



AUTOIMMUNE THYROID DISEASE

Children and adolescents with Hashimoto’s thyroiditis or Graves’ disease are at increased risk for autoimmune gastritis

BACKGROUND

Autoimmune thyroid disease occurs when proteins produced by the body’s immune system (antibodies) get confused and attack the thyroid. If the antibodies block or destroy the thyroid, hypothyroidism developed, called Hashimoto’s thyroiditis. If the antibodies turn on the thyroid, hyperthyroidism results, called Graves’ disease. Patients with autoimmune thyroid disease are at risk of having another autoimmune disorder, for example type 1 diabetes, rheumatoid arthritis or celiac disease, although most patients only have the thyroid involved. One such autoimmune disorder that occasionally occurs in patients with autoimmune thyroid disease is autoimmune gastritis, a chronic inflammatory condition in which parietal cells of the stomach are destroyed by antibodies. Patients with autoimmune gastritis have problems with iron and vitamin B12 absorption. A decrease in vitamin B12 uptake can lead to pernicious anemia (low red blood cell) and problems with their nerves. The presence of parietal-cell antibodies can be used to screen for autoimmune gastritis. The current study examined the presence of parietal-cell antibodies in children with autoimmune thyroid disease and the development of autoimmune gastritis.

THE FULL ARTICLE TITLE

Calcaterra V et al 2019 Anti-gastric parietal cell antibodies for autoimmune gastritis screening in juvenile autoimmune thyroid disease. *J Endocrinol Invest*. Epub 2019 Jul 1. PMID: 31264142.

SUMMARY OF THE STUDY

Parietal-cell antibodies were measured in children at an Italian medical center at time of diagnosis of their

thyroid disorder and then followed yearly. Patients testing positive for parietal-cell antibodies underwent further testing to confirm the diagnosis of autoimmune gastritis. The study included 220 children with autoimmune thyroid disease and a majority of this patients had Hashimoto’s thyroiditis while the rest of the patients had Graves’ disease. The average age at diagnosis was ~11 years. Participants were followed for an average of ~7 years. At diagnosis, 1 patient had parietal-cell antibodies. During an average monitoring period of 2.7 years, parietal-cell antibodies were detected in 10 patients. The likelihood of detecting parietal-cell antibodies was not different based on the thyroid diagnosis (Hashimoto’s thyroiditis compared to Graves’ disease). Overall, 5 of 10 patients positive for parietal-cell antibodies had abnormal lab findings such as low iron levels, low vitamin B12 levels, and/or anemia (low red blood cells). The remaining 5 patients with positive parietal-cell antibodies and normal lab findings and no stomach symptoms underwent endoscopy (evaluation of the digestive tract) and were diagnosed with autoimmune gastritis.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study suggests that children with Hashimoto’s thyroiditis or Graves’ disease are at increased risk for the development of parietal-cell antibodies, B12 deficiency and autoimmune gastritis. The authors suggest screening and testing for parietal-cell antibodies in children and adolescents with Hashimoto’s thyroiditis or Graves’ disease.

— Priya Mahajan, MD

ATA THYROID BROCHURE LINKS

Thyroiditis: <https://www.thyroid.org/thyroiditis/>
Graves’ Disease: <https://www.thyroid.org/graves-disease/>





AUTOIMMUNE THYROID DISEASE, continued

ABBREVIATIONS & DEFINITIONS

Antibodies: proteins that are produced by the body's immune cells that attack and destroy bacteria and viruses that cause infections. Occasionally the antibodies get confused and attack the body's own tissues, causing autoimmune disease.

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).

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.

Pernicious anemia/B12 deficiency: caused by antibodies that destroy the cells in the stomach that produce a protein that is needed for the body to absorb vitamin B12, causing a severe anemia (low blood count).

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.

Hashimoto's thyroiditis: the most common cause of hypothyroidism in the United States. It is caused by antibodies that attack the thyroid and destroy the gland.

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.

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