



HYPERTHYROIDISM

Women with a history of hyperthyroidism may be at increased risk of breast cancer

BACKGROUND

High level of estrogen may increase the number of cells in breast cancer. Prior laboratory experiments have shown that high levels of thyroid hormone may have the same effect.

However, the observational and population-based studies have not support this idea consistently. Three previous studies showed higher risk of breast cancer for women who have had hyperthyroidism and one showed higher risk for women with hypothyroidism and high TPO antibody levels; while a review from 2012 did not show any relationship between hypothyroidism and breast cancer.

This study was done to assess any possible association between hyperthyroidism, hypothyroidism and breast cancer risk.

THE FULL ARTICLE TITLE

Søgaard M et al. Hypothyroidism and hyperthyroidism and breast cancer risk: a nationwide cohort study. *Eur J Endocrinol* 2016;174:409-14.

SUMMARY OF THE STUDY

This study was performed in Denmark, using the information from Danish National Patient Registry (containing records of hospitalizations since 1977, clinic and emergency room visits since 1995) and Danish Cancer Registry (containing breast cancer records; information about estrogen receptor status of the breast cancers was available since 1997). 4,177,429 women lived in Denmark between 1978 to 2013. Women with hyperthyroidism and hypothyroidism were identified by diagnosis codes used by doctors.

A total of 621,873 women were identified with hypothyroidism and 80,434 women were identified with hyperthyroidism in the study period. In the hyperthyroid group, the rate of breast cancer was slightly above the expected level and in the hypothyroid group it was slightly lower. The results were not different when factors like alcohol consumption, existence of other medical problems, obesity, stage of breast cancer and presence of estrogen receptors on breast cancer cells were considered in each group.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This is a large scale study showing that women with hyperthyroidism may have a slight increased risk of breast cancer. However, more research is needed to make sure that this result is not due to other factors that might be common in hyperthyroidism and breast cancer. If there is a connection between breast cancer and hyperthyroidism, it is also important to study whether treatment of hyperthyroidism has any effect in lowering the risk of breast cancer. For now, it is important for patients with hyperthyroidism to follow their doctor recommendations regarding mammography and other screening tests for breast cancer.

— Shirin Haddady, MD

ATA THYROID BROCHURE LINKS

Hypothyroidism: <http://www.thyroid.org/hypothyroidism/>

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ABBREVIATIONS & DEFINITIONS

Hypothyroidism: a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.

Hyperthyroidism: a condition where the thyroid gland is overactive and produces too much thyroid hormone. Hyperthyroidism may be treated with anti-thyroid medications (Methimazole, Propylthiouracil), radioactive iodine or surgery.

**HYPERTHYROIDISM**, continued

Estrogen: the main female hormone. Estrogen levels are increased during pregnancy.

TPO antibodies: these are antibodies that attack the thyroid instead of bacteria and viruses, they are

a marker for autoimmune thyroid disease, which is the main underlying cause for hypothyroidism and hyperthyroidism in the United States.

Thyroid Awareness Monthly Campaigns

The ATA will be highlighting a distinct thyroid disorder each month and a portion of the sales for Bravelets™ will be donated to the ATA. The month of April is **Hashimoto's Disease Awareness Month** and a bracelet is available through the [ATA Marketplace](#) to support thyroid cancer awareness and education related to thyroid disease.

