



GRAVES' DISEASE

Chronic potassium iodide therapy caused remission in about half of Graves' patients who had side effects while taking antithyroid drugs

BACKGROUND

The most common cause of hyperthyroidism is Graves' disease. The cause of Graves' disease is antibodies that attack and turn on the thyroid, producing hyperthyroidism. If the antibodies go away, the Graves' disease goes into remission and thyroid function returns to normal. The antithyroid drugs Methimazole and Propylthiouracil are effective in controlling the hyperthyroidism in patients with Graves' disease but can produce allergic responses. When that happens, the only other options are surgery to remove the thyroid or radioactive iodine therapy to destroy the thyroid.

Stable iodine has been used to treat hyperthyroidism for over a century. Because many patients escaped from the beneficial reduction of thyroid hormone levels and their hyperthyroidism became worse while taking iodine, iodine was abandoned as a long-term therapy. This study examines the results of long-term therapy of Graves' disease with potassium iodide in patients who could not use antithyroid drugs because of side effects.

THE FULL ARTICLE TITLE

Okamura K et al Remission after potassium iodide therapy in patients with Graves' hyperthyroidism exhibiting thiouamide-associated side effects. *J Clin Endocrinol Metab* 2014;99:3995-4002. Epub August 21, 2014.

SUMMARY OF THE STUDY

During the 20-year period from 1981 to 2001, 1388 patients with Graves' hyperthyroidism were treated with antithyroid drugs at Kyushu University, Japan. About 15% of these patients had side effects requiring discontinuation of therapy and 44 of them were treated with potassium iodide in daily doses that varied from 13 mg to 800 mg daily. After 1996, the dosing of potassium iodide became standardized. Patients remained on potassium iodide

therapy for years, then stopped it to determine remission of the Graves' disease. If they remained in remission for 2 years, they were in the remission group; otherwise they were in the nonremission group.

A total of 37 of the 44 patients were women and the average age was 40 years. A total of 29 patients (59%) became euthyroid at a median of 35 days, but 17 of them continued the KI for about 7 years. There were no significant side effects of the therapy, other than hypothyroidism in 5 patients that was treated with thyroxine. Altogether, 24 patients went into remission and 20 patients did not. Remission was found in 71% of the patients whose hyperthyroidism was controlled on a dose of less than 200 mg KI but in only 29% of those requiring over 200 mg of KI.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Potassium iodide therapy was effective in two thirds of hyperthyroid patients with side effects to antithyroid drugs. About 40% of patients experienced remission after potassium iodide therapy alone, but the chance of remission was small among those whose hyperthyroidism did not respond to potassium iodide. While Methimazole and Propylthiouracil are the mainstays of drug treatment for Graves' disease, this study shows that potassium iodine can be an option for some patients who cannot tolerate antithyroid drugs.

— Alan P. Farwell, MD

ATA THYROID BROCHURE LINKS

Hyperthyroidism: <http://www.thyroid.org/what-is-hyperthyroidism>

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



GRAVES' DISEASE, continued

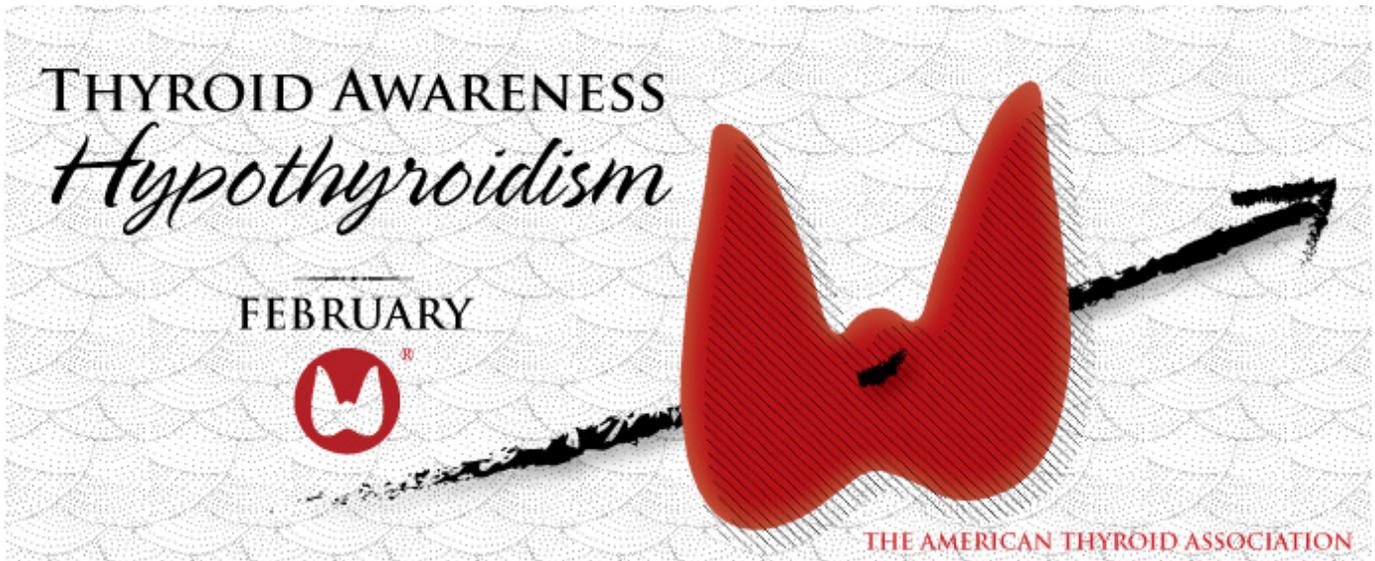
ABBREVIATIONS & DEFINITIONS

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.

Iodine: an element found naturally in various foods that is important for making thyroid hormones and for normal thyroid function. Common foods high in iodine include iodized salt, dairy products, seafood and some breads.

Potassium iodide (KI): a stable form of iodine that blocks uptake of iodine into the thyroid. KI can be used to block radioactive iodine from getting into the thyroid after a nuclear accident. KI also can be used as a treatment for hyperthyroidism as well as iodine deficiency.



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 February is **Hypothyroid Awareness month** and a bracelet is available through the [ATA Marketplace](#) to support thyroid cancer awareness and education related to thyroid disease.

