



THYROID CANCER

WHAT IS THE STUDY ABOUT?

Extrathyroidal tissue radiation damage from ^{131}I remnant ablation is significantly less with rhTSH preparation than with thyroid hormone withdrawal.

THE FULL ARTICLE TITLE: Rosario PW, Borges MA, Purisch S. Preparation with recombinant human thyroid-stimulating hormone for thyroid remnant ablation with ^{131}I is associated with lowered radiotoxicity. *J Nucl Med* 2008;49:1776-82. <http://www.ncbi.nlm.nih.gov/pubmed/18927337?dopt=Citation>

WHAT IS KNOWN ABOUT THE PROBLEM BEING STUDIED?

Although it is well established that preparation with recombinant human thyroid-stimulating hormone (rhTSH) for thyroid remnant ablation results in lower extrathyroidal radiation than hypothyroidism does, there are no studies directly connecting this information with tissue damage in patients treated with ^{131}I .

WHAT WAS THE AIM OF THE STUDY?

The aim of this prospective study was to compare the tissue damage caused by ^{131}I (100 mCi) when patients were prepared with rhTSH or thyroid hormone withdrawal for ^{131}I remnant ablation

WHO WAS STUDIED?

The study subjects were consecutive patients with papillary thyroid cancer (PTC) or follicular thyroid cancer who underwent total thyroidectomy and remnant ablation with 100 mCi (3.7 MBq).

HOW WAS THE STUDY DONE?

Damage to salivary glands, ovaries and testes, bone marrow and to other tissues was evaluated after preparation with rhTSH or thyroid hormone withdrawal. The serum amylase for salivary gland studies were obtained before and 48 h after ^{131}I ; and salivary pain was evaluated at 2 and 7 days after ^{131}I . Follicle stimulating hormone (FSH) was measured immediately before and 6 months after ^{131}I in both men and women.

WHAT WERE THE RESULTS OF THE STUDY?

There was significantly less damage to the salivary glands, ovaries, testes, bone marrow and other tissues when patients underwent preparation with rhTSH compared with thyroid hormone withdrawal.

HOW DOES THIS COMPARE WITH OTHER STUDIES?

The results of this study added complimentary new information to studies done on the subject of non-thyroid tissue injury by ^{131}I .

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Preparation with rhTSH and using lower doses of ^{131}I reduces the risk of damage to non-thyroid tissues in response to ^{131}I therapy for remnant ablation.

ABBREVIATIONS & DEFINITIONS

FSH This is a pituitary hormone that rises when there is damage to the ovary or testes from a variety of conditions.

Recombinant human TSH Diagnostic and treatment tools have also improved in recent years such as sensitive assays for serum thyroglobulin measurement, neck ultrasonography, and recombinant human thyrotropin (rhTSH). This drug is now approved by the Federal Drug Administration (FDA) for both diagnostic use and for treatment with ^{131}I for thyroid remnant ablation after initial surgery. More information about the guidelines for the use of rhTSH are available at the following Web links for the American and European Thyroid Association Guidelines for the management of thyroid cancer. <http://www.thyroid.org/professionals/publications/documents/Guidelinsthy2006.pdf>

Euthyroid is normal thyroid function