Cleveland's Center for Healing
HYPERION™
Functional Medicine



BREAST CANCER

Endocrine disrupting compounds or Xenoestrogens are rampant in our environment and are a contributor to breast cancer. Xenoestrogens have estrogen-like effects that can mimic natural estrogens in the body and alter the body's ability to affect estrogen metabolism normally. Xenoestrogens are synthetic industrial chemicals. Xenoestrogens include:

- Solvents/lubricants
- Byproducts from plastics (bisphenol A, BPA)
- Plasticizers (phthalates)
- Flame retardants (polybrominated diphenyl ethers, PBDEs),
- Pesticides (dichlorodiphenyltrichloroethane, DDT)
- Pharmaceutical agents (diethylstilbestrol, DES).

Xenoestrogens are serious environmental hazards that have hormone-disruptive effects on both wildlife and humans. Everyone should avoid these environmental hazards, breast cancer patients taking palbociclib/ letrozole should consider limiting their exposure to foods that contain xenoestrogens as these endocrine disrupting compounds affect the effectiveness of treatment[1]. Contaminated foods are fish, cow's milk dairy products including cheese and milk, nonorganic/grass fed hamburger, and nonorganic poultry as they are among the most contaminated food sources. A certified nutritionist experienced in oncology nutrition should be consulted for the best diet plan for breast cancer and all cancer patients. A strong focus is placed on organic non-chemically contaminated foods in our prescribed diets for cancer patients in the Hyperion functional oncology cancer treatment program through our nutrition program.

A targeted detoxification plan is very important in anyone with cancer. Specific bacteria found in the gut metabolize circulating estrogen and ready it for detoxification[2]. There are estrogen metabolites that are significant contributors to cancer. Some of these bacteria in your gut produce an enzyme called beta-glucuronidase, this enzyme helps reabsorb estrogen into the blood and ready it for detoxification . When the gut bacteria are not balanced as with G.I. dysbiosis, beta-glucuronidase's activity can be impacted. High Beta glucuronidase levels indicate possible estrogen toxicity. These levels to be evaluated readily with a stool test that Hyperion Functional Medicine orders for every breast cancer patient. More importantly, the diversity of the microbes in the intestinal microbiome can also influence the balance of estrogens[3].

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When G.I. dysbiosis not identified and treated it can lead to imbalances between different forms of estrogen in the body, which may be toxic and lead to the development of estrogen-related pathologies and chronic diseases including cancer.

Signs and symptoms of estrogen imbalance because of xenoestrogen toxicity include:

- Bloating and digestive upset
- Acne
- Low libido
- Heavy, light, or irregular periods
- Tender, swollen, and/or fibrocystic breasts.
- Headaches
- Weight gain
- Hot flashes
- Mood swings
- Polycystic ovarian syndrome (PCOS)

Xenoestrogens accumulate in fat tissues, leading to altered metabolism, increased appetite, obesity, and excess fatty tissue accumulation in the body,. Exposures to organochlorine pesticides, phthalates, and PCBs is linked with insulin resistance and an increased risk of developing Type 2 diabetes. Insulin resistance and hyperinsulinemia are strong cancer risk factors that need to be addressed[4]. Testing, prescribed supplements impacting estrogen toxicity, medications, and diet prescribed in the Hyperion functional oncology treatment program addresses insulin resistance and hyperinsulinemia in breast cancer patients. Xenoestrogens can also interfere with thyroid hormone production, signaling, and thyroid receptors. Xenoestrogens can lower sperm count in men and contribute to infertility.

Because of the disruption of estrogens and their metabolites in breast cancer, Hyperion functional medicine offers our patients the DUTCH Complete test by Precision Analytical, it measures other forms of estrogen and estrogen metabolites not routinely measured in blood or saliva testing and standard of care testing that can contribute to cancer[5]. Based on results, we optimize detoxification of toxic estrogen metabolites through specific supplement prescriptions and diet. Optimizing estrogen detoxification and metabolism can have a significant impact on your breast cancer healing journey. Standard of care oncology treatment programs do not follow this platform in breast cancer patients.

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[1]https://www.europeanpharmaceuticalreview.com/news/71629/xenoestrogen-breast-cancer/.
[2]Ervin SM, Li H, Lim L, Roberts LR, Liang X, Mani S, Redinbo MR. Gut microbial β-glucuronidases reactivate estrogens as components of the estrobolome that reactivate estrogens. J Biol Chem. 2019 Dec 6;294(49):18586-18599. doi: 10.1074/jbc.RA119.010950. Epub 2019 Oct 21. PMID: 31636122; PMCID: PMC6901331.
[3]Goedert JJ, Jones G, Hua X, Xu X, Yu G, Flores R, Falk RT, Gail MH, Shi J, Ravel J, Feigelson HS. Investigation of the association between the fecal microbiota and breast cancer in postmenopausal women: a population-based case-control pilot study. J Natl Cancer Inst. 2015 Jun 1;107(8):djv147. doi: 10.1093/jnci/djv147. PMID: 26032724; PMCID: PMC4554191.
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[5]Santen RJ, Yue W, Wang JP. Estrogen metabolites and breast cancer. Steroids. 2015 Jul;99(Pt A):61-6. doi: 10.1016/j.steroids.2014.08.003. Epub 2014 Aug 26. PMID: 25168343.