose bioidentical **estradiol** can be added back as well. Of the many studies examining breast cancer recurrence with use estrogen therapy, most found either no change in incidence or a *reduced* incidence of breast cancer recurrence. A meta-analysis of 15 studies comparing breast cancer survivors who used hormone therapy post cancer treatment with those who didn't, found 10% fewer breast cancer recurrences among hormone users, and a lower 7-year mortality rate (4.5%) with hormone therapy than without hormone therapy (17.9%).

Bioidentical **progesterone** can also be a source of relief during AI therapy, providing improved sleep and calming of the brain. Progesterone's effect on breast tissue is to stabilize, not cause proliferation and growth. There is no evidence that bioidentical progesterone promotes cancer incidence or cancer recurrence; and a large meta-analysis has reported that bioidentical progesterone lowers the risk of breast cancer.

True Recovery and Prevention Should Focus on Whole-Body Health.

- Breast cancer treatment should not ignore the rest of your body.
- Suppressing estrogen without replacing vital hormones is designed to protect one tissue at the expense of many others.
- Pellet implant of anastrozole with add-back hormone therapy allows women to tolerate AI treatment safely while protecting the heart, brain, musculoskeletal system, and emotional wellness.
- ***The goal is not just survival—it's living well.***

FAQ's on Aromatase Inhibitor Therapy

Q: My oncologist recommended *anastrozole* to reduce breast cancer recurrence risk, but told me I must stop hormone therapy. I feel terrible without it — Is it safe to use hormone replacement while taking anastrozole?

A: Yes. Remember, no natural hormone causes cancer. If you wish to avoid estrogen while using anastrozole, then testosterone and/or progesterone therapy can safely control many menopausal symptoms. Testosterone has *anti-proliferative* (protective) effects on breast tissue. When delivered as a subcutaneous pellet (with or without anastrozole), it binds to androgen receptors throughout the body to relieve menopausal symptoms such as fatigue, mood changes, and loss of libido. Combined Testosterone + Anastrozole pellet therapy prevents conversion of testosterone to estrogen, allowing hormone balance without increasing estrogen**.** Bioidentical progesterone is also safe during AI therapy, and supports sleep and calm.

Q: If I use testosterone therapy *without* an aromatase inhibitor, could aromatase convert too much testosterone into estrogen and increase cancer risk?

A: No — not in normal tissue. Excess aromatase activity occurs inside tumor cells, not throughout the body. Healthy hormone levels — whether produced naturally or restored with therapy — do **not trigger excess aromatase** to fuel cancer growth. Testosterone has been shown to independently **protect breast tissue** by binding to androgen receptors within normal and cancer cells, limiting abnormal cell growth. Historically, high dose testosterone was even used to **treat breast cancer**, and was shown to induce the regression of metastatic disease.

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