



## HYPOTHYROIDISM

### Patients undergoing a surgical lobectomy require long-term follow-up to detect postoperative hypothyroidism

#### BACKGROUND

Surgical lobectomy is performed to remove a single thyroid nodule for several reasons, including if the nodule is biopsied with suspicious cytology, if the cytology is benign but the nodule is causing symptoms or if the nodule is overactive. Since only one lobe of the thyroid is removed, patients may not need to take thyroid hormone replacement as the other remaining lobe may be able to produce enough thyroid hormone to meet the body's needs. However, over time the remaining thyroid lobe may not be able to maintain adequate hormone levels resulting in hypothyroidism. The risk of developing hypothyroidism after a surgical lobectomy as well as the best plan for long term monitoring and management of patients who have had this procedure is not clear. The aim of this study was to identify the risk factors for the development of hypothyroidism after surgical lobectomy.

#### THE FULL ARTICLE TITLE

Verloop H et al. Risk of hypothyroidism following hemithyroidectomy: systematic review and meta-analysis of prognostic studies. *J Clin Endocrinol Metab* 2012;97:2243-55. Epub April 17, 2012.

#### SUMMARY OF THE STUDY

The authors performed a systematic review of studies examining the risk of hypothyroidism after surgical lobectomy. A total of 31 studies published between 1983 and 2011 (combined total of 4899 patients) were included in the analysis. The overall risk of hypothyroidism after

surgical lobectomy was 22%. Only 4 of the studies distinguished between subclinical and overt hypothyroidism and from these the risk was 12% and 4% respectively. The most commonly reported risk factors for developing hypothyroidism were the presence of TPO antibodies, older age, a high TSH level before surgery and inflammation within the excised thyroid lobe. While hypothyroidism was usually permanent and was detected within the first 6 months after surgery, a few studies did find that the hypothyroidism was only transient.

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

Older patients with TPO antibodies, higher preoperative TSH levels and signs of inflammation within the excised thyroid gland are at particular risk of developing hypothyroidism after a surgical lobectomy. Patients and physicians must bear this in mind and must monitor thyroid function at regular intervals since hypothyroidism may still develop many years after surgery.

— Philip Segal, MD

#### ATA THYROID BROCHURE LINKS

Thyroid Surgery: <http://thyroid.org/patients/patient-brochures/surgery.html>

Thyroid Nodules: <http://www.thyroid.org/what-are-thyroid-nodules>

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

#### ABBREVIATIONS & DEFINITIONS

**Lobectomy:** surgery to remove one lobe of the thyroid.

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

**Subclinical hypothyroidism:** a mild form of hypothyroidism where the only abnormal hormone level is an increased TSH. There is controversy as to whether this should be treated or not.

**Overt hypothyroidism:** clear hypothyroidism with an increased TSH and a decreased T<sub>4</sub> level. All patients with overt hypothyroidism are usually treated with thyroid hormone pills.

**TPO antibodies:** these are antibodies that attack the thyroid instead of bacteria and viruses, they are a marker for autoimmune thyroid disease, which is the main underlying cause for hypothyroidism and hyperthyroidism in the United States.