



GRAVES' DISEASE

Association of Graves' disease with thyroid cancer

BACKGROUND

Graves' disease is the most common cause of hyperthyroidism. There are 3 options to treat Graves' disease – antithyroid medications, surgery and radioactive iodine therapy. The choice of therapy depends on a variety of factors, including patient and physician preference. One factor that may affect the treatment decision is that some patients with Graves' disease also have thyroid nodules and a few will be diagnosed with thyroid cancers. In general, thyroid nodules are noted in more than 50% of the population, with only about 5% of these nodules being cancers. Some studies have suggested that thyroid cancer is uncommon in patients with Graves' disease, while others suggest that thyroid cancers are more common in this population. This study examines the data from many previous studies to do what is called a meta-review to try to clarify whether the presence of thyroid nodules in the patient with Graves' disease was a risk factor for thyroid cancer.

THE FULL ARTICLE TITLE

Papanastasiou A et al 2019 Thyroid nodules as a risk factor for thyroid cancer in patients with Graves' disease: a systematic review and meta-analysis of observational studies in surgically treated patients Clin Endocrinol (Oxf) 91:571–577. PMID: 31369161.

SUMMARY OF THE STUDY

The authors searched for publications regarding patients with Graves' disease who had surgery (either near total or total thyroidectomy) for their hyperthyroidism and where pathology results were noted. After starting with 1240 observational studies identified, only 7 met the criteria

set for the meta-review and included 2582 patients. They compared the prevalence of thyroid cancer in patients with nodules vs patients without nodules. Overall, the finding of thyroid cancer varied significantly in the studies from 3.8 to 29.2%, with an average of 11.5%. When nodules were noted prior to surgery, 22.2% ultimately had thyroid cancer, compared to only 5% in patients who did not have nodules noted before surgery. The risk for thyroid cancer was similar if patients had more than one nodule compared to only one nodule.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study suggests that thyroid cancer is often found in patients with Graves' disease who also have thyroid nodules and who are treated with surgery. However, there are some limitations to the study that need to be taken into consideration. All the studies looked back at the results of patients who had surgery and the presence of a concerning nodule may have played in the decision which patients ultimately went to surgery as treatment for their Graves' disease. In addition, there is no information on how many of these cancers were what is called "microcarcinomas", which are very common and are likely not to be clinically significant, or how many cancers were in glands that did not have a clinically apparent nodule. Still, this study suggests that if a nodule is present, surgery may be the best option for definitive treatment of Graves' disease. Also, this does point out the need to evaluate nodules in patients with Graves' disease and to biopsy nodules that have suspicious characteristics on ultrasound.

— Marjorie Safran, MD

ATA THYROID BROCHURE LINKS

Graves' Disease: <https://www.thyroid.org/graves-disease/>

Thyroid Nodules: <https://www.thyroid.org/thyroid-nodules/>

Thyroid Surgery: <https://www.thyroid.org/thyroid-surgery/>





GRAVES' DISEASE, continued

ABBREVIATIONS & DEFINITIONS

Meta-review: a study that combines and analyzes the data from several other studies addressing the same research questions.

Thyroid nodule: an abnormal growth of thyroid cells that forms a lump within the thyroid. While most thyroid nodules are non-cancerous (Benign), ~5% are cancerous.

Hyperthyroidism: a condition where the thyroid gland is overactive and produces too much thyroid hormone.

Hyperthyroidism may be treated with antithyroid meds (Methimazole, Propylthiouracil), radioactive iodine or surgery.

Graves' Disease: the most common cause of hyperthyroidism in the United States. It is caused by antibodies that attack the thyroid and turn it on.

Papillary Microcarcinoma: a papillary thyroid cancer smaller than 1 cm in diameter.

