



GRAVES' DISEASE

Early treatment of hypothyroidism after radioactive iodine therapy for Graves' disease prevents Graves' ophthalmopathy

BACKGROUND

Graves' disease is the most common cause of hyperthyroidism in the United States. It is caused by the body making an antibody that turns on the thyroid. Treatment options include antithyroid medications, radioactive iodine therapy and surgery. In the United States, radioactive iodine therapy is the most common treatment for Graves' disease. Occasionally Graves' disease can affect the eyes, which is known as Graves' ophthalmopathy. While most cases of ophthalmopathy are mild, in the most severe form it can threaten vision. One cause for concern is that radioactive iodine therapy has been associated with worsening Graves' ophthalmopathy. The present study evaluated the effects of radioactive iodine on the development of Graves' ophthalmopathy.

THE FULL ARTICLE TITLE

Stan MN et al, Cohort study on radioactive iodine-induced hypothyroidism: implications for Graves' ophthalmopathy and optimal timing for thyroid hormone assessment. *Thyroid* 2013;23:620-5 doi: 10.1089/thy.2012.0258.

SUMMARY OF THE STUDY

This study included 195 patients (80% women) treated for Graves' hyperthyroidism with radioactive iodine at a single institution. Patients were evaluated for the presence of Graves' ophthalmopathy before therapy and for the worsening or development of new Graves' ophthalmopathy following radioactive iodine therapy. The mean age was 50 years and the average duration of Graves' disease was 2 months. Prior to radioactive iodine therapy, 46 patients had evidence of Graves' ophthalmopathy - 38 mild and 8 moderate to severe. After 1

year of follow-up, 39 patients (20%) had Graves' ophthalmopathy including 15 new cases and 24 preexisting cases. In the 46 patients with Graves' ophthalmopathy at baseline, the Graves' ophthalmopathy did not progress in 9 and improved in 27. Altogether, after radioactive iodine therapy Graves' ophthalmopathy developed or worsened in 25 (12.8%) of the 195 treated patients. Hypothyroidism was present at the first followup visit in 102 patients (52.3%) and was strongly associated with the development or deterioration of Graves' ophthalmopathy. Although more smokers had new or worsening Graves' ophthalmopathy than nonsmokers (18% vs 12%), the difference was not significant.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The presence of hypothyroidism after radioactive iodine therapy is a strong predictor for an adverse outcome of Graves' ophthalmopathy. This study suggests that patients that receive radioactive iodine therapy for treatment of their hyperthyroidism should be seen earlier than 6 weeks after their treatment and followed frequently. If hypothyroidism develops, it should be treated aggressively.

— Frank Crantz, MD

ATA THYROID BROCHURE LINKS

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

Radioactive iodine therapy: <http://www.thyroid.org/radioactive-iodine>

Hypothyroidism: <http://www.thyroid.org/what-is-hypothyroidism>

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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.

Graves' ophthalmopathy: also known as thyroid eye disease. Graves' ophthalmopathy is most often seen in patients with Graves' disease but also can be seen

with Hashimoto's thyroiditis. Graves' ophthalmopathy includes inflammation of the eyes, eye muscles and the surrounding tissues. Symptoms include dry eyes, red eyes, bulging of the eyes and double vision.

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. I-123 is the non-destructive form that does not damage the thyroid and is used in scans to take pictures of the thyroid (Thyroid Scan) or to take pictures of the whole body to look for thyroid cancer (Whole Body Scan).