



HYPOTHYROIDISM

Weight gained after quitting smoking may be caused by onset of hypothyroidism

BACKGROUND

There have been many studies examining the association between tobacco smoke and various types of thyroid disease. In particular, thyroid antibodies, which play a role in the development of hypothyroidism from autoimmune thyroid disease, may rise after stopping smoking. Further, cigarette smoke contains chemicals that may affect thyroid function. In particular, chemicals known as thiocyanates can inhibit thyroid function and cause enlargement of the gland. Despite this, the overall relationship between smoking and hypothyroidism is not clearly defined. The aim of this study was to assess the association between smoking (especially quitting smoking) and the development of thyroid disease.

THE FULL ARTICLE TITLE

Carlé A et al. Smoking cessation is followed by a sharp but transient rise in the incidence of overt autoimmune hypothyroidism—a population-based, case-control study. *Clin Endocrinol* 2012;77:764-72.

SUMMARY OF THE STUDY

The authors studied 140 patients with autoimmune hypothyroidism from a large Danish population. Participants provided details about their smoking habits including smoking cessation and other lifestyle factors and were compared with 560 individuals from the same population.

While current smoking was not associated with a risk of developing hypothyroidism, the risk of developing new onset hypothyroidism within 2 years of quitting smoking was increased more than 6-fold. In fact, within 2 years after smoking cessation, the percentage of cases of hypothyroidism attributable to smoking cessation was 85%. Weight gain is common after smoking cessation and this may be related to the onset of hypothyroidism as patients newly diagnosed with hypothyroidism were ~16 pounds heavier than those who did not develop hypothyroidism.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study suggests a relationship between smoking and hypothyroidism, but not the one expected. Despite the fact that cigarette smoke contains chemicals that can inhibit thyroid function, hypothyroidism was seen only after quitting smoking. Since it is very common for patients to gain weight after stopping smoking, it is important to realize that the onset of hypothyroidism may be making the weight gain worse.

— Philip Segal, MD

ATA THYROID BROCHURE LINKS

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

ABBREVIATIONS & DEFINITIONS

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).

Thiocyanates: chemicals that inhibit thyroid function and can cause thyroid enlargement (goiter). Cigarette smoke contains thiocyanates.

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