



THYROID EYE DISEASE

Cholesterol lowering medications and thyroidectomy may reduce the risk of thyroid eye disease

BACKGROUND

Graves disease is an autoimmune disease caused by antibodies that attack and turn on the thyroid, leading to hyperthyroidism. Some patients with Graves' disease can develop eye problems, known as thyroid eye disease. Thyroid eye disease can range from mild to severe and can be very hard to treat. This study was done to try to figure out which patients may be more likely to develop thyroid eye disease. A large database of patients was used to identify patients with a new diagnosis of Graves' disease and/or thyroid eye disease and then information was collected about their treatment. Patients with Graves' disease can be treated with medications, radioactive iodine ablation or thyroidectomy. Medication data was also collected to analyze whether patients taking anti-inflammatory medications or a family of drugs used to treat high cholesterol, called statins, could affect the risk of getting thyroid eye disease.

THE FULL ARTICLE TITLE

Stein JD et al. Risk factors for developing thyroid-associated ophthalmopathy among individuals with Graves disease. *JAMA Ophthalmol.* December 11, 2014 [epub].

SUMMARY OF THE STUDY

The Clinformatics database (Optum) was used to get information on patients with newly diagnosed Graves' disease and thyroid eye disease. Of the 8404 patients identified with Graves disease, 740 (8.8%) developed

thyroid eye disease. Those who developed thyroid eye disease were younger with an average age of less than 45 years old. They found that of the patients who had a thyroidectomy as the only treatment or in addition to radioactive iodine ablation, the risk for developing thyroid eye disease was decreased by 74% compared by those patients who were treated with radioactive iodine therapy only. In addition, patients with TSH level >7mU/L had an increased risk for thyroid eye disease than those with TSH level <7 mU/L. Lastly, they found that patients taking statins had lower risk for developing thyroid eye disease than those who did not take statins. There was no effect of other cholesterol lowering medications or of any anti-inflammatory medication.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This is an interesting study suggesting that thyroidectomy and statin use may decrease the risk of developing thyroid eye disease in patients with Graves' disease. Patients should be aware of these findings and discuss the treatment options for Graves' with their physician. At this point, there is not enough information to recommend starting therapy in patients with thyroid eye disease.

— Wendy Sacks, MD

ATA THYROID BROCHURE LINKS

Graves' disease: <http://www.thyroid.org/what-is-graves-disease>

ABBREVIATIONS & DEFINITIONS

Autoimmune thyroid disease: a group of disorders that are caused by antibodies that get confused and attack the thyroid. These antibodies can either turn on the thyroid (Graves' disease, hyperthyroidism) or turn it off (Hashimoto's thyroiditis, hypothyroidism).

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.

Thyroid eye disease (TED): also known as Graves ophthalmopathy. TED is most often seen in patients with Graves' disease but also can be seen with Hashimoto's thyroiditis. TED includes inflammation of the eyes, eye muscles and the surrounding tissues. Symptoms include dry eyes, red eyes, bulging of the eyes and double vision.



THYROID EYE DISEASE, continued

Thyroidectomy: surgery to remove the entire thyroid gland. When the entire thyroid is removed it is termed a total thyroidectomy. When less is removed, such as in removal of a lobe, it is termed a partial thyroidectomy.

Radioactive Iodine (RAI): this plays a valuable role in diagnosing and treating thyroid problems since it is taken

up only by the thyroid gland. I-131 is the destructive form used to destroy thyroid tissue in the treatment of thyroid cancer and with an overactive thyroid.

Statins: a family of cholesterol lowering medications. Statins are the most common therapy for high cholesterol medications.