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THYROID EYE DISEASE

A validated tool can predict risk of developing thyroid eye disease during antithyroid drug treatment of Graves' Disease

BACKGROUND

Over-activity of the thyroid gland, called hyperthyroidism, can sometimes be caused by a flaw in a person's immune system (the body's natural defense system again infection). This problem is a type of autoimmune disorder called Graves' disease. In addition to thyroid gland over-activity, Graves' disease causes eye problems in some people, including eye bulging, loss of color vision, double vision, eye pain and dry eyes.

Not everyone diagnosed with Graves' disease will develop eye problems. Identifying people diagnosed with Graves' disease who do develop eye disease is important, however, because early treatment may make these eye problems less severe. The goal of this study is to identify which people diagnosed with Graves' disease will eventually have eye problems. Such people could then be treated for these eye problems before these problems become severe, and possibly irreversible.

THE FULL ARTICLE TITLE

Wiersinga WM et al 2018 Predictive score for the development or progression of Graves' orbitopathy in patients with newly diagnosed Graves' hyperthyroidism. Eur J Endocrinol 178:635–643. Epub 2018 Apr 12. PMID: 29650691.

SUMMARY OF THE STUDY

This study started with 348 men and women living in Europe who had just been diagnosed with Graves' disease. Treatment for hyperthyroidism was started in these 348 people and they were then tested for development of new eye problems over the next 18 months. To try and understand why eye problems happen in Graves' disease, the people in this group who did develop eye problems during this18 month time period were compared to the people in the group who did not develop new eye problems.

The study identified 53 people who developed eye problems from the starting group of 348 people with Graves' disease. Comparing these 53 people with new eye problems to those in the group who did not develop new eye problems showed that eye problems were associated with Graves' disease if:

1. A person already has eye problems at the time their Graves' disease is discovered.
2. A person diagnosed with Graves' disease is a cigarette smoker.
3. The immune system flaw that causes Graves' disease is more active in a person diagnosed with Grave's disease.
4. If Graves' disease is not discovered early (a person with Graves' disease does not receive prompt treatment).

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study identified 4 findings that could predict which people with Graves' disease will or will not develop eye problems. This testing showed that these 4 findings are most useful for identifying Graves' patients who will not develop eye problems – if absent, a person with Graves' disease is very unlikely to develop eye problems. On the other hand, these 4 findings were found to be less good at predicting which people diagnosed with Graves' disease will develop eye problems. This study is important because it helps identify those people with Graves' disease who are unlikely to develop eye problems avoid associated unneeded testing, and possibly unneeded treatment.

— Jason D. Prescott, MD PhD

ATA THYROID BROCHURE LINKS

Hyperthyroidism (Overactive): https://www.thyroid.org/hyperthyroidism/

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

THYROID EYE DISEASE, continued

ABBREVIATIONS & DEFINITIONS

Autoimmune disorders: A diverse group of disorders that are caused by antibodies that get confused and attack the body's own tissues. The disorder depends on what tissue the antibodies attack. Graves' disease and Hashimoto's thyroiditis are examples of autoimmune thyroid disease. Other Autoimmune disorders include: type 1 diabetes mellitus, Addison's disease (adrenal insufficiency), vitiligo (loss of pigment of some areas of the skin), systemic lupus erythematosus, pernicious anemia (B12 deficiency), celiac disease, inflammatory bowel disease, myasthenia gravis, multiple sclerosis, and rheumatoid arthritis.

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.