



## HYPERTHYROIDISM

### Risk factors for liver abnormalities with hyperthyroidism

#### BACKGROUND

Hyperthyroidism is a condition where the thyroid gland is overactive and produces too much thyroid hormone. A frequent treatment for hyperthyroidism is antithyroid medications, either Methimazole or Propylthiouracil. It is known that both medications, as well as hyperthyroidism itself, can affect the function of the liver, causing increases in blood levels of markers of liver function known as liver function tests. If the increase in liver function tests are due to the hyperthyroidism, treating the hyperthyroidism will cause the liver function tests to return to normal and the liver is not damaged. However, if the increase in liver function tests is due to the antithyroid medications, the medication needs to be stopped to avoid damage to the liver, and options of radioactive iodine therapy or surgery need to be considered to treat the hyperthyroidism. The effects of hyperthyroidism on the liver are not well understood. This study examined the risk factors for abnormal liver tests in patients with hyperthyroidism.

#### THE FULL ARTICLE TITLE

Lin TY et al. Incidence of abnormal liver biochemical tests in hyperthyroidism. *Clin Endocrinol (Oxf)* 2017;86:755-9. Epub March 9, 2017.

#### SUMMARY OF THE STUDY

This study looked at the UCLA electronic medical record database of over 1500 patients from 2002 to 2016. Nearly 80% of the patients were women, 60% were Caucasian, 14% were Asian, 9% were African-American and 14% were Hispanic. These patients were newly diagnosed

with hyperthyroidism. The liver function tests performed within 6 months of the diagnosis were reviewed. Patients on medications that can affect the liver or patients who had liver disease prior to developing hyperthyroidism were not included.

Overall, 40% of patients had at least one abnormal liver test. The abnormalities of one of the liver tests were more common in patients with severe hyperthyroidism where as others were not. Age had no effect. Men and African-American appeared to have a higher risk of having significant liver function test problems, while Hispanic patients have a higher risk of minor liver function test abnormalities.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study showed that some liver function test problems were related to the severity of hyperthyroidism. In addition, men and African-American patients were more likely to have these abnormal tests. It was found to be less likely with non-Hispanic or Latino ethnicity.

Since many of the patients diagnosed with hyperthyroidism may require medications to treat the condition, this study suggests that it would be important to do liver function tests in these patients (especially those at a higher risk as noted above) prior to starting antithyroid drugs.

—Vibhvasu Sharma, MD

#### ATA THYROID BROCHURE LINKS:

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

#### 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.

**Methimazole:** an antithyroid medication that blocks the thyroid from making thyroid hormone. Methimazole is used to treat hyperthyroidism, especially when it is caused by Graves' disease.





## HYPERTHYROIDISM, continued

**Propylthiouracil (PTU):** an antithyroid medication that blocks the thyroid from making thyroid hormone. Propylthiouracil is used to treat hyperthyroidism, especially in women during pregnancy.

**Liver function tests:** Blood tests done to look for liver disease.

## 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 **January** is **Thyroid Awareness Month** and a bracelet is available through the **ATA Marketplace** to support thyroid cancer awareness and education related to thyroid disease.

